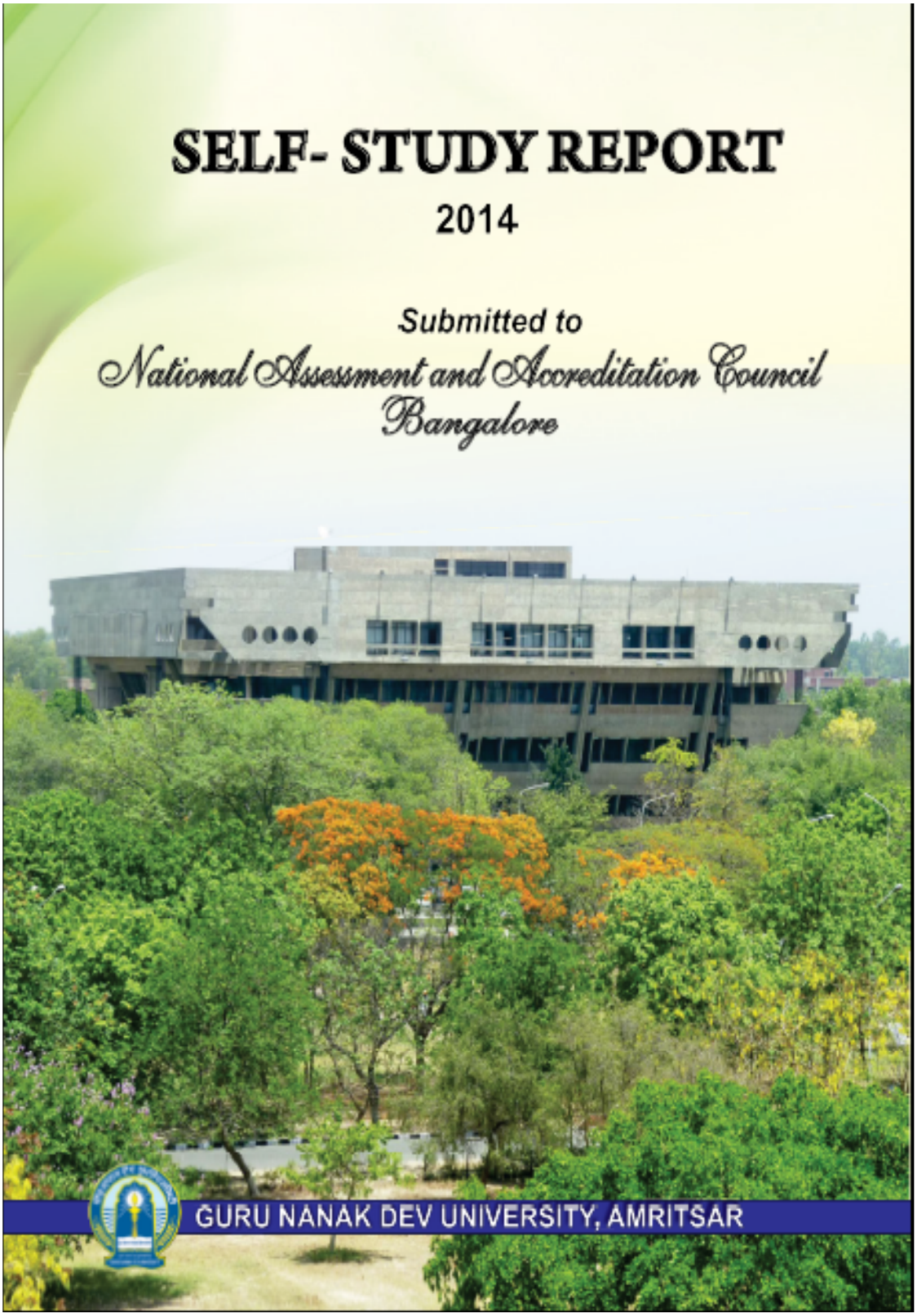
SELF- STUDY REPORT

2014

Submitted to

National Assessment and Accreditation Council
Bangalore



GURU NANAK DEV UNIVERSITY, AMRITSAR

Self-Study Report

Part - I

Submitted to

National Assessment and Accreditation Council, Bangalore

2014

Guru Nanak Dev University

Amritsar

A: Declaration by the Head of the Institution

I certify that the data included in this Self-Study Report (SSR) are true to the best of my knowledge.

This SSR is prepared by the institution after internal discussions and no part thereof has been outsourced.

I am aware that the Peer Team will validate the information provided in the SSR during the peer team visit.



Signature of the Head of institution with seal

Place: Amritsar

Date: 03.06.2014

A: Preface

The present Self-Study Report (SSR) has been submitted for the third cycle of accreditation. In the first cycle of accreditation, the University was awarded 'Five Star' status by the National Assessment and Accreditation Council for the period 2000 to 2005. In the second cycle of accreditation in 2007, the University was awarded 'A+ Grade', and in both the cases the accreditation status was reaffirmed through the granting of the 'University with Potential for Excellence' status to the university. Preparation of the Self-Study Report has been an engaging task in which all units of the University were involved. The existence of the Internal Quality Assurance Cell (IQAC), which has been actively engaged in monitoring of certain quality maintenance and assurance practices, has rendered the task of preparation of the report easier. A Steering Committee was constituted with Professor Paramjit Singh Judge as the convenor to prepare the report with following members: Professor Amarjit Singh Bhanwer, Professor Subodh Kumar and Professor T. S. Banipal.

The Steering Committee in cooperation with the IQAC began the process of involving all the stakeholders. Visits to all regional campuses and constituent colleges, and all the departments by engaging the teachers, administrative staff and the students- both research and degree - was carried out in the beginning of the 2013-2014 academic session. The process so initiated has culminated into the SSR. All the evaluative reports of the departments were sent back to the respective departments for additions and validation after the Steering Committee edited the same for uniformity.

Such an activity requires the assistance and cooperation of a large number of persons for various activities. The information collected from all the departments, regional campuses and constituent colleges was mammoth and required editing and substantiation. A comparative picture to work out the SWOC analysis was very important. On top of that it was the effort of the Steering Committee to involve as many colleagues as possible across disciplines.

To begin with, the Committee acknowledges the dynamic leadership of the Vice-Chancellor of the University, Professor A. S. Brar – a scientist of great repute – for helping and guiding wherever necessary in the preparation of the SSR. The offices of the Dean, Academic Affairs, as well as the Registrar of the University have been very cooperative and helpful in sending the information as and when needed.

Some of the colleagues have contributed significantly to bring out the SSR in the present shape. They are: Dr. Rachna Sharma, Bupinder Thakur, Dr. Manjot Kaur, Ms. Sabina Singh and Dr. Harpreet Kaur. Last but not least, it is essential to acknowledge the cooperation of all heads of the departments, associate deans of the regional campuses and the principals of various constituent colleges who by understanding the significance of such an exercise remained patient and efficient in responding to incessant queries. The offices

of Vice-Chancellor and Dean, Academic Affairs have been very helpful in the preparation of this report. The services of Mr. Ashwani Kumar, Mr. Gurinderjit Singh, Mr. Jagjit Singh and Mr. Satinder Verma are duly acknowledged. Special thanks are due to Mr. Umesh for rendering valuable help in formatting the report.

Contents **Page No.**

Part – I

A: Declaration of the Head of the Institution/ Preface ii
B: Executive Summary – The SWOC Analysis of the University 1
C: Profile of the University 10
D: Criterion-wise Analytical Report
I. Criterion I: Curricular Aspects 19
II. Criterion II: Teaching-Learning and Evaluation 31
III. Criterion III: Research, Consultancy and Extension 51
IV. Criterion IV: Infrastructure and Learning Resources 84
V. Criterion V: Student Support and Progression 95
VI. Criterion VI: Governance, Leadership and Management 107
VII. Criterion VII: Innovations and Best Practices 154
E: Inputs from Each of the Departments 158
I. University Main Campus Departments
Faculty of Arts & Social Sciences
(i) Department of History 159
(ii) Department of Library & Information Science 166
(iii) Department of Political Science 172
(iv) Department of Psychology 183
(v) School of Social Sciences 193
(vi) Department of Sociology 201
(vii) Centre for the Study of Social Exclusion and Inclusive Policy 211
(viii) Namdhari Guru Ram Singh Chair 219
Faculty of Economics & Business Management
(ix) Commerce and Business Management 220
(x) Punjab School of Economics 227
Faculty of Engineering & Technology
(xi) Department of Computer Science & Engineering 236
(xii) Department of Electronics Technology 248
Faculty of Humanities & Religious Studies
(xiii) Guru Nanak Studies 261
(xiv) Centre on Studies in Sri Guru Granth Sahib 277
Faculty of Languages
(xv) Department of English 282
(xvi) Department of Foreign Languages 289
(xvii) Department of Hindi 299
(xviii) Department of Sanskrit, Pali & Prakrit 307
(xix) School of Punjabi Studies 316
(xx) Department of Urdu & Persian 329
Faculty of Laws
(xxi) Department of Laws 337

Part – II

Faculty of Life Sciences

(xxii) Department of Biotechnology 346

(xxiii) Department of Botanical & Environmental Sciences 360

(xxiv) Department of Human Genetics 381

(xxv) Department of Microbiology 406

(xxvi) Department of Molecular Biology & Bio-Chemistry 418

(xxvii) Department of Pharmaceutical Sciences 425

(xxviii) Department of Zoology 439

Faculty of Physical Education

(xxix) Department of Physical Education 447

Faculty of Physical Planning & Architecture

(xxx) Department of Architecture 454

(xxxi) Guru Ram Das School of Planning 464

Faculty of Sciences

(xxxii) Department of Chemistry 474

(xxxiii) Department of Food Science & Technology 489

(xxxiv) Department of Mathematics 504

(xxxv) Department of Physics 513

Faculty of Sports Medicine & Physiotherapy

(xxxvi) Department of Sports Medicines & Physiotherapy 529

Faculty of Visual Art & Performing Arts

(xxxvii) Department of Music 541

II. Regional Campuses

Maharaja Ranjit Singh Regional Campus, Jalandhar

(i) Department of Computer Science & Engineering 555

(ii) Department of Electronics & Communication Engineering 561

(iii) Department of Laws 568

(iv) Department of Journalism & Mass Communication 575

(v) Department of Punjabi 582

Regional Campus Gurdaspur

(i) Department of Business Management 589

(ii) Department of Computer Science & Engineering 595

	(iii)	Department of Electronics & Communication Engineering	606
	(iv)	Department of Laws	616
Regional Campus (Rural) Sathiala			
	(I)	Department of Computer Science and Engineering	621
	(ii)	Department of Electronics & Communication Engineering	626
	(iii)	Department of Commerce and Business Management	631
III. Constituent Colleges			
	(i)	Guru Nanak Dev University College, Verka	636
	(ii)	Bebe Nanaki University College Mithra, Kapurthala	648
	(iii)	Guru Nanak Dev University College, Chungh.	656
	(iv)	Guru Nanak Dev University College, Narot Jaimal Singh, Pathankot	664
	(v)	ASSM College Mukandpur (SBS Nagar)	675
	(vi)	Guru Nanak Dev University College, Patti	687
	(vii)	Shri Guru Teg Bahadur College, Sathiala	695
	(viii)	Shaheed Ram Singh Pathania Memorial GND University College, Niari	705
	(ix)	Guru Nanak Dev University College, Jalandhar	709

Part – III

(Annexures)

i)	Research Publications	729
ii)	List of Ongoing Research Projects	990
iii)	List of Research Grant Received and Research Projects Completed	1008
iv)	Placement Details	1022
v)	List of Accredited College	1038
vi)	List of Colleges with Potential for Excellence	1041
vii)	List of Letters of Recognitions to various Programmes	1042

B: EXECUTIVE SUMMARY- SWOC ANALYSIS

Guru Nanak Dev University completed its forty four years on November 24, 2013 and as it entered the forty fifth year of its existence, preparations for its third cycle of accreditation and assessment were initiated. Any institution is seen by its dynamics and flexibility, in terms of how effectively it adapts to the changing times, circumstances and conditions. Guru Nanak Dev University (henceforth the University) was awarded Five Star Status on 17.4.2000 in its first cycle of accreditation and assessment; and A-Grade Status on 22.12.2007 in the second cycle of accreditation and assessment. The outcomes of both cycles of accreditation were that the University was recognized as 'the University with Potential for Excellence'. The SWOC analysis of the University has been conducted by keeping in view the observations made in the Peer Committee Report during its visit on 4-8 December, 2007. Accordingly, the presentation in this part of the Self-Study Report (henceforth SSR) has been divided into two major parts. The first part takes cognisance of the SWOC analysis carried out by the Peer Committee in 2007, whereas the second part is the presentation of the SWOC analysis as the Executive Summary of the SSR. It should be submitted here that while presenting the SWOC analysis for the present, the observations of the Peer Committee in 2007 have been treated as benchmark to this SSR.

PEER COMMITTEE REPORT: 2007

The Peer Committee, as pointed out, carried out SWOC analysis of the University in 2007 and its observations are summarised here. Five major strengths identified were: (1) excellent ambience for teaching, research and extension activities, (2) wide range of inter/multidisciplinary programmes in conformity with the requirement of 21st century; (3) praiseworthy endeavour in establishing collaborative linkages with national/international institutions/organisations for teaching and research; (4) international visibility of the Departments of Human Genetics, Centre for Genetic Disorders and Sports Medicine; and (5) extraordinary facilities and potential in sports and cultural activities.

Five major weaknesses identified by the Peer team were as follows: (1) Fewer SAP, DRS, COSIST and FIST programmes for sound backup of teaching and research; (2) insufficient research activities in some humanities and social science departments; (3) digitisation of library is needed; (4) absence of teacher evaluation by the students; and (5) absence of twinning programmes through MoUs.

The University had certain institutional opportunities which, according to the Peer Team, were: (1) scope of expanding its societal development activities by adopting some villages; (2) urban location with potential for future growth and expansion; (3) scope for organising entrepreneurship and skill development programmes; and (4) scope for promotion of inter/multidisciplinary research and studies.

Major challenges the University was facing, according to the Peer Team, were as follows: (1) increasing accommodation facilities for students; (2) need for attracting foreign students; (3) contribution to national development, women empowerment and global competency among the students; and (4) location near the border provides challenge to attracting and retaining good faculty in some of the cutting-edge disciplines.

Since 2007, the University has been in the continuous process of evolving and expanding at a reasonably fast pace, largely reflecting the way the changes are occurring in the society as such. Certain conditions, however, remain unchanged and there could not be any control over them. For example, the University's location near the international border remains a major challenge for it. There has been an endeavour to change the challenge into an opportunity by focusing on the educational development in the border region. In the light of the SWOC analysis of the Peer Team in 2007, we provide the SWOC analysis of the University for the present (2013-2014), which takes stock of the developments since 2007.

SWOC ANALYSIS

SWOC analysis was carried out towards the end of 2013 by involving all the Departments of the Amritsar Campus, Regional Campuses entres, Constituent Colleges, Administration and Support Services. Four parameters were used to work out the conclusions, namely academics, administration, finance, social relevance and practical utilities of research and teaching. Discussions were held with various stakeholders and the members of IQAC were involved in the entire exercise. The preceding summary of the entire exercise covers the specific issues in terms of strengths, weaknesses, opportunities and challenges.

Strengths

Following strengths of the University, which mark the distinct phase of its development during the last five years, could be identified:

1. The University has been able to develop tremendous environment for high quality teaching. The first step taken towards this direction was the introduction of Choice Based Credit System. Under the Choice Based Credit system, three quality sustaining elements were inseparably built into the entire practice. These were: (a) continuous evaluation, (b) transparency in evaluation, and (c) mandatory interdisciplinary options in every course at every level. It is important to elaborate all these practices. First, the Choice Based Credit System was predicated upon the continuous evaluation and grading system. In each semester teaching would last for 15 weeks, there are two minor tests of 20 marks each and one quiz/assignment/seminar presentation of 10 marks. The final major test is of 50 marks. The continuous evaluation is made by awarding grades - a practice of eliminating marginal differences in marks which have been the source of many

unnecessary problems of qualification marks or biases in evaluation. Secondly, according to the rules governing the Choice Based Credit System, it is compulsory for all the teachers to show the evaluated answer books to the students. The faculty member is expected to display the model answers to the question paper. The presence of another faculty member during this process is essential. Each and every student has the right to seek redressal there and if he/she feels that there is an error in marking, the concerned faculty member removes the error by evaluation that answer again and awarding the marks. It is necessary that the teacher must explain why student has been awarded those marks. Thirdly, every student has to opt for ten percent of his/her total credits of the theory papers as the interdisciplinary papers. For example, if the total credits of a course are 80, then the student has to opt for interdisciplinary papers of eight credits. In view of the fact that any paper cannot exceed four credits, it implies that at least two papers of four credits each have to be opted for. However, the student is free to opt for more than the prescribed credits. The student is free to opt for any subject.

As a result of this phenomenal change, the curriculum design has also been radically altered and an element of continuous improvement in it has been introduced. Not only that the empowerment of the faculty has occurred, but it has also been regulated by the transparency in the evaluation system.

2. The research environment has tremendously improved by various steps. First of all the University has been awarded the status of the 'University with Potential for Excellence' by the UGC, which has enabled the university to purchase latest scientific instruments in Faculties of Sciences and Life Sciences. On top of that the UPE has also enabled the Faculty of Languages to carry out research in the area of Comparative Literature. A new building, christened as 'Emerging Life-Sciences Building' has been constructed. Secondly, the number of departments which have been covered under SAP, DRS, COSIST and FIST programmes has increased. There are eleven departments which have got SAP under the UGC programme out of which the Department of Chemistry has been given the Status of Centre for Advanced Studies (CAS). Two more Departments, namely the Department of History and the Department of Sports Medicine & Physiotherapy have been awarded the SAP, but the funding is awaited. There are four programmes of research going on under the UGC funding. These are

   (i) Centre for the Study of Social Exclusion and Inclusive Policy

   (ii) Centre on Studies in Sri Guru Granth Sahib

(iii) Centre with Potential for Excellence in Particular Area (CPEPA): Life Sciences: Genetic Basis of Cancer and Type 2 Diabetes mellitus in Punjab.

(iv) University with Potential for Excellence which covers four major thrust areas, namely, Material Science, Health Care, Drug Development and Sports Medicine, Environmental Management, and Comparative Literature, Languages and Cultural Formations.

There are twelve departments covered under the DST funding of which six are under FIST programme and 12 under PURSE programme.

It may be informed that in view of the visit of the Peer Team in 2007 which identified that the University had few SAP and other related programmes, the weakness has been overcome at present. Secondly, another weakness identified by the NAAC Peer Team was the need for enhancement of research activities in humanities and social sciences has been partially taken care of in the sense that two major Research Centres one each in faculties of humanities, and art & social sciences have been working for some time. On top of that Departments of Guru Nanak Studies, Sociology, Political Science and History, and Punjab School of Economics have been working under SAP (DRS I/II). The number of Ph.D. students has also increased.

3. There has been reinforcement and expansion of outreach and extension activities of the University. Four major institutional units have been largely working for a reasonably long time owing to which these aspects have remained strong points of the working of the University. These are: NCC, NSS, Department of Life Long Learning, and Capacity Enhancement Programme. In addition to the above, the University has proactively, with the cooperation from the Government of Punjab as well as the UGC, outreached its teaching programmes by opening colleges and regional Campuses in the rural areas. Between 2007 and present times, six constituent colleges have been established out of which four were the government colleges but had virtually become defunct, and three colleges have been established in rural areas. Among these rural colleges two are close to the international border. Two regional campuses have been established in rural areas which offer professional engineering and management courses. At present out of nine constituent colleges three are located in the urban or near to urban areas and the rest are in villages. Similarly, two out of four regional campuses are also located in the rural areas.

4. Student strength has increased manifold. In the academic session of 2006-07 the student strength was 6548 which has now (2013-2014) risen to 20782. However, this increase in student strength has occurred in a span of six years as a part of two fold approach and action taken,

namely increase in the number of seats of these courses where demand has been considerably high and secondly, through the expansion of the University by establishing constituent colleges and regional campuses.

5. The University has continued to retain its leading positions in sports and cultural activities. From 2009-10 to 2012-13, the University has remained at the forefront of achievements in the overall positions in the country. The University was the winner of the MAKA (Maulana Abul Kalam Azad) Trophy – the most prestigious trophy in sports for any university) for the years 2009-10 and 2010-11, runner up in 2011-2012 and placed third in 2012-13. So far as cultural activities are concerned, the University was runners up in 2009-10 and 2010-11, co-champion in 2011-12, again runners up in 2012-13 and champion in 2013-14 in the Inter-University National Youth Festival.

6. The pre-condition for expanding the scope of its activities is that the University needed to develop its infrastructure. The record of infrastructure development from 2008 to 2013 is an indication of how seriously the issue of infrastructure development has been undertaken by the University. Various infrastructural development activities can be divided into three parts: Campus development, development of regional campuses and the development of constituent colleges. Tables given below show the nature and extent of development of infrastructure.

(1) GNDU Campus, Amritsar:

S. No.	Nature of Development/construction	Amount
1	One Block of Girls' hostel # 3	1.75 crore
2	Six Storey Girls' Hostel# 4	15.33 crore
3	Emerging Life Sciences Building	2.30 crore
4	Lecture Theatres' Building	5.98 crore
5	Academic Staff College Guest House	1.23 crore
6	Velodrome	1.48 crore
7	Boys' Hostel	3.40 crore
8	4th Storey of Chemistry Block	1.52 crore
9	4th Storey of Physics Block	60.00 lac
10	Class Rooms in Maharaja Ranjit Singh Bhawan	1.83 crore

(2) GNDU Regional Campus, Sathiala:

Construction of various Buildings (Academic Complex, Boys Hostel, Girls Hostel, Dinning Block and Administrative Block)	14.00 crore

(3) GNDU Regional Campus, Sultanpur Lodhi (Fatudhinga):

Construction of IT Block	7.98 crore

(4) GNDU Regional Campus, Gurdaspur:

Construction of IT Block	1.44 crore
(5)GNDU Regional Campus, Jalandhar	
Construction of IT Block	3.40 crore
(6) ASSM College, Mukandpur	
Construction of School Building	2.11 crore
(7) GNDU College, Verka	
Construction of ICT Building	2.00 crore

Sr. No.	Projects in Progress	Amount
1.	Sri Guru Granth Sahib Bhawan	12.60 crore
2.	4th Storey of Maharaja Ranjit Singh Bhawan	4.31 crore
3.	One story in Electronics and Technology Department & Extension of Architecture Building	5.25 crore
4.	Extension of ICT Building at Verka	3.26 crore
5.	University College Ladhowali shifted to New Premises and the Building Construction	2.11 crore

Weaknesses

Despite its best efforts to overcome its weaknesses, the University still needs to make considerable efforts to make it the most happening place in terms of quality assurance and maintenance with regard to certain criteria. For example, the number of departments covered by SAP, DRS and FIST Programmes has gone up and two major research centres one each in faculties of humanities & religious studies and social sciences have been added. Such efforts have not completely taken care of what needs to be done. Following are the weaknesses which need to be addressed in the near future:

1. Despite the UGC-SAP programmes and establishment of research centres in the faculties of social sciences, and humanities and religious studies, the research output is on the decline largely due to the shrinking size of the faculty. Similar conditions prevail in the case of language faculty. There seems to have developed a lopsided character of the University wherein the science and technology faculties are becoming larger both in terms of faculty and student strengths. Such a development is in tune with the national and international global environment of knowledge regime. On top of this lurking crisis the government has begun to withdraw from its responsibility towards social goals enshrined in education. At present, the size of faculty in each department of the faculties mentioned above has shrunk. The University leadership is aware of this crisis and has begun to develop strategy to overcome this weakness. It has been proposed to strengthen social sciences, humanities and languages in two stages. Firstly, by

appointing competent faculty. Secondly, to strengthen the research by providing more funds.

2. The student feedback system was introduced by the University in 2010 on the initiatives of the Internal Quality Assurance Cell (IQAC). The Performa was finalised and circulated among all the departments in the campus and the regional campuses. However, the matter has failed to significantly take off in the desired direction. There were two reasons for its mixed results. First, all the students giving their feedback regarding each course created unmanageable amount of data in the departments where the students' strength was high. Secondly, there was no clear cut direction as to what to do with the feedback performa duly filled by the students. Online submission of feedback is being considered for the future.
3. In simultaneity with the expansion of student strength, the infrastructure development is still lagging behind. As the University is envisaging to increase the number of students in coming years, the hostel facility, which is sufficient now, will also need to be increased to accommodate more number of students.
4. Adequate utilisation of grants from various funding agencies has remained a serious challenge. Much of the problem has emerged due to two reasons. First, the present financial management is governed by the old and outdated rules. The concentration of powers to accord financial sanctions takes away the autonomy of the principal investigator. Instead of remaining a researcher, the concerned faculty member turns into a file maintaining clerical researcher. He/she is the only one who is treated with suspicion. It is emerging as one of the major discouraging factor for the teachers to do funded research. Secondly, all accounts of the University are subject to state auditing and there is the practice of pre-audit. There is a serious need to overhaul the existing financial rules to facilitate the researchers regarding financial matters. At the same time the government has reduced the number of auditors working in the University which has created a major bottleneck.
5. The digitalisation of the library is not complete, though considerable work has been completed. The catalogue has been computerised. Some of the important manuscripts have also been stored in the library computer. JSTOR, Inflibnet, etc. are available. However, the work is still not complete in many areas.
6. Twinning programmes still remain the idea of future despite having signed MoUs with many institutions.

Opportunities

1. The physical location of the University is an important basis of its future development and expansion. It is located near the international border. This location offers unique opportunities to the University. It has a scope for taking over large societal responsibilities particularly with regard to the border areas for which the governmental aid would be utilised for purposes of strengthening infrastructure and teaching-learning support. Gurdaspur, Kapurthala, Pathankot, Taran Tarn and Amritsar districts have low Gross Education Ratio (GER). Most of these colleges are located in these districts.
2. Still the complete use of various sources of funding both the private/corporate and government have not been fully explored and accessed. There is great opportunity lying in the use of the University Alumni by associating them in the further development of the University.
3. The location of the University carries certain peculiar features. It is located in the Holy city of Amritsar, which is the only city of tourist attraction in the state. The University has yet to exploit the opportunity provided by this state of affairs by becoming proactive with regard to the protection of heritage buildings, promotion of tourism in Amritsar, and development and design of curriculum on tourism and hotel management.
4. Infrastructure for research in sciences and social sciences and humanities can be developed further.
5. The University can promote interdisciplinary research by shifting to school system by breaking the disciplinary boundaries. The University may consider the recommendations of the Gulbenkian Commission's recommendations in the field of social sciences by making appointments of the faculty multidisciplinary.

Challenges

1. Keeping the continuous growth of the faculty and motivating them to research as a continuous process is emerging as a big challenge.
2. Competition from the private universities has emerged as the major challenge due to many reasons. It is important to enlist some of the reasons. First, the private universities are governed by rules which are less stringent due to the fact that the government has no financial liability towards them. There is emerging competition between the University and the private universities in terms of developing strategies to attract students.
3. The number of foreign students has remained dismally low in the University. The University faces a great challenge to attract foreign and NRI students.

4. There is also a degree of disadvantage of the location. More than that it seems that the political disturbances in Punjab till the beginning of 1990s still have its impact on the University. There is inbreeding, so far as the faculty is concerned, which is higher than permissible level. There is a need for faculty and student diversity. Over a period of time, diversity among students has begun to become visible, but it has not happened at the level of faculty at the expected level.
5. Transforming administration into an efficient and flexible system is the greatest challenge for the University. Transparency, democracy and efficiency are the needs of the hour. The times have changed so fast but the rules and procedures have remained the same. Bringing efficiency into the working of the administration through reforms is indispensable for delivery of services and academic flexibility.
6. The University has successfully expanded itself to the vulnerable pockets of the region. Also by adopting certain colleges located in villages it has been able to provide academic and administrative backbone to those institutions. By promoting certain courses these colleges have been able to attract good number of students. But if one looks at the performance of these colleges and centres, there exists a huge gap among them. Some of them are performing fairly well and some are not doing so well. There is need to bring parity in the standards of all colleges within a time frame.

C: PROFILE OF THE UNIVERSITY

1. Name and Address of the University:

Name:	GURU NANAK DEV UNIVERSITY	
Address:	G. T. Road, Amritsar	
City: AMRITSAR	Pin: 143005	State: PUNJAB
Website: www.gndu.ac.in		

2. For Communication:

Designation	Name	Telephone with STD	Mobile	Fax	Email
Vice-Chancellor	Prof. A. S. Brar	O: 0183 - 2258811 R: 0183 - 2258822	9646030460	0183-2258820	vcgndu@gmail.com
Dean, Academic Affairs	Prof. M. S. Hundal	O: 0183 - 2258237 R: 0183-2502113	9501114468	0183-2452639	deanacademic_affairs@yahoo.com
Registrar	Dr. Inderjit Singh	O: 0183-225855 R: 0183-2258866	9417144849	0183-2258819	reg_gndu@yahoo.com
Steering Committee / IQAC Co-ordinator	Prof. Paramjit Singh Judge	O: 0183-2258802 (exnt. 3381) R: 0183- 2257828	9417007828	0183-2258820	paramjit.judge@gmail.com

3. Status of the University: State University

4. Type of University:

Unitary	
Affiliating	√

5. Source of funding:

Central Government	√
State Government	√
Self-financing	√
Any other (please specify)	

6. a. Date of establishment of the University: 24/11/1969

b. Prior to the establishment of the university, was it a/an

i.	P.G. Centre	Yes		No	√
ii.	Affiliated College	Yes		No	√
iii.	Constituent College	Yes		No	√
iv.	Autonomous College	Yes		No	√
v.	Any other (Please Specify)	Yes		No	√

7. Date of recognition as a university by UGC or any other national agency:

Under Section	dd	mm	yyyy	Remarks
i. 2f of UGC*	25	11	1969	
ii. 12B of UGC *	Yes			
iii. 3 of UGC #	Yes			
iv. Any other ^ (specify)	-	-	-	-

*Enclose certificate of recognition.

Enclose notification of MHRD and UGC for all courses /programmes/campus/campuses.

^ Enclose certificate of recognition by any other national agency/agencies, if any.

8. Has the university been recognized?

a. By UGC as a University with Potential for Excellence?

Yes [ ] No [√]

If yes, date of recognition: **4/1/2012**

b. For its performance by any other governmental agency?

Yes [ ] No [√]

9. Does the university have off-campus centres?

Yes [ ] No [√]

10. Does the university have off-shore campuses?

Yes [ ] No [√]

11. Location of the campus and area:

	Location	**Campus area in acres**	**Built up area in sq. mts.**
1. Main Campus, Amritsar	Urban	500	2,54,400
2. Other Campuses			
Maharaja Ranjit Singh Regional Campus, Jalandhar	Urban	8	11087
Regional Campus, Gurdaspur	Urban	28.425	17019
Regional Campus, Sathiala	Rural	29.00	17200
Regional Campus, Fattu Dhingha (Sultanpur Lodhi)	Rural	27.78	5771
Amardeep Singh Shergill Memorial College, Mukandpur	Rural	23.50	19500
Guru Nanak Dev University College, Verka	Semi-Urban	15.00	6500
Guru Nanak Dev University College, Chungh.	Rural	12.13	7750

Bebe Nanaki University College, Mithra, Kapurthala	Rural	16.55	5750
Guru Nanak Dev University College, Narot Jaimal Singh, Pathankot	Rural	11.58	6335
Shaheed Ram Singh Pathania Memorial University College, Niari	Hilly Area	25.78	1332
Guru Nanak Dev University College, Jalandhar	Urban	2.42	1907
Guru Nanak Dev University College, Patti	Semi-Urban	18.00	5872
3. Campuses abroad	-	-	-

12. Provide information on the following: In case of multi-campus University, please provide campus-wise information.

• Auditorium/seminar complex with infrastructural facilities

S. No.	Facilities	GNDU Campus (Number)	R. C. Jalandhar (Number)	R. C. Gurdaspur (Number)	R. C. Sathiala (Number)	R. C. Sultanpur Lodhi (Number)
1	Playground	14	-	4	1	-
2	Swimming Pool	1	-	-	-	-
3	Gymnasium	1	-	-	-	-
4	Velodrome	1	-	-	-	-
5	Auditorium	4	-	-	1	-
6	Conference Hall	3	-	1	-	-
7	Gym.	1	-	-	-	-

• Hostels

S. No.	Boys' Hostels	GNDU Campus (Number)	R. C. Jalandhar (Number)	R. C. Gurdaspur (Number)	R. C. Sathiala (Number)	R. C. Sultanpur Lodhi (Number)
1	Number of Hostels	2	-	1	1	1[1]
2	Number of Inmates	1297	-	198	20	150[1a]
3	Facilities[2]					

[1]: Under Construction; and [1a]: Capacity

2: All necessary facilities, namely Mess, canteen reading room, utility shop, medical facility, parking, indoor-outdoor games, common room, internet lab (Wi-Fi), are available.

S. No.	Women's Hostels	GNDU Campus (Number)	R. C. Jalandhar (Number)	R. C. Gurdaspur (Number)	R. C. Sathiala (Number)	R. C. Sultanpur Lodhi (Number)
1	Number of Hostels	4	1	1	1	Under construction
2	Number of Inmates	2333	320	240	20	250 (capacity)
3	Facilities[1]					

[1] : Same as in the case of the Boys' hostels

Woking Women Hostel (GNDU Amritsar Campus)

Number of hostels - 1
Number of Inmates- 56
Facilities- All necessary facilities are available.

- Residential facilities for faculty and non-teaching - Yes
  Teaching Staff - 161
  Non Teaching Staff - 298
- Cafeteria - Yes
- Health Centre – Nature of facilities available - Yes
  – Outpatient facility, Ambulance, Emergency care facility, Dental Surgeon, Orthopaedic Services, Ayurvedic Doctor, ECG, Ultrasound, Digital X-Ray, DEXA, BMD, OPG, Physiotherapy Centre, Chemilumniscent assay for hormones, Electrolyte Analyser, Whole body colour Doppler test, Memography, Spirometery, TMT, 5 Part Haematological Analyser etc.
- Facilities like banking, post office, book shops, etc. - Yes
- Transport facilities to cater to the needs of the students and staff - Yes
- Facilities for persons with disabilities - Partial
- Animal house - Yes
- Incinerator for laboratories - Yes
- Power house - Yes
- Waste management facility - Yes

13. Number of institutions affiliated to the University

Type of colleges	**Total**	**Permanent**	**Temporary**
Arts, Science and Commerce	96	70	26
Law	4		4
Medicine	-	-	-

Engineering	0	-	-
Education	48	10	38
Management	-	-	-
Others (specify and provide details) Physical Education	1		1

14. Does the University Act provide for conferment of autonomy (as recognized by the UGC) to its affiliated institutions? If yes, give the number of autonomous colleges under the jurisdiction of the University

Yes [√] No [ ] Number [01]

15. Furnish the following information:

Particulars	Number	Number of Students
a. University Departments Undergraduate Post graduate Research centres on the campus	 36 36	 8860
b. Constituent colleges	09	
c. Affiliated colleges	149	
d. Colleges under 2(f)	-	
e. Colleges under 2(f) and 12B	76	
f. NAAC accredited colleges	56	
g. Colleges with Potential for Excellence(UGC)	10	
h. Autonomous colleges	01	
i. Colleges with Postgraduate Departments	50	
j. Colleges with Research Departments	--	
k. University recognized Research Institutes/Centres	--	

16. Does the university conform to the specifications of Degrees as enlisted by the UGC?

Yes [√] No [ ]

17. Academic programmes offered by the university departments at present, under the following categories: (Enclose the list of academic programmes offered)

Programmes	**Campus**	**R.C., Jalandhar**	**R.C. Gurdaspur**	**R. C. Satiala**	**R.C. Sultanpur**
U.G.	19	4	5	2	2
P.G.	50	4	5	1	-
Integrated Masters	1	-	-	-	-

M.Phil.	10	-	-	-	-
Ph.D.	38	-	-	-	-
Integrated Ph.D.	-	-	-	-	-
Certificate	7	-	-	-	-
Diploma	7	-	-	-	-
P.G. Diploma	2	-	-	-	-
Any other (please specify)	-	-	-	-	-

18. Number of working days during the last academic year. **184**

19. Number of teaching days during the past four academic years.

Year	**2009-10**	**2010-11**	**2011-12**	**2012-13**
Days	183	184	181	184

('Teaching days' means days on which classes were engaged. Examination days are not to be included)

20. Does the university have a department of Teacher Education?

Yes [√] No [ ]

If yes,

a. Year of establishment: **July 1, 2013**

b. NCTE recognition details (if applicable) Notification No.:

In process but permission to start the course granted on : 24/6/2012

c. Is the department opting for assessment and accreditation separately?

Yes [ ] No [√]

21. Does the University have a teaching department of Physical Education?

Yes [√] **No** [ ]

If yes,

a. Year of establishment: 1980

b. NCTE recognition details (if applicable) Notification No.: NA

c. Is the department opting for assessment and accreditation separately?

Yes [ ] No [√]

22. In the case of Private and Deemed Universities, please indicate whether professional programmes are being offered?

Yes [ ] **No** [√]

If yes, please enclose approval / recognition details issued by the statutory body governing the programme**. N. A.**

23. Has the university been reviewed by any regulatory authority? If so, furnish a copy of the report and action taken there upon.

The University has been reviewed by various regulatory bodies, the copy of which was submitted to the NAAC, Bangalore at the time of submitting the letter of intent (LOI). See Annexure-V for details.

24. Number of positions in the University

Positions	Teaching faculty			Non-teaching staff	Technical staff
	Professor	Associate Professor	Assistant Professor		
Sanctioned by the UGC/University/ State Government	155	164	346	1574	475
Recruit	92	65	181	1303	189
Yet to recruit					9 reappointed
Number of persons working on contract basis	--	--	110	249	62

25. Qualifications of the teaching staff

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers							
D.Sc./D.Litt.	-	-	-	-	-	-	-
Ph.D.	61	29	40	17	27	51	225
M.Phil.	-	-	2	-	-	-	2
P.G.	1	-	5	1	47	55	109
Graduate	-	-	1	-	1	-	2
Temporary teachers							
Ph.D.	-	-	-	-	9	6	15
M.Phil.	-	-	-	-	4	5	9

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
P.G.	-	-	-	-	57	29	86
Part-time teachers							
Ph.D.	-	-	-	-	1	-	1
M.Phil.	-	-	-	-	5	3	8
P.G.	-	-		-	59	32	91

26. Emeritus, Adjunct and Visiting Professors.

	Emeritus	Adjunct	Visiting
Number	01	-	-

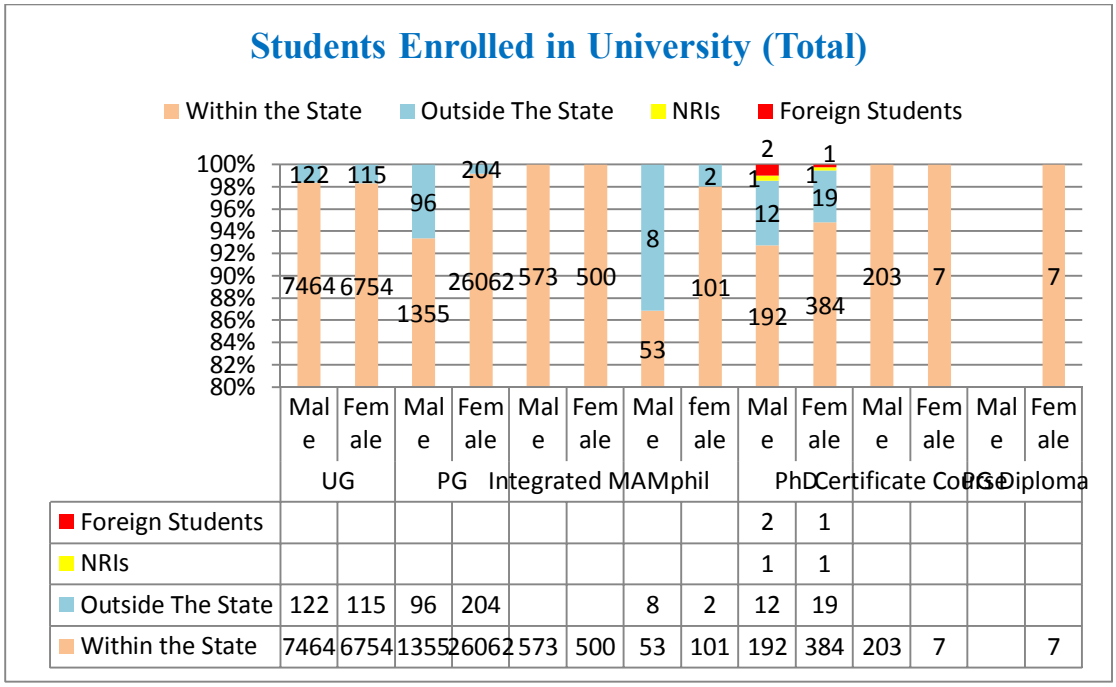
27. Chairs instituted by the university:

	Chairs
School / Department	09

28. Students enrolled in the university departments during the current academic year, with the following details:

Students	U.G.	P.G.	Integrated Masters	M.Phil.	Ph.D.	Certificate	P.G. Diploma	Total
	M/F	M/F	M/F	M/F	M/F	M/F	M/F	M/F
From the state where the university is located	7464 6754	1355 26062	573 500	53 101	192 384	203 7	0 7	9840 10359
From other states of India	122 115	96 204	- -	8 2	12 19	- -	- -	238 340
NRI Students	-	-	-	-	2	-	-	2
Foreign students	-	4261	-	-	3	-	-	3
Total	14455	4181	1073	164	612	210	7	20782

Students Enrolled in University



29. 'Unit cost' of education

(a) Including the salary component = **Rs. 1,04,557/-.**

(b) Excluding the salary component = **Rs. 40,536/-**

30. Academic Staff College

- Year of establishment – **June 1988**
- Number of programmes conducted (with duration)
  - ∗ UGC Orientation **- 93**
  - ∗ UGC Refresher **- 194**
  - ∗ University's own programmes **- 03**

31. Does the university offer Distance Education Programmes (DEP)?

Yes [ ] **No** [√]

If yes, indicate the number of programmes offered: **Not Applicable**

Are they recognized by the Distance Education Council? **Not Applicable**

32. Does the university have a provision for external registration of students?

Yes [√] **No** [ ]

If yes, how many students avail of this provision annually? **Approx. =20,000**

33. Is the university applying for Accreditation or Re-Assessment? If Accreditation, name the cycle.

Accreditation Cycle1 [ ] **Cycle2** [ ] **Cycle3** [√] **Cycle4** [ ]
Re-Assessment [ ]

34. Date of accreditation* (applicable for Cycle 2, Cycle 3, Cycle 4 and re-assessment only)

Cycle 1: 17/04/2000 Accreditation outcome/Result: Five Star
Cycle 2: 22/12/2007 Accreditation outcome/Result: A- Grade
Cycle 3: …(dd/mm/yyyy), Accreditation outcome/Result ……....
Cycle 4: …(dd/mm/yyyy), Accreditation outcome/Result ….....…

* Kindly enclose copy of accreditation certificate(s) and peer team report(s)

35. Does the university provide the list of accredited institutions under its jurisdiction on its website? Provide details of the number of accredited affiliated / constituent / autonomous colleges under the university.

Number of Affiliated Accredited Colleges: **56**
The updated list of accredited colleges is available online at the University Website:
www.gndu.ac..in/gndu2014/cdc/Accredited%20colleges.pdf

36. Date of establishment of Internal Quality Assurance Cell (IQAC) and dates of submission of Annual Quality Assurance Reports (AQAR).

IQAC 25/11/2002
AQAR (i) December 2010 (ii) 7/11/2013
(iii) 13/11/ 2013 (iv) 26/11/2013

D: CRITERION-WISE INPUTS

CRITERION I:

CURRICULAR ASPECTS

1.1 Curriculum Design and Development

Institutional Vision and Mission as Reflected in the Academic Programmes

The Vision and Mission of the University were clearly and unambiguously stated in the Self-Study Report of the University submitted in 2007 for the first reaccreditation. The vision of the University was based on the central values of 'democratisation, collective decision-making, transparency in functioning and reorganisation of the administrative functioning in accordance with the contemporary needs'. The founder of Sikhism, Guru Nanak Dev Ji, on whose name the University is christened, preached and practiced equality, secularism and honour in doing physical labour. There have been four components of the mission of the University as stated in the Act. These are:

a. Dissemination and production of knowledge in science and technology and other branches.

b. Teaching and research on the philosophy of Guru Nanak Dev Ji.

c. Promotion of research on Punjabi language and literature.

d. Supporting and spreading education among the educationally backward communities.

To take the mission forward, an independent department of Guru Nanak Studies in the University, which is doing high-level research into the life and teachings of Guru Nanak Dev ji, and their impact on the society has been working since the establishment of the University. In addition, the UGC funded 'Centre on the Study in Guru Granth Sahib' has been established in 2011. Namdhari Guru Ram Singh Chair has been established since 2006 and it has been doing research on the relationship between the writings of Guru Nanak and various schools of thoughts in Sikhism since its inception. Various departments are carrying out advanced research in many applied areas, such as genetic analysis of diabetes, cancer, Plant Biotechnology, Animal Biotechnology, Nanotechnology, Textile and Sugar Technology, Food Science & Technology, Geophysics, Seismology Pharmaceutics etc for the benefit of the society. Department of Life Long Learning is providing appropriate knowledge and skills to the backward and deprived sections of the society. It conducts courses like Dress Designing, Cutting and Tailoring, Textile Designing, Electronics & TV Maintenance, etc for the youths of underprivileged communities. The Centre for the Study of Social Exclusion and Inclusive Policy has been conducting research on the social exclusion of marginal communities in Punjab.

The University has added to the vision and mission by keeping in view the changing times. There is one focus area and four holistic areas in which the University has been engaged and proposes to continue in future. These are:

1. Focus Area: Material Science
2. Holistic Areas: (a) Health Care, Drug Development and Sports Medicine, (b) Environmental Management (in respect of Punjab), (c) Comparative Literature, Languages and Cultural Formations, and (d) Development and Nation-Building
3. Particular Area (Life Sciences): Genetic Bases of Cancer and Type 2 Diabetes mellitus in Punjab.

Design and Development of the Curriculum

The University has a systematic and institutionalised process of design and development of curriculum. The institutionalised process here implies that at the beginning of each session the Meeting Branch of the University issues letters to all heads of the teaching departments to initiate the process. The heads of various departments fix the meetings and start the process among the members of the faculty well in advance so that adequate preparations are made. The meetings of the Board of Control (B.O.C.)/Board of Studies (B.O.S.) are fixed.

In order to design a new course, any teacher or any member of the B.O.S. may provide inputs. In the constitution of the B.O.S., care is taken for fair representation of college teachers (Up to 70% are college teachers on U.G. boards and 30-50% on P.G. boards in case the P.G. course is being run in any affiliated college). There are subject experts from other universities nominated by the Vice Chancellor. Even non-members can send their suggestions to the chairpersons through their Heads of the Institutions. These proposals are thoroughly discussed in the presence of outside subject experts to arrive at a consensus before finalising any course.

Expert Committees:

Various expert committees are constituted for the design of courses when a new department is opened or old ones are reorganised. These experts then take inputs from various national and international bodies, corporate sector or other databases to design the curriculum, which should be catering to the needs of the society.

The analysis of regional and national contemporary needs is done in the meetings of the B.O.S. and in the presence of the subject experts and various aspects are short-listed. As the various members of the B.O.S. are experts in areas of their specialisation, they are well aware of contemporary needs of the discipline and society as understood and articulated through general feedback from news papers and corporate sector, and international/national/regional conferences etc while finalising the curricula of all the programmes.

National Curricular Resources:

Inputs are also taken from UGC, AICTE, DST, DBT etc for the start of new courses in order to assure the achievement of the following objectives:

1. Employability: The curriculum design is done in such a way so that after completing the programme the student is employable in terms of the level of knowledge, skills and attitude. However, the employability varies according to the nature of courses. The labour market, which has begun to direct the nature and content of education, is volatile as the requirements keep on changing over a period of time. At present Information Technology and certain other courses in applied sciences have greater employability than arts, language and social sciences courses.

2. Innovation: The innovative practices are encouraged through various means one of which is integrating it with the curriculum design and development. With the underlying assumption that ensuring innovations requires the building of aptitude and providing intellectual autonomy to the students as well as emphasising methodological practices of experimentation and data collection for which the practical training is indispensable. Whereas most of the science, life science and technology and engineering disciplines have provision of practical training, the social sciences, humanities and languages generally do not have practical training. However, with the initiation of computer based learning a lot of emphasis is there on building computer laboratories and giving practical training in social sciences. With the introduction of Choice Based Credit System some of the departments have introduced practical training.

3. Research: There are two kinds of practices through which research as an integrated component of curriculum development is ensured. Firstly, all the research students at the levels of M.Phil. and Ph.D. programmes have to compulsorily opt for one paper on research methodology. Secondly, research training through practicals in sciences and life sciences is an essential part of the curriculum. Research in social sciences has also got prominent place after the introduction of Choice Based Credit system. The students have been given inputs in how to do research. Field visits are a part of the curriculum development.

The University is consistently and constantly engaged in developing and restructuring its curricula and it also uses the guidelines of various regulatory bodies, such as UGC, AICTE, etc. The University was the first among the North Indian Universities beyond Delhi to introduce the Choice Based Credit System (CBCS).

The University interacts with the industry at various levels. At the first level is the training of students through apprenticeship in different

industries the purpose of which is to give proper training in the real environment. At the second level, various industrial houses such as Tata Consultancy Services are invited for placement of the students. All these levels of interactions help in curriculum revision, as it offers tremendous opportunity to identify areas which require more focus. Secondly, the existence of the research bodies which have much wider relevance as these tend to cover all disciplines. Research priorities of the society are mediated through the academic bodies and with new challenges to the country new issues are to be explored. Curriculum revision is predicated upon the availability of research material.

Introduction of New Programmes of Studies in its Affiliated Colleges

The University has been observing the set procedure in facilitating the introduction of new programmes in affiliated colleges since its inception except for certain changes necessitated by the changing circumstances. All academic activities of the affiliated colleges are mediated through the office of the Dean, College Development Council and the college branch. To start a new programme, the concerned college must send the request to the Dean, College Development Council not later than January 31 of the year from which the particular programme is to be introduced. On the recommendation of the Dean, the Vice-Chancellor appoints a committee of the experts for inspection of the college. The Committee visits the college and inspects the college in terms of three criteria: (i) whether the college has requisite infrastructure, namely class rooms and requisite laboratories (in case of Science and Engineering Courses) to run the programme; (ii) whether library resources are satisfactory; and (iii) whether the college has appointed requisite faculty. If the college fulfils all the conditions, then the Committee could recommend positively. In a situation when the college fails to fulfil the minimum conditions, the Committee could recommend the provisional permission subject to the fulfilment of the conditions within the specified time.

The University has a policy towards the development of college as mediated through the office of the Dean, College Development Council. All affiliated colleges are free to submit the proposal to start the new programme and the University follows the set procedure to grant the permission. During the last one and half decades, as the world has radically changed, there has been an emphasis on the skill oriented programmes. The University has encouraged various affiliated colleges to start such courses. For example, 'Dress Designing', Tourism, Hospitality, etc. have been started by various colleges.

1.2 Academic Flexibility

Programmes taught on campus:

1. Faculty of Arts and Social Sciences (Under Choice Based Credit System)
   (a) M. A. (Hons.): Political Science, History, Journalism & Mass Communication, Sociology, Library & Information Science, Social Science, Psychology.
   (b) M.Phil.: Political Science, History, Sociology
   (c) Pre-Ph.D.: Political Science, History, Journalism & Mass Communication, Sociology, Library & Information Science, Social Science, Psychology.
   (d) B. Lib. & Information Sciences (Hons), B. A. (Hons.) in social Sciences (
   (e) P.G. Diploma in Mental Health Counselling: Psychology
2. Faculty of Physical Planning & Architecture
   (a) B. Arch and B. Tech (Planning)
   (b) M. Tech (Urban Planning), Master in Planning (Infrastructure), Master in Architecture
   (c) Pre-Ph.D.: Planning, and Architecture
3. Faculty of Languages
   (a) Certificate Course (Part Time): Russian, German, French, Urdu, Persian, and Arabic
   (b) Diploma Course (Part Time): Russian, German, French, Russian, French, Urdu, and Persian.
   (c) Advance Diploma Course (Part Time): Russian, French, Urdu, and Persian
   (d) Diploma Course: (Full Time): Russian, French, Urdu, Persian, and Arabic.
   (e) B. A. (Hons.): English, and Punjabi
   (f) M. A. (Hons.): Russian, French, Urdu, Sanskrit, English, Punjabi, and Hindi
   (g) M.Phil.: Sanskrit, English, Punjabi, and Hindi
   (h) Pre-Ph.D.: Urdu, Persian, Sanskrit, English, Punjabi, and Hindi
   (i) Other Courses: GYANI (PERSIAN), PROAK Shastri & Shastri (Sanskrit)
4. Faculty of Humanities & Religious Studies
   (a) M. A. (Hons.): Religious Studies, and Philosophy
   (b) M.Phil.: Religious Studies, and Philosophy
   (c) Pre-Ph.D.; Guru Nanak Studies
5. Faculty of Education
   (a) Master of Education.
6. Faculty of Engineering & Technology
   (a) B. Tech: Computer Science and Engineering (Four years, and three

years), electronics (Eight years and Three years)
   (b) M.C.A.: Two courses
   (c) M.Tech.: Two courses in Computer Science and One in electronics
   (d) Pre-Ph.D.: Computer Science and Engineering, and Electronics
7. Faculty of Sports Medicine & Physiotherapy
   (a) Bachelor of Physiotherapy
   (b) Masters: Sports Physiotherapy, Sports Physiotherapy (Hons.), Sports Psychology, Neurological Physiotherapy, and Hospital Administration
   (c) M.D.. (Sports Medicine) Annual System
   (d) Pre-Ph.D.
8. Faculty of Visual Arts & Performing Arts
   (a) M. A.: Music (vocal), Music (Instrumental)
   (b) Pre-Ph.D.: Music(Vocal and Instrumental)
9. Faculty of Sciences
   (a) B.Sc. (Honours School): Chemistry, and Physics
   (b) B.Tech.: Textile Chemistry, and Food Science & Technology, and Sugar & Alcohol Technology
   (c) MSc.: Chemistry, and Physics (Two each: Hons. and Honours School), Applied Physics, Mathematics (Hons.), and Food Technology
   (d) Pre-Ph.D.: Chemistry, Applied Chemical Sciences & Technology, Physics, mathematics, and Food Science & Technology
10. Faculty of Life Sciences
   (a) B.Sc. (Honours School): Human Genetics and B. Pharmacy
   (b) MSc. (Hons.): Botany (Honours School & Hons.), Environmental Sciences, Zoology, Molecular Biology & Biochemistry, Microbiology, Human Genetics (two Hons and Honours School), and M. Pharmacy
   (c) M.Phil.: Botany, and Environmental Sciences
   (d) Pre-Ph.D.: Botany, Environmental Sciences, Zoology, Molecular Biology & Biochemistry, Microbiology, Biotechnology, Human Genetics, and Pharmaceutical Sciences
11. Faculty of Physical Education:
   (a) B. P. Ed. (Annual)
   (b) M. P. Ed. (Annual)
   (c) Pre-Ph.D.

Overseas programmes offered on campus: All undergraduate, postgraduate, M.Phil. and Ph.D. programmes in various faculties of the University are open to the foreign students.

Programmes available for Colleges to choose from:

S. No.	Name of the Subject	S. No.	Name of the Subject
1	B.A.	72	P.G. Dip. In Personnel Management & Industrial Relations
2	B. Sc. (Non - Medical)	73	P.G. Dip. In Cosmetology
3	B. Sc. (Medical)	74	P.G. Dip. In Dress Designing & Tailoring
4	B.Sc. (Agriculture)	75	P.G. Dip. in Computer Applications
5	B.Sc. (Home Science)	76	P.G. Dip. In Cosmetology and Health Care
6	Bachelor in Physiotherapy	77	P.G. Dip. In Labour law & Labour Administration
7	B.A. Honors School (English)	78	Dip in Comp. Applications
8	Bachelor of Computer Application	79	Dip. In Front office operation
9	B.Sc. Food Technology	80	Dip. In Food Production
10	Bachelor in Business Administration	81	Dip. In Beverages Services
11	Bachelor in Design	82	Dip. In Mass Media (TV & AIR)
12	B.Com.	83	Dip. In Home Management
13	B.Sc. (Information Tech.)	84	Dip. In Comp. Maintenance
14	B.Ed.	85	Diploma In Home Mgmt (Part Time)
15	B.Com. (Professional)	86	P.G. Diploma in Cyber Law & Information Security
16	Bachelor in Performing Arts	87	P.G. Diploma In Clinical Nutrition & Dietetics
17	Bachelor of Multimedia	88	P.G. Dip. in Fashion Designing
18	Bachelor of Fine Arts	89	Dip. In Stitching & Tailoring
19	B.Sc. Bio - Tech.	90	P.G. Diploma In Guidance & Counseling
20	B.Com. (Hons.)	91	Diploma In Cosmetology
21	B.Sc. Electronics Media	92	Dip. in Air Hostess & Stewards
22	LL.B.	93	PGDCA (T.E.)
23	B.Sc. Geography	94	P.G. Dip. in Taxation
24	B.J.M.C.	95	P.G. Dip. in Web Designing
25	Bachelor in Internet and Mobile Tech. (Four Years)	96	P.G. Dip. in Graphics & Animation
26	B.P.Ed.	97	Dip. in Counseling

27	B.Sc. Fashion Designing	98	P.G. Dip. in Financial Services (Banking & Insurance)
28	B.P.E.	99	Certificate Course In Human Rights & Duties Education
29	Bachelor Of Tourism & Hotel Management	100	Certificate Course In Early Childhood & Care Education
30	English	101	Certificate Course In Television & Video Production
31	Punjabi	102	Diploma In Library Science
32	Economics	103	Certificate Course in Communication Skill
33	Political Science	104	Certificate Course in French
34	Music (Vocal)	105	Diploma in French
35	Music (Instrumental)	106	P.G. Diploma in Advertising& Event Management
36	Hindi	107	Diploma in Front Office Operation
37	Fine Arts	108	Diploma in Human Rights & Duties
38	Sanskrit	109	P.G. Diploma in Fashion Makeover
39	History	110	Computer Maintenance
40	Geography	111	Industrial Chemistry
41	Police Administration	112	Food Sci. & Quality Control
42	M. Com.	113	Microbiology
43	Commercial Art	114	Computer Application
44	M.Ed.	115	Clinical Nutrition & Dietetics
45	M.F.A. (Applied Arts)	116	Functional English
46	M.B.E.	117	Tourism & Travel Management
47	Classical Dance	118	Off. Management & Sec. Practice
48	Master of Jour. & Mass Comm.	119	Computer Equipment Maintenance
49	Master in Tourism Mgmt.	120	Functional Sanskrit
50	M.A. In Media Studies & Production	121	Tax Procedure & Practice
51	Master in Multimedia	122	Advertisement Sales Promotion& Sales Management
52	Master in Neurological Physiotherapy (For session 2012-13)	123	Still Photography & Audio Products
53	Mathematics	124	Non-Conventional Energy Sources
54	Chemistry	125	Auto Mobile Maintenance

55	Physics	126	Refrigeration & Air Conditioning Maintenance
56	Agriculture Economics	127	Functional Punjabi
57	Horticulture	128	Dairy Farming
58	Agronomy	129	Care & Edu. of the Young Child
59	Botany	130	Domestic Animal Farming
60	Computer Science	131	Mass Comm. & Video Products
61	Zoology	132	Functional Hindi
62	Information Technology	133	Fashion Designing & Garments Construction
63	Networking & Protocol Design	134	Journalism & Mass Comm.
64	Bio-Informatics	135	Agriculture Marketing
65	Bio-Technology	136	Fashion Designing
66	Electronics Media	137	Information Technology
67	Fashion Designing & Merchandising	138	Gemology & Jewelry Design
68	Internet Studies	139	Foundation Course in Human Rights & Duties
69	Information & Network Security		
70	P.G. Dip. In Business Management		
71	P.G. Dip. In Marketing Management		

Note: Vocational Subjects (UGC): S. No. 111 – 141

Provisions with reference to Academic Flexibility

Under the CBCS each course is comprised of Two kinds of papers, namely Core and Elective options. Provision for enrichment exists in the sense that a student can opt for courses over above the prescribed credits.

Policy and Strategy for Attracting International Students

There is no well formulated plan for attracting the foreign students, but there is a provision for providing them the hostel accommodation on priority.

There have been no specific courses with the exception that in the case of foreign students the Punjab history and culture is taught instead of the paper in Punjabi language.

Self-financing programmes

The following programmes are self-financing in the University campuses:

1. Master of Physiotherapy

2. B. Tech. (CSE) CSE
3. MBA (Hons.) Financial Services
4. MBA (Hons.) Marketing and Retail Management
5. B. Tech. (Electronics and Communications Engineering)
6. All Programmes in skill training in the Department of Life Long Learning

The fee structure is higher in the case of the self-financing courses. All other features are at par with the other courses including the teachers' qualifications and their salary.

The University has introduced Choice Based Credit System in all courses except those which are run by the Department of Physical Education at U.G. and P.G. levels and M.D. (Sports Medicine). All other courses except B.P.Ed. and M.P.Ed., and M.D. Sports Medicine which are annual, have semester system. So far as constituent colleges and affiliated colleges are concerned, only the semester system has been introduced. Under the Choice Based Credit System all courses (excepting the B.P.Ed. and M.P.Ed.) in the University campus and regional campuses have the provision of interdisciplinary courses. At present there are 137 interdisciplinary courses offered and in all programmes under the Choice Based Credit System, the students have to compulsorily opt for six to eight credit inter disciplinary courses in U.G., P.G., M.Phil. and Pre-Ph.D. programmes in the University campus and regional campuses.

1.3 **Curriculum Enrichment**

The University has an effective and well-tested procedure to review and upgrade the curriculum and it is done every year. The basic purpose of this exercise is to make the students competitive and in order to increase their employability the effort is oriented towards the development of knowledge, skill and attitudes among the students.

New programmes at U.G. and P.G. levels

1. Master of Sports Psychology
2. M. D. in Sports Medicine
3. M. Ed.

Revision of the Existing Programmes

The revision of the existing programmes undergoes through three steps which are as follows:

Step - I: The syllabi are decided in the meeting of the Board of Studies (U.G. & P.G.) and Board of Control in each subject in which the participation of an expert from outside the university and two to three experts from other departments is mandatory.

Step – II: Changes are recommended by the Board of Studies/Board of Control and are forwarded to the Dean of the concerned faculty. The

meeting of the faculty is held under the chairmanship of the Dean of the Faculty and external experts who are also invited in the meeting. The faculty from the affiliated colleges also participate in the meeting.

Step-III: Recommendations of all the faculties are then forwarded to the Academic Council, which is comprised of heads of the departments, deans of all faculties, senior faculty members in the university and affiliated colleges, selective number of principals by rotation of the affiliated colleges, and external experts, for the final approval of changes in the syllabi.

Percentage of Revision of courses: The approximate percentage of changes in the syllabi varies from 20 percent to 75 percent from programme to programme.

Value-Added Courses

Hospital Management
Environmental Studies
Four Constituent Colleges have been started in the rural areas to make quality education accessible to backward areas and communities. Two colleges among these are very close to the international border.

1.4 Feedback System

Feedback on curriculum from the national and international faculty is elicited through workshops and online discussions. Affiliated institutions give feedback on curriculum enrichment through the Board of Studies, Academic Council, and the meetings of College Development Council. Institutionalisation of the practice through the provisions in the University Calendar makes it mandatory for the University administration and the teaching departments to undergo the process of effective development of curricula.

CRITERION II:

TEACHING-LEARNING AND EVALUATION

2.1 Student Enrolment and Profile

The admission process of the University ensures both publicity and transparency. The University Prospectus is made available on the website of the University with comprehensive information regarding the criteria of admission to various courses, number of seats, dates of filling the admission forms and the deadline for depositing the admission fee. All applications for admission along with admission fee are submitted online and the applicants do not have to come to the University for submitting their applications. Admission notices are also published as advertisements in both regional and national newspapers.

Admission Criteria

S. No.	Admission Criteria	Courses
1	Merit on the basis of the Qualifying Examination	All undergraduate and postgraduate courses excepting the one listed in other categories
2	Merit with Entrance Test	B.Tech. (CSE and ECE), M.Sc. (Hons.) Human Genetics and Biotechnology, all M.Phil. courses Ph.D. Programmes, only in case of those students who have not passed the state level or national level test
3	Merit, Entrance Test and Interview	None
4	Common Entrance Test conducted by State Agencies and National Agencies	B. Tech. (excepting Urban Planning), MBA, B. Architecture, LL.B. (Hons), B.A.LL.B. (FYIC), M.D. Sports Medicine, Ph.D. Programme M.Sc. Biotechnology. All B.Tech. degrees including Urban Planning except self-financing degrees

Admission Process in the Affiliated Colleges

The University monitors the admission process of the affiliated colleges at four levels:

i. The University fixes the number of seats for each college in terms of infrastructure, size of faculty and library resources.
ii. The University determines the criteria of eligibility of each course which are communicated to all colleges and the same is also put on the University website.
iii. The University notifies the list of fake universities on its website, whose degree holders are not to be admitted.
iv. All students admitted to various courses are registered by the University and they are provided unique registration numbers.

Review of admission process and Student Profile

Every year the Vice-Chancellor calls the meeting of the Deans of all faculties, Heads of all Departments and the entire admission process is reviewed. Necessary modifications are made if needed. After this meeting the office of the Dean, Academic Affairs prepares the prospectus of the University which is followed by the meeting of the Heads of all Departments and detailed discussion takes place and necessary changes are made. The Heads of the departments take decisions in their respective Boards of Control. After this procedure the Prospectus is finalised. So far as the review of student profile is concerned, the Vice-Chancellor chairs the meeting of the Heads of the Departments. Various issues concerning the students, such as hostel problems, rural background, differential needs of the students are discussed and necessary decisions are taken. All these efforts have significantly contributed to the improvement in the admission process and student profile.

Strategies to Improve Access for Students belonging to Certain Categories

S. No.	Category	Strategy to Improve the Access
1	Scheduled Castes	In every course 25% seats are reserved for the Scheduled Castes. In addition, there is provision of relaxation of 5% marks in the eligibility in both the qualifying examination and the entrance test in various courses.
2	OBC	The applicants from various OBCs of the state have provision of reservation based on their economic status.
3	Women	Approximately 60% of the students of the University are women.
4	Persons with varied Disabilities	Differently-abled students have reservation in admission to various courses on the attestation of their disability by the Civil Surgeon.
5	Economically Weaker Sections	There is also a provision for reservation for the students belonging to the to rural areas/ border areas.
6	Outstanding Achievers in sports and other extra-curricular activities	In sports, outstanding players/athletes are awarded Roll of honour, prizes and other concessions. Remission of fee for admission at University campus/colleges, five percent relaxation of marks for admission to postgraduate courses. More

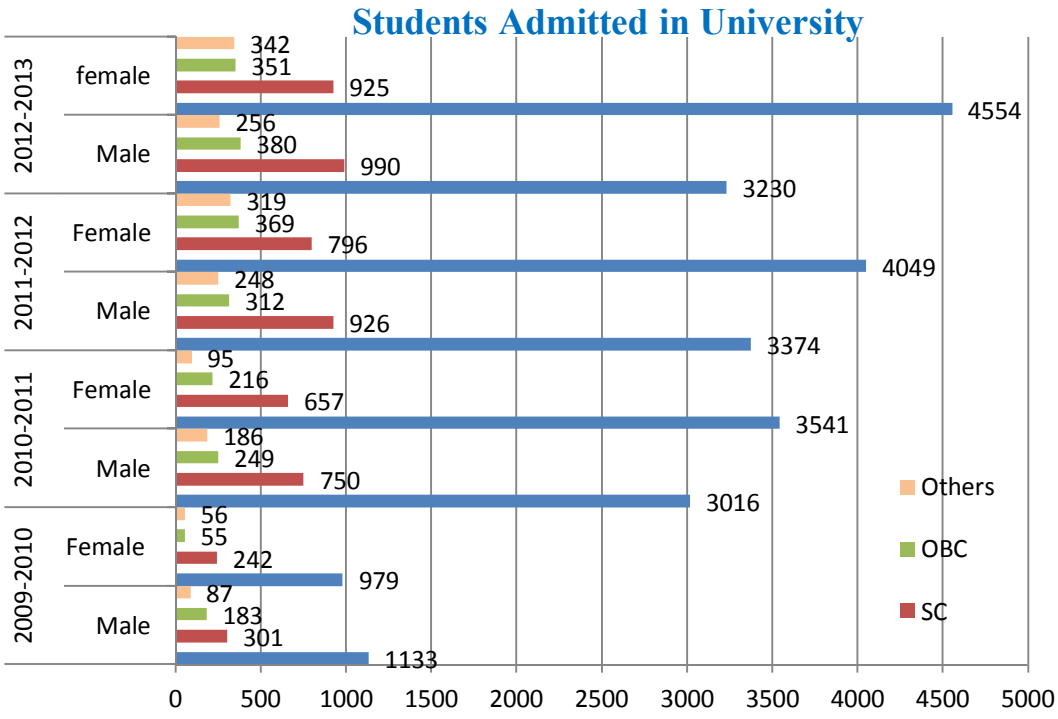
		than 125 NSO scholarships @ Rs. 6000/- per annum have been awarded to the outstanding players of the University by the Ministry of Youth Affairs & Sports, Govt. of India.
7	Defence personnel/Kashmiri Migrants	There is provision of reservation for the children of defence personnel and the Kashmiri Migrants.*

* The sons/daughters of Kashmiri migrants are admitted over and above the reserved quota as well as the total seats in each course. However, the total number of reserved seats does not exceed half of the total.

Students Admitted in University in the Last Four Academic Years:

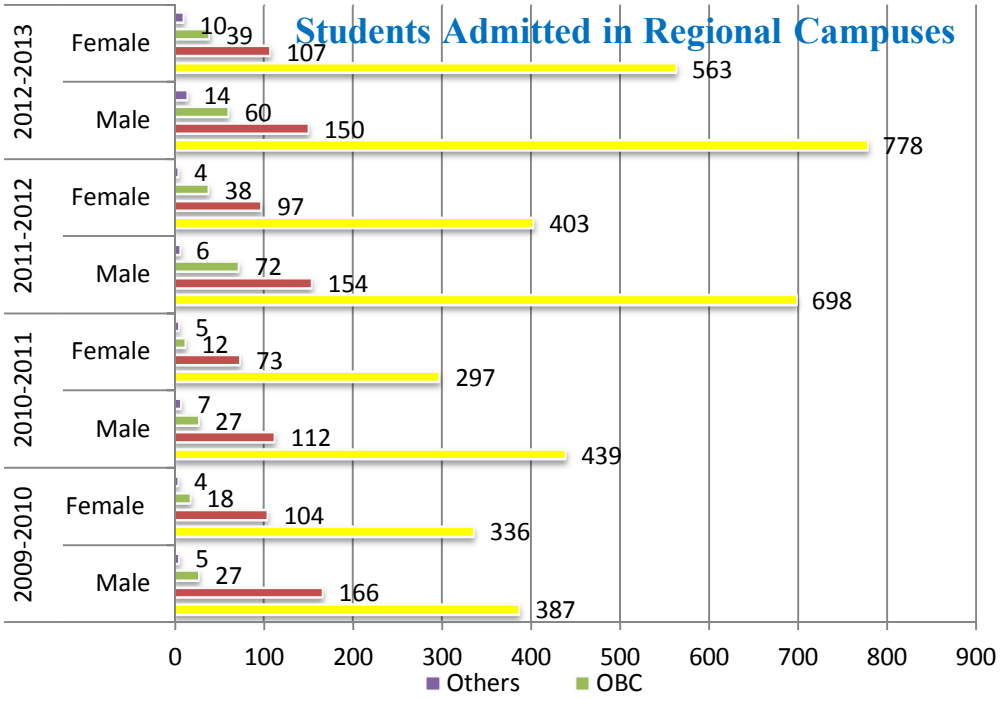
Students Admitted in University

Categories	2009-2010		2010-2011		2011-2012		2012-2013	
	Male	Female	Male	Female	Male	Female	Male	Female
General	1133	979	3016	3541	3374	4049	3230	4554
ST	-	-	-	-	-	-	-	-
SC	301	242	750	657	926	796	990	925
OBC	183	55	249	216	312	369	380	351
Others	87	56	186	95	248	319	256	342



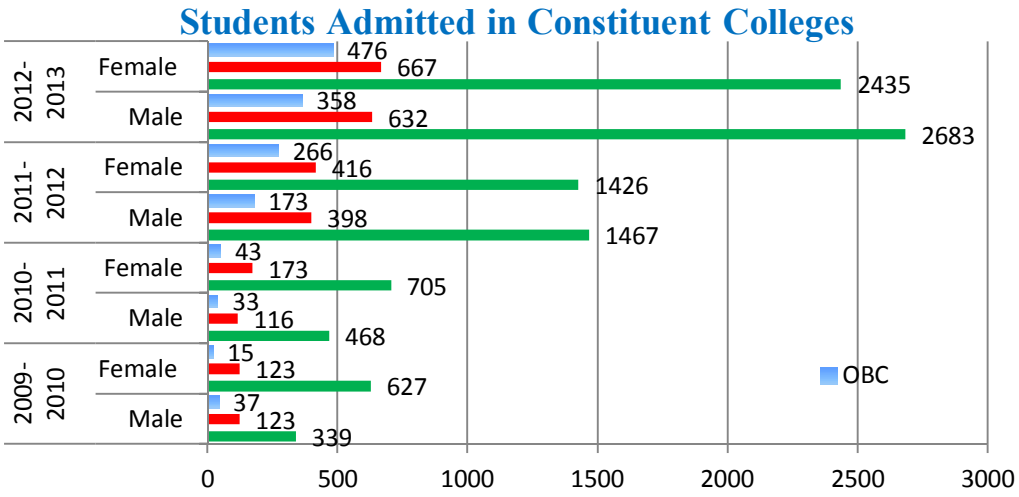
Students Admitted in Regional Campuses

Categories	2009-2010		2010-2011		2011-2012		2012-2013	
	Male	Female	Male	Female	Male	Female	Male	Female
General	387	336	439	297	698	403	778	563
SC	166	104	112	73	154	97	150	107
OBC	27	18	27	12	72	38	60	39
Others	5	4	7	5	6	4	14	10



Students Admitted in Constituent Colleges

Categories	2009-2010		2010-2011		2011-2012		2012-2013	
	Male	Female	Male	Female	Male	Female	Male	Female
General	339	627	468	705	1467	1426	2683	2435
SC	123	123	116	173	398	416	632	667
OBC	37	15	33	43	173	266	358	476



Demand Ratio

The University has not conducted any demand ratio analysis. However, the University has been keenly observing the trends in the rise and fall of enrolments in certain courses. So far as the affiliated courses are concerned, the University constantly monitors the admission process in terms of the allotment of number of seats for each course in terms of units. Each unit is regarded as a cohort of certain number of seats determined in advance in terms of the infrastructure and faculty strength of the affiliated college.

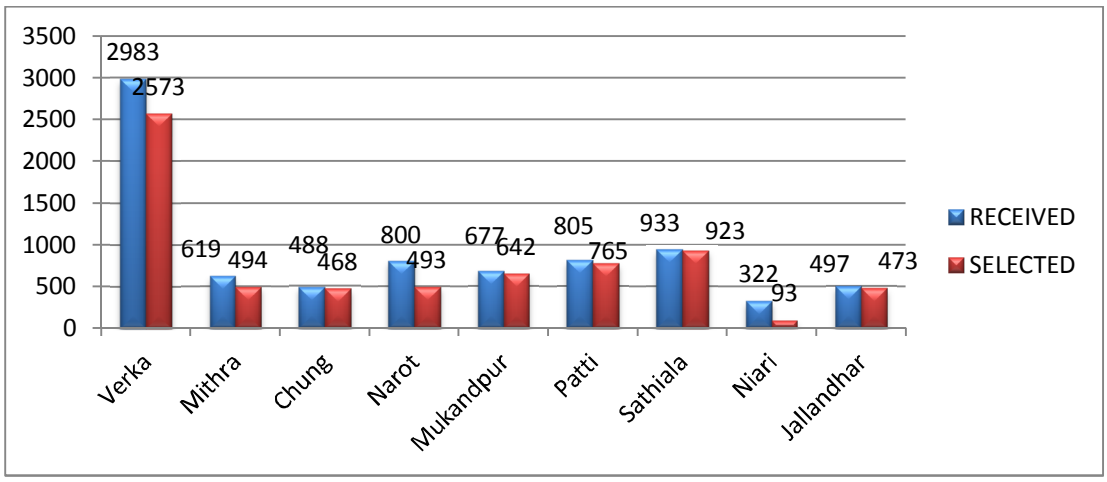
The following is the detailed information regarding the number of applications and actual admission:

Departments	**Applications received**					**Applicants selected**				
	U.G.	P.G.	M.Phil.	Ph.D.	Dip.	U.G.	P.G.	M.Phil.	Ph.D.	Dip.
Sciences	1567	625	-	34	-	178	171	-	23	-
Arts and Social Sciences	559	217	124	75	13	126	124	47	30	8
Economic and Business Management	57	906	-	-	-	33	297	-	10	-
Engineering and Technology	980	960	-	-	-	555	324	-	8	-
Humanities and Religious Studies	-	-	-	-	-	-	24	8	-	-
Languages	107	308	426	105	-	33	149	126	61	-
Laws	-	-	-	-	-	-	-	-	-	-

Life Sciences	-	1539	31	373	-	-	417	13	116	-
Physical Education	148	129	-	17	-	129	106	-	1	-
Planning and Architecture	132	102	-	10	-	119	41	-	5	-
Sports Medicine and Physiotherapy	-	90	107	7 + 1 M.D.	-	-	57	47	1 +1 M.D.	-
Visual Arts	-	44	30	3	0	-	43	30	3	0
Food Sciences and Technology	-	112	-	-	-	26	27	-	-	-
REGIONAL CAMPUSES										
Jalandhar	Test	106	-	-	-	361	55	10	-	-
Gurdaspur	Test	Test	-	-	-	690	340	-	-	-
Sathiala	Test	-	-	-	-	126	-	-	-	-

Number of Applications Received and Applicants Selected (In Constituent Colleges)

COLLEGE	RECEIVED	SELECTED
Verka	2983	2573
Mithra	619	494
Chung	488	468
Narot	800	493
Mukandpur	677	642
Patti	805	765
Sathiala	933	923
Niari	322	93
Jallandhar	497	473
Total	**8124**	**6923**



Many programmes have been discontinued over a period of four years by the University. One of the major factors which have led to the discontinuation of the programmes has been the lack of student response as the needs of the society underwent change of focus.

2.2 Teaching-Learning Process

The University plans and organises the teaching, learning and evaluation schedule by preparing the Academic Calendar, which covers the calendar year (January – December). The Calendar is finalised in the meeting of the heads of all Departments chaired by the Dean, Academic Affairs.

Course outlines have been uploaded on the University Website, owing to which the students are aware of the course outline. The Course outline has now become organically linked with the course schedule in the sense that it is clearly stated that each paper in every course has been divided into three units and it has also been made clear that each unit has to be completed in not less than particular number of lectures. For example, if the course has four credits, then the first unit will be completed in twenty lectures. All this has become possible due to the Choice Based Credit System, which was introduced in the University Departments between 2010 and 2011. Course outlines and recommended readings have been uploaded on the University website.

Generally challenges in completing the curriculum emerge due to student strikes/agitations and other destabilising factors in the society as such. Such a situation has not emerged for the last five years. However, the stipulated time of fifteen weeks for each paper of four credits has been achieved by the faculty. The faculty have to compulsorily deliver specified number of lectures with in the given time which means they may have to take extra classes.

All learning techniques are student centric, but strategies vary on the basis of the nature of the programme. The general perspective is that after completing their courses the students should be able to develop requisite knowledge, skill and attitudes. Attitudes are regarded as equally significant, because the inculcation of values related to leadership and the spirit of team work are very important. Similarly, the values related to secularism, national integration and equality and justice are part of this process. The learning techniques are constantly improved and changed on the initiatives of the faculty members and these are made part of the curricular design. For example, emphasis on practical training in science courses and apprenticeship in the case of engineering and management courses with the industry are organically designed in the curriculum. Certain departments, such as political science and sociology have introduced the practical field training in the research methodology the purpose of which is to build research skills among the students at P.G. level. In the case of theory papers, the students are encouraged to consult online sources. Many of the departments have well developed computer laboratories.

The University has a proactive policy of inviting experts and people of eminence to give lectures. The University organises many seminars/conferences in which the students participate. There has been a practice of inviting well known scholars to deliver public lectures on the topic of their choice to students on every Thursday.

The University formally encourages blended learning by using e-learning resources. The use of multimedia in many courses has become part of the teaching-learning process.

The monitoring of various educational processes is built into the institutional practices. The office of the Dean, Academic Affairs is responsible for monitoring trends in the development of educational process and in the periodic meetings with the Heads of the various departments, such issues are discussed and their feasibility is assessed. Deans of various faculties are vested with the responsibility of monitoring the research processes at the departmental levels.

As a result of the advent of online connectivity, the learning process as an outcome of interaction between teachers and students as well as in exploring and consulting new online sources, the traditional notion of classroom learning has given way to continuous learning. It is particularly true with the research students who send their work to the supervisor through internet for evaluation and the supervisor suggests required changes/modifications to be made. At the P.G. level the practice has picked up, but it has not yet become universal. E-mailing of educational sources to students is normal practice in many courses.

There has been no formal practice of providing for the services of counsellors. However, the teachers at the departmental levels act as mentors

and offer advice to their students in tutorials.

The prevailing innovative methods, such as practical training, use of multimedia, online sources, interactive sessions, group discussions, e-mailing resources/video/fellowship /internship information, methods and ways to write effective CV. These innovations are not uniformly practised in the University teaching departments.

Students are encouraged to write assignments, make presentations and have practical exposure to ground realities outside of the University set up. Scientific temper is a learned and incorporated value and practice by virtue which the students are socialised into the process of using evidence to establish the hypothesis/truth. Most of programmes have put a course on research methodology as the core paper. At the level of M.Phil. and Pre-Ph.D. programmes a paper on research methodology is essential. Interaction with experts/activists and documentary is organised in some social science and language departments.

The student project reports under the supervision of a faculty member are regular in various courses, such as B.Tech., M.Tech., M.Sc. M.B.A., M.S.P.T. and M.Phil. Under the Choice Based Credit System, the students may be asked to submit assignments.

The University has pool of human resource to meet the requirements of the curriculum, but still it is a long way to go in creating a situation wherein the reasonable number of optional/elective courses are made available for the students to choose from. The fast expansion of the student strength has also necessitated the situation to appoint faculty for the short term.

All the members of the faculty are provided with the computers and INTERNET connection. Most of the Departments have been equipped with Xerox machines. New lecture theatres have been equipped with multimedia.

Under the CBCS, the evaluation of the teachers by the students has been introduced, but it still has a long way to go. However, the mechanism of getting the alumni feedback has not yet been put in place. The evaluation of teachers by the students has been useful in improving the teaching process in the University.

2.4 Teacher Quality

The University has an institutionalised process of managing human resources. Much before the beginning of the new session, every Department is asked whether it would like to recruit more faculty members in addition to the already existing. Based on the needs, the new faculty is appointed by following the set patterns of appointment. However, special cognisance is taken to recruit faculty in emerging areas of research in social sciences, sciences and engineering courses.

Faculty Details

Highest Qualification	Professors		Associate Professors		Assistant Professors		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers							
D.Sc./D.Litt.	-	-	-	-	-	-	
Ph.D.	61	29	40	17	27	51	**225**
M.Phil.			2	0			**2**
P.G.	1	0	5	1	47	55	**109**
Graduate	-	-	1	-	1	-	**2**
Temporary teachers							
Ph.D.	-	-	-	-	9	6	**15**
M.Phil.	-	-	-	-	4	5	**9**
P.G.	-	-	-	-	57	29	**86**
Part-time teachers							
Ph.D.	-	-	-	-	1	-	**1**
M.Phil.	-	-	-	-	5	3	**8**
P.G.	-	-	-	-	59	32	**91**

Diversity in the Faculty Recruitment

S. No.	Department/ faculty	Percentage of Faculty from the same University	Percentage of Faculty from other Universities	Percentage of Faculty from Universities outside state	Percentage of Faculty from Other Countries
A.	**Faculty of Arts and Social Sciences**				
1	**History**	80	-	20	-
2	**Political Science**	33	50	16	-
3	**Psychology**	80	20	-	-
4	**School of Social Sciences**	62.5	12.5	25	-
5	**Sociology**	17	83	-	-
6	**Library and Information Science**	66.7	33.3	-	-
B.	**Faculty of Economics and Business**				
7	**Commerce and Business Management**	66.7	33.3	-	-
8	**Punjab School of Economics**	90	10	-	-
C.	**Faculty of Engineering &Technology**				

9	**Computer Science & Engineering**	80	-	20	-
10	**Electronics Technology**	-	83	17	-
D	**Faculty of Humanities & Religious Studies**				
11	**Guru Nanak Studies**	100	-	-	-
E	**Faculty of Languages**				
12	**English**	60	20	20	-
13	**Foreign Languages**	60	20	20	-
14	**Hindi**	30	-	70	-
15	**Sanskrit, Pali and Prakrit**	50	50	-	-
16	**School of Punjabi Studies**	80	20	-	-
17	**Urdu & Persian**	-	-	100	-
F	**Faculty of Laws**				
18	**Laws**	50	35	15	-
G	**Faculty of Life Sciences**				
19	**Bio technology**	33	-	67	-
20	**Botanical & Environmental Sciences**	85	10	5	-
21	**Human Genetics**	30	40	30	-
22	**Micro biology**	28.57	28.57	42.85	-
23	**Molecular Biology & Biochemistry**	33.5	16.5	50	-
24	**Pharmaceutical Sciences**	14.29	71.42	14.29	-
25	**Zoology**	53.33	30	16.67	-
H	**Faculty of Physical Education**				
26	**Physical Education**	80	10	10	-
I	**Faculty of Planning & Architecture**				
27	**Architecture**	42	8	50	-
28	**Guru Ram Das School of Planning**	71.25	-	18.75	-
J	**Faculty of Sciences**				
29	**Chemistry**	84.7	11.5	3.8	-

30	**Food Sciences & Technology**	45.45	45.45	9.10	-
31	**Mathematics**	55	17	11	-
32	**Physics**	46	17	29	7
K	**Faculty of Sports Medicine & Physiotherapy**				
33	**Sports Medicine & Physiotherapy**	71.42	14.28	14.28	-
L	**Faculty of Visual & Performing Arts**				
34	**Music**	33.33	66.67	-	-
	Regional Campus Gurdaspur				
35	**Computer Science & Engineering**	29	57	14	-
36	**Commerce & Business Management**	100	-	-	-
37	**Electronics Technology**	-	50	50	-
38	**Laws**	80	20	-	-
	Regional Campus Jalandhar				
39	**Computer Science & Engineering**	17	83	-	-
40	**Electronics & Communication Engineering**	22	67	11	-
41	**Laws**	90	5	5	-
42	**Punjabi**	50	50	-	-
43	**Journalism & Mass Communication**	33.33	66.67	-	-
	Regional Centre, Sathiala				
44	**Computer Science & Engineering**	80	-	20	-
45	**Electronics & Communication Engineering**	83	17	-	-
46	**Commerce & Business Management**	66.7	33.3	-	-
	Constituent Colleges				
47	**GNDU College, Verka**	93.75	6.25	-	-

48	**Bebe Nanaki GNDU College, Mithra**	82.80	17.20	-	-
49	**GNDU College, Chungh**	90.50	6.25	3.25	-
50	**GNDU College, Narot Jaimal Singh**	95	-	5	-
51	**ASSM College, Mukandpur**	58.13	27.9	13.9	-
52	**GNDU College, Patti**	95.2	4.8	-	-
53	**Shri Guru Tegh Bahadur College, Sathiala**	80	20	-	-
54	**SRSPM College, Niari**	60	40	-	-
55	**GNDU College, Jalandhar**	12.5	37.50	50	-

Though the University has a standard procedure to appoint qualified faculty, but in order to attract the best talent from abroad, the University has appointed many teachers in absentia, who had accomplished research publications in journals like Nature, Genetics, Science, International Migration, etc. In addition, the following professors have joined the University in the capacity of

Emeritus Professors: 1
Emeritus Fellows: 6
ICSSR National Fellow: 1

Policies in Place to Academically Recharge and Rejuvenate Teachers

Teachers are encouraged to academically recharge and rejuvenate through participation in orientation courses, refresher courses, workshops, seminars and conferences. As and when required they are given appropriate leave such as study leave, duty leave, sabbatical leave, special casual leave for various academic purposes. There is also a provision in the calendar of the University that under certain circumstances the teachers could transform their medical leave into academic leave. The University has also provision to give travel grants to teachers so as to enable them to attend national and international seminars/conferences.

Details of Faculty underwent Staff Development Programmes (Four years)

Academic Staff Development Programmes	Number of faculty
Refresher courses	70

HRD programmes	15
Orientation programmes	30
Staff training conducted by the University	149
Staff training conducted by other institutions	17
Summer / Winter schools, workshops, etc.	51

Besides, 90% of the faculty have been invited as resource persons in Workshops/Seminars/Conferences organised by external professional agencies, 95% presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies, and 2% have Teaching experience in other universities / national institutions and other institutions, whereas 5% have had Industrial engagement and some faculty including the recently appointed teachers have international experience in teaching.

Organisation of Academic Development Programmes

a) The University regularly holds refresher courses for faculty training of the teachers, Heads of the departments and Principals of colleges. This facility is also extended to all the teachers of affiliated colleges and teachers in rest of the country. The Resource Persons selected for this purpose are of high quality and experts in their respective fields.
b) The Academic Staff College also organizes Orientation Courses on similar lines to improve the quality for the academic development.
c) The University regularly holds conferences/ seminars/symposia on different topics. The conferences/seminars/symposia are generally organized by the respective departments.
d) The University encourages the teachers to go to other universities/institutions to attend conferences and to deliver invited talks/lectures.
e) The University regularly supports the visit of teachers to international conferences abroad and every teacher on an average is given an assured financial support of Rs. 40,000/- once in three years. Besides this, funding agencies viz., DBT, DST, UGC, CSIR, INSA etc. also support such teachers.
f) At campus level, the curriculum development is the duty of the Board of Control of the concerned department. The syllabi are annually reviewed and modified as per the academic needs. These syllabi are then passed by the Board of Studies. This is done every year.
g) For affiliated colleges, the syllabi are regularly modified in the faculty meeting of the subject and then by the Board of Studies.
h) Since the last four years, the University has implemented all the examination reforms proposed by the UGC such as introduction of semester system in undergraduate and postgraduate courses at the university and college level.

i) The University has also introduced Choice Based Credit System in different courses at its main campus, regional campuses and constituent colleges.
j) Before preparing the result, every student of the University campus and its regional campuses is shown his/her evaluated answer sheet. Objections raised by the students are removed in their presence and finally result is prepared. This has not only brought a significant development in the evaluation standards but added transparency in the whole examination system.

Development of Faculty

The University encourages mobility of faculty between the universities. Any teacher who wants to visit any other university as Visiting Professor is given the requisite permission and leave.

All the teachers are allowed to apply for faculty positions within the country and abroad as per the rules in the University Calendar.

A number of teachers have visited other national and international universities under many national and international exchange programmes. Besides this, a large number of teachers have visited abroad under JSPS Scheme, CREST-DBT Fellowship, Fulbright Fellowship, Brainpool (South Korea), Boyscast, Shastri Indo-Canadian Fellowships, Commonwealth Fellowships, etc.

2.5 Evaluation Process and Reforms

Evaluation process operates at two levels. The first is the evaluation of the answer books for college students both at graduate and postgraduate levels. Evaluation is carried out by establishing Evaluation Centres which are headed by senior faculty members of the University. Each Evaluation Centre is provided with the Instruction Booklet related to evaluation process. Special written instructions are also given to each Evaluation Centre.

The second level process has been in operation for the last three years at the level of the University Departments. The teachers are responsible for the evaluation, but it is mandatory for them to show the evaluated answer books to the students and satisfy their queries if any.

Examination Reforms: The following major reforms have been initiated and have been implemented by the University:

i. Semester system has been introduced for all Undergraduate courses. All Postgraduate courses have been converted to semester system earlier.
ii. Introduction of OMR based answer books since December 2012 examinations.

iii. Online examination form filling and online roll number generation for private candidates for both U.G. and P.G. courses.
iv. One time 11-digit roll numbers have been introduced for each student for particular course.
v. Availability of DMC (Detailed Marks Certificate) on the University website for re-evaluation and other purposes.
vi. Instant re-evaluation applications can be filled by the candidates as per DMC's availability on the University's website.
vii. Both regular and private students are required to submit forms only for the first semester to the University.
viii. The answer books of semester examinations of University Campus, regional campuses and constituent Colleges whose examinations/papers are common with the University Campus are being shown to the candidates with effect from the December 2009 examinations.
ix. Re-evaluation of semester examinations where answer books have been shown to the candidates has been discontinued.
x. Coding/de-coding is also done by the respective departments internally and the results are also prepared by them and then are notified by the Controller of Examinations.
xi. The thesis evaluation of M.Ed. has been centralised.
xii. B.Ed./M.Ed. Question papers have been printed in multi-lingual format since April 2011 Examinations and students have the liberty to attempt these question papers in any medium.
xiii. The practice of issuing 12-page supplementary answer book has been discontinued.
xiv. Choice Based Credit System has been introduced in the University Departments from the academic session 2010- 2011 in science and technology departments and 2011-2012 session in arts and social sciences and humanities and languages and successfully implemented.
xv. All the examination forms and related information have been uploaded on the GNDU website.

Declaration of Examination Results

i. Average time taken for declaration of results is less than three months largely where the students are in large number.
ii. All results are declared within time, but still Evaluation processes are continuously monitored to overcome any delay in the declaration of results.
iii. Results are uploaded on the University website on the same day they are declared.

Transparency in the Evaluation Process

i. Evaluation of answer books is carried out through table marking system in the Evaluation Centres established by the University.
ii. Only those examiners are called for evaluation in the Evaluation Centres whose names have been approved by the 'Board of Studys' of the concerned faculty.
i. Unique identity is assigned to each examiner in the Evaluation Centre.
iv. Head Examiner is appointed in the subjects with large number of answer books to maintain the marking standard.
v. The newly introduced (since December 2012) OMR sheet has the underlying objective and logic of ensuring confidentiality. Roll number of each candidate is hidden under the flap. Each answer book bears unique bar code that is scanned by the authenticated persons using OMR Reader.

The University has an integrated examination platform for pre-examination processes – Time Table generation, OMR, student list generation, invigilators, squads, attendance sheet, and online payment gateway. It has well-developed system functioning under the Conduct Branch. Similarly, the post-examination processes involving Attendance capture, OMR-based exam result, auto processing, generic result processing, and certification are well managed under different sections of the Examination Branch in which Secrecy and Certificate sections are involved. In addition, the University is in the process of introducing the ERP system for integrating the whole Examination system which is likely to become operational with effect from July 2014.

The Ph.D. thesis is evaluated by two Indian examiners and one foreign examiner in the case of candidates from the faculty of engineering and technology, life sciences, physical planning and architecture, sciences, sports medicine and physiotherapy and the department of psychology. In the case of all other faculties three examiners from India or abroad in the concerned specialisation evaluate the thesis.

The University created the provision for including the name of the college in the degree certificate.

Redressal of grievances with reference to examinations

i. Assistant Registrars and Superintendents of each examination branch and other related branches deal with the grievances related with examination process.
ii. Major grievances are addressed by the Controller of Examinations

Streamlining the operations at the Office of the Controller of Examinations

The branches concerned with examinations process, namely Conduct, Secrecy, Registration, Computer Section are under the direct supervision of the Controller of Examination.

2.6. Student Performance and Learning Outcomes

The University has articulated its graduate attributes in terms of inculcating among students communication skills, public speaking abilities, leadership roles and team work.

The University has an integrated system of teaching, learning and assessment strategies under the Choice Based Credit System. Each course is rated in terms of credits and after five weeks the first minor test is conducted and the answer books are shown to the students after evaluation, then after five weeks the second minor test is conducted and the same procedure is followed. Before the conducting of major test at the end of the semester Quiz is organised which is also evaluated. Fifty percent of assessment is done through steps mentioned above and the assessment of the students is put on the notice board for every student to see much before the commencement of the Major examination. The entire process facilitates the intended learning outcomes. In the case of the constituent colleges, mid-semester tests are conducted and the students are time and again reminded if they perform below par.

The University gets aggregate data in terms of percentage of the successful students and undertakes ameliorative measures where the percentage falls from the average.

New technologies Deployed in Enhancing Student Learning and Evaluation

a) The University has established a centralized instrumentation facility located in the 'Emerging Life Sciences Building'. In this facility, state of the art equipments worth crores of rupees have been purchased for the use of the teachers and students.

b) At present, a large number of class rooms have been equipped with multimedia projectors/screens. A new lecture theatre complex with ICT enabled facilities has been constructed.

c) Faculty members have been given computers in their sitting rooms with high speed internet connectivity.

d) The University library has been computerized. All the theses after 2011 have been digitized and uploaded. 1100 theses before the period 2011 have been uploaded and remaining work would be completed within a year or so.

e) Resources of the library are available to all the teachers and students including the use of data bases. In addition, teachers and students have access to data bases of 1,95,000 books and 7900 journals covering 55 subjects.

f) Very prestigious resources such as Scopus and Scifinder etc. are available for the use of researchers – faculty and students.

g) The University is encouraging students to participate in educational tours and workshops with particular emphasis in case of the students of Town and Planning & Architecture. As a part of curriculum, it is mandatory for the students of Computer Science, Electronics and Commerce/Management to undertake field training in different organizations/companies.

h) Since state of the art and high quality facilities are available in the University, the students are using these new technologies to enhance their learning and it is hoped that they would be better prepared for facing the existing and future challenges.

i) Reading room for students is available and accessible 24x7 hours.

CRITERION III:

RESEARCH, CONSULTANCY AND EXTENSION

3.1 Promotion of Research

Research Committee

The following is the composition of the Research committee:

1. Vice-Chancellor (Chairman)
2. Dean, Academic Affairs
3. Director Research
4. Dean, Faculty of Life Sciences
5. Dean, Faculty of Sciences
6. Dean, Faculty of Arts & Social Sciences
7. Dean, Faculty of Languages

Following Recommendations were implemented

1. Provision for central facility with sophisticated instruments has been made in the University for research purposes and LAN system for equipments to share data has been established
2. The University has provided fifty research fellowships per year for a period of three years
3. The University purchased 300 computers in 2012 and further decided to procure 500 more computers which was subsequently done.
4. The University introduced a Chapter in the annual report dealing with the research work of the University as per the guidelines of the DSIR, New Delhi.

Research Policy of the University for Colleges

The University has a positive and proactive policy of encouraging research in both the Constituent and the Affiliated Colleges. Any research activity of the affiliated colleges is not mediated by the University, but the University has adopted the policy of encouraging teachers in the Constituent colleges to apply for funding to various funding agencies and take up research projects.

Facilitation of Implementation of Research Schemes/Projects

Research Schemes and projects are facilitated in various ways. First, the Principal Investigators are advanced funds for sanctioned projects. The procedure to get sanction and do purchases is streamlined. Generally the grants are released in terms of timely submission of progress report and utilisation certificate in most of the cases, but at the same time, there are considerable numbers of cases of late release of grants from the funding bodies, particularly the UGC. In view of the system of pre-audit, lot of time is consumed in getting the auditing done, that too due to the efforts of the Principal Investigator. Most of the delays occur at the level of auditing and

preparation of the utilisation certificates to get the next instalment released from the funding agency.

Interdisciplinary Research

Interdepartmental research collaboration has been the reality and practice in the University since its inception. One of the major reasons for the indispensability of this research has been the interdisciplinary nature of the research areas. Since 2012, after the University got the Status of the University with Potential for Excellence, the science and life science departments are engaged in collaborative research. Similarly the language departments are collaborating in the area of comparative literature. At this moment there are 28 interdepartmental collaborative research programmes and 78 national and international collaborative research programmes.

Visits of Eminent Researchers

The University has a strong culture of inviting eminent researchers to visit the campus. Such visits of eminent scholars and scientists entail lectures and interaction with researchers. The University has tradition of inviting eminent persons, from India as well as abroad, to deliver lectures on two occasions, namely the Foundation Day, which is observed on November 24 every year, and the Convocation day. Every Thursday, the University organises the public lecture which is delivered by eminent scholar from India or abroad

The University honours eminent scholars and researchers by awarding them Honorary Doctorate or Gold Medal on every convocation. Only the Departments with Special Assistance Programmes of the UGC invite visiting professors. However, the University has a policy to invite eminent personality from different walks of life to deliver lectures. Following is the list of eminent speakers:

1. S. Surjit Singh Barnala, Governor Tamilnadu delivered a lecture in 2009.
2. Dr. G. K. Chadha, CEO South Asian University, New Delhi and member Prime Minister's Economic Advisory Committee delivered a lecture in 2009.
3. Dr. Ravi Parkash, Professor and Head, Biochemistry and Genetics, MDU, Rohtak delivered a lecture in 2009.
4. Dr. J.S. Neki, Prominent Scholar delivered a lecture in 2009.
5. Dr. Charles Stephen, Professor of Law, Leicester University, England delivered a lecture on "International Trade Law" in 2009.
6. Dr. A.K. Bhatnagar, Professor of Environmental Biology, Delhi University delivered a lecture in 2009.
7. Dr. Montek Singh Ahluwalia and Dr. Isher Judge Ahluwalia delivered lectures in 2009.
8. Dr. Husnal Chirag delivered a lecture on January 22, 2010.

9. Prof. J. S. Grewal, Ex-Vice Chancellor, GNDU, Amritsar delivered a lecture on February 17, 2010.
10. Prof. Jodh Singh, Head, Encyclopedia on Sikhism, Punjabi University, Patiala delivered a lecture on February 18, 2010.
11. Dr. Naranjan Singh Dhalla, Professor & Director of Cardiovascular Developments, St. Boniface General Hospital Research Centre, University of Manitoba, Winnipeg, Canada delivered a lecture in 2010.
12. S. Navdeep Singh Suri, IFS, Joint Secretary, Department of Foreign Affairs, Government of India delivered a lecture on February 05, 2010.
13. Prof. Sunil Puri, Professor of Biosciences, Shoolini University of Biotechnology & Management, Solan in Botanical & Environmental Science Department delivered a lecture on February 11, 2010.
14. Prof. Balraj Chauhan, Vice-Chancellor, Dr. Ram Manohar Lohia National Law University, Lucknow delivered a lecture in February 2010.
15. Dr. Nahar Singh, Panjab University, Chandigarh delivered a lecture on March 22, 2010.
16. Dr. Hari Sharma, Political and Foreign Affairs Advisor to President of Nepal delivered a lecture in 2010.
17. Professor Gurinder Singh Mann, Sikh Scholar, Santa Barbra University of California delivered a lecture on September 21, 2010.
18. Sh. Kanwal Sibal, Ex-ambassador and Foreign Secretary delivered a lecture on "Indo-Pak Relation" on October 22, 2010.
19. Professor S.S. Johal, Padam Bushan awardee delivered a lecture on November 03, 2010.
20. Dr. Karim Najafi, Cultural Counselor, Embassy of Islamic Republic of Iran delivered a lecture on January 10, 2011.
21. Professor Shinder Purewal, Political Science, Kwantlen Polytechnic University, Surrey, Canada delivered a lecture on January 17, 2011.
22. Miss Rubi Dhalla, Member Parliament Canada delivered a lecture on "Parliamentary Democracy in Canada" on January 18, 2011.
23. Prof. Alexander Pines, Glennn T. Seaborg Professor of Chemistry and Faculty Affiliate, California Institute for Quantitative Biomedicine, UC Berkley National laboratory, USA delivered lecture on March 2, 2011.
24. Eminent Scientist, Prof. (Dr.) Richard R. Ernest, Nobel Laureate of Eidgenossiche Technische Hochschule (ETH), Zurich, Switzerland delivered popular lecture on March 2, 2011. His presence on the campus was inspiring to the students.
25. Professor A.S. Narang, IGNOU, Delhi delivered a lecture on "Trends in the Indian Politics" on February 07, 2011.

26. Justice M.S.A Siddiqui, Chairman, National Commission for Minority Educational Institutions, Government of India delivered a lecture on "Educational Rights of the Minorities" on March 28, 2011.
27. Ms. Anu Peshawaria, Founder President, Immigration and Business Services delivered a lecture on "Problems of Indian Women who go to USA after marrying with the NRI's" on October 21, 2011.
28. Professor Manjit Singh Kang, Ex-Vice Chancellor, PAU, Ludhiana delivered a lecture on November 15, 2011.
29. Dr. Ramesh Chand, Director, National Centre of Agriculture Economics and Policy Research, New Delhi delivered a lecture on December 19, 2011.
30. Sh. R. Lemuel Lasher, President, B.S.C Global Business Schedule delivered a lecture in December, 2011.
31. Renowned cytotoxicity expert Dr. Michael Fenech (CSIRO – Commonwealth Industrial and Research Organisation), Adelaide, Australia delivered invited lecture on "Public Health Genomics and DNA Damage Prevention" on March 2, 2012.
32. Dr. Richard J. Fugo, a world renowned ophthalmologist and Director Fugo Eye Institute, Pennsylvania, USA who is the inventor of Fugo Blade visited the University and delivered a lecture on "Invention of Fugo Blade and its applications" in 2012 .
33. Dr. Nirwana Ganguly spoke on January 16, 2014.
34. Professor S. P. Gautam, JNU, Delhi spoke on "Higher Education" on January 23, 2014.
35. Mr. Aijazudin from Pakistan spoke on "Resourceful Fakirs" on February 13, 2014.
36. Dr. Raj Mohan Gandhi spoke on March 6, 2014.
37. Ms. Sukhi Brar delivered a lecture on March 27, 2014
38. Dr. Krishan Lal, Former Director NPL, Delhi delivered a lecture on April 10, 2014.
39. Mr. H. K. Dua, Sr. Journalist and M.P. delivered lecture on April 17, 2014.

The percentage of the total budget is earmarked for research is 2.02%, but there is no provision of funds for promoting research in affiliated colleges.

The percentage of faculty, which has utilized the sabbatical leave for pursuit of higher research in premier institutions within the country and abroad, is 2%. The members of the faculty are asked to submit the detailed report of their activities and output after joining the University.

Details of National and International Conferences Organized by the University (2009-2014)

DEPARTMENT	Workshop/Seminars /Conferences	Funding Agency
Architecture	2009 - 1 Conference 2010 - 1 Seminar	NIASA/ COA Guru Nanak Dev University
Biotechnology	2010 - 1 Workshop 2011 - 2 Workshops 2012 - 1 Conference 2013 - 1 Workshop	DBT, GOI, New Delhi GNDU & DBT Indian Academy of Neuro Sciences &GNDU & DBT DBT
Botanical and Environmental Sciences	2009 - 1 Workshop 2009 - 2 Seminar 2011 - 1Seminar 2012 - 1Seminar	GNDU and HRD Foundation DST, Rashtriya Vigyan ewam Pradyogiki Sanchar Parishad and Vigan Prasar and UGC UGC UGC
Chemistry	2010 - 2 Conferences 2011 - 2 Conferences 2012 - 1 Symposium 2013 - 1 Symposium 2014 - 1Symposium	i) UGC ii) GNDU and M/s Thermo Fisher Scientific i) UGC, CSIR and DBT ii) UGC and DST UGC UGC UGC
Commerce and Business Management	2009 - 1 Workshop 2011 - 2 Workshops - 1 Seminar 2012 - 1 Workshop 2013 - 1 Workshop	Self financed Self Financed Self Financed UGC and Partly Self Financed Self Financed
Food Science and Technology	2010 - 3 Seminars 2013 - 2 Seminars	Kheti Veerasat Mission, Jaito (1) & UGC (2) UGC

Guru Nanak Studies	2009 - 2 Seminars 2010 - 1 Seminars 2011 - 4 Seminars 2012 - 4 Seminars 2013 - 2 Seminars 2014 - 1 Seminar	UGC UGC UGC, ICPR, Elijah Interfaith Institute Jerusalem and Guru Nanak Nishkam Sevak Jatha, UK UGC, Guru Nanak Dev University, and Punjab Government UGC UGC
Guru Ramdas School of Planning	2009 - 1 Workshop 2010 - 2 workshop 2013 - 1 Workshop 2013 - 1 Seminar 2014 - 1 Seminar 2014 - 1 Workshop	UGC UGC Punjab Regional Chapter of Institute of Town Planners India Eco-Sikh, Amritsar UGC Punjab Chapter of Institute of Town Planners India
Hindi	2011 - 3 Seminars 2012 - 1 Seminar	National Book Trust, New Delhi, UGC and Guru Nanak Dev University UGC
History	2009 - 1 Seminar 2011 - 1 Seminar 2012 - 1 Seminar	UGC/ICHR UGC UGC
Human Genetics	2010 - 1 Seminar 2010 - 2 Workshops 2011 - 1 Seminar 2012 - 2 Seminars 2013 - 2 Seminars 2014 - 2 Seminars	UGC DBT & UGC UGC UGC UGC & DST UGC & DBT
Laws	2010 - 1 Seminar 2011 - 1 Seminar 2012 - 2 Seminars 2014 - 2 Seminars	UGC UGC ICSSR & UGC ICSSR & UGC
Microbiology	2012 - 1 Seminar	UGC
Music	2010 - 1 Workshop	Guru Nanak Dev Unviersity
Physics	2009 - 2 Workshop	UGC

Political Sciences	2009 - 2 Workshops 2011 - 1 Workshop 2012 - 2 Workshops	Centre for the Study of Developing Societies, Delhi (CSDS) CSDS CSDS
Punjab School of Economics	2009 - 1 Seminar - 1 Conference 2010 - 1 Seminar 2011 - 1 Seminar 2014 - 3 Seminar 2014 - 1 Workshop	UGC Indian Society of Agricultural Economics UGC UGC National Commission for Women, ICSSR and UGC ICSSR
School of Punjabi Studies	2009 - 1 Seminar 2010 - 3 Seminars 2012 - 1 Conference	UGC UGC UGC
Sanskrit, Pali and Prakrit	2009 - 2 Seminar 2010 - 1 Seminar 2012 - 1 Seminar	UGC and the other in collaboration with Central Valmiki Sabha International (UK) UGC UGC
School of Social Sciences	2010 - 1 Seminar - 2 Workshops 2011 - 1 Workshop 2012 - 1 Seminar	UGC ICSSR and Self-Funded UGC UGC
Sociology	2009 - 2 Seminars 2010 - 1 Seminar 2011 - 1 Conference	UGC UGC-SAP ICSSR, New Delhi
Zoology	2009 - 1 Seminar 2010 - 1 Seminar 2014 - 1 Workshop	DST UGC DST
Centre for the Study of Social Exclusion and Inclusive Policy	2010 - 1 Seminar	UGC

Centre on Studies in Sri Guru Granth Sahib	2011 - 1 Seminar 2012 - 2 Seminars 2013 - 2 Seminars	UGC UGC and Sri Mahan Sahib Pandit Gyan Dev Ji Vendantacharya, Sri Panchayati Akahara, Nirmala Kankal, Nirmal Takht Baba Budha Sahib Charitable Trust UGC/FCH
ASSM College, Mukandpur	2009 - 2 Seminars 2011 - 1 Workshop	UGC Self-Financed

3.2 Resource Mobilization for Research

The University has not made any financial provisions in the budget for supporting students' research projects. However, all departments get budget allocation under the budget head contingency and field work/research. For example, various social science departments are allocated certain amount of money for data collection. Similarly, the money is allocated to the Department of Psychology for purchasing the standardised tests for the students. Similarly, the science and technology departments are allocated money for research purposes. Some students of various Science departments get funding from Punjab State Council of Science and Technology, Chandigarh for their MSc dissertations. However, the practice of student projects other than M.Phil. and Ph.D. programmes is not an institutionalised process.

Patents

The University has not yet taken any definite measures to encourage its faculty to file for patents. During the last four years six patents have been registered

Details of Ongoing Research Projects of Faculty:

List of ongoing research projects undertaken by various teaching departments of the university

S. No	Departments	Projects	Funding Agency	Grant (Rs. In lacs)
1	Biotechnology	2	DBT	71.23
		1	CSIR	18.77
2	Botanical and Environmental Sciences	4	UGC	38.29
		1	DST	53.24
		1	CSIR	21.52
3	Chemistry	5	UGC	54.14
		2	DST	49

		1	CSIR-CDRI	4
		2	DBT	57.09
		1	BRNS	29.03
		2	SERB	109.2
		2	DRDO	81.69
		12	CSIR	211.45
4	Computer Science	2	UGC	19.83
5	Commerce and Business Management	3	UGC	17.78
6	Food Science and Technology	3	DBT	102.01
		2	UGC	23.77
		2	SERB	114.62
		2	DST	79.21
		2	CSIR	30.80
7	Human Genetics	2	UGC	17.79
		1	SERB	23.30
		1	ICMR	13.24
		1	DST	49.68
8	Guru Nanak Studies	1	UGC	6.32
9	Law	1	UGC	4.95
10	Microbiology	3	DBT	68.03
		1	ICAR	45.14
		1	UGC	11.78
		2	SERB	71.93
		1	DST	23.43
11	Mathematics	1	UGC	2.00
12	Pharmaceutical sciences	4	UGC	27.94
		1	DST	17.00
		1	CSIR	14.69
13	Physics	1	MOES	14.42
		3	DST	48.45
		2	IUAC	8.29
		1	BARC	25.05
		3	CSIR	48.31
		2	UGC	9.14
14	Punjab School of Economics	2	UGC	13.08
15	Physical Education	1	UGC	8.02
16	Sports Medicine and Physiotherapy	2	UGC	13.00
		1	DST	28.59
17	Sociology	1	UGC	8.29
18	Zoology	1	UGC	13.37
		1	DST	35.35

Further details regarding the ongoing research projects is given in the Annexure - II

Recognized Departments for their Research Activities

Following is the list of the Departments which have been recognised by various national agencies:

I. **List of the Departments having UGC Recognition**

1. Chemistry: UGC SAP (DSA Phase III) CAS I: INR 1.36 lacs.
2. Punjab School of Economics: SAP (DRS-II): INR 37.50 lacs.
3. School of Punjabi Studies: SAP (DRS-II): INR 43.75 lacs.
4. Sociology: SAP (DRS -II): INR 42.00 lacs.
5. Physics: SAP (DRS-I): INR 53.70 lacs.
6. Botanical and Environmental Sciences: SAP (DRS-I): INR 20.00 lacs.
7. Political Science: SAP (DRS-I): INR 40.00 lacs.
8. TEQUIP-II: Programme grant of Rs. 10 Crore to improve the technical education in Department of Computer Science & Engineering, and Electronics & Communication Engineering.
9. Applied Chemical Sciences & Technology: SAP (DRS-I):INR 74.30 lacs.
10. Architecture: SAP (DRS-I): INR 48.00 lacs.
11. Food Science and Technology: SAP (DRS-I): INR 75.00 lacs.
12. Microbiology :SAP (DRS II) :INR 54.00 lacs.
13. Human Genetics: SAP (DRS II): INR 47.50 lacs. (sanctioned)
14. Sports Medicine and Physiotherapy: SAP (DRS I): INR 47.90 lacs (sanctioned)
15. History: INR 56.00 lacs (sanctioned)
16. **List of Centres working under the UGC funding**

    1. Academic Staff College: As per actual
    2. Centre for the Study of Social Exclusion and Inclusive Policy: as per Actual
    3. Centre on Studies in Sri Guru Granth Sahib: INR 47.05 crore
    4. Centre with Potential for Excellence in Particular Area (CPEPA): Life Sciences: INR 6.15 crore
    5. University with Potential for Excellence: 50.00 crore

II List of Departments under DST Funding

FIST Programmes

1. Botanical and Environmental Sciences: INR 38.25 lacs.
2. Zoology: INR 39.00 lacs.
3. Chemistry: INR 2.74 crore
4. Physics: INR 1.71 crore

5. Molecular Biology & Bio-Chemistry: INR 60.00 lacs
6. Human Genetics: INR 45.00 lacs

PURSE Programme

7. Director Research: R&D incentive under PURSE Programme: INR 9.00 crore

Two significant Outcomes:

1. The University has been able to build excellent facilities for research in sciences (Both natural and life sciences) by building central instrumental facility with latest instruments as well as by technology upgradation.
2. The quantum and quality of research has significantly improved which has further reinforced the credibility of the University among the funding bodies for future financial support.

Details of Research Projects Completed and Grants Received during the last Four Years

S. No	Department	No. of Projects	Funding Agency	Amount (Rs.)
1	Chemistry	11	UGC	7665700
		8	DST	22372600
		1	MEF	13,23,420
		13	CSIR	12675913
		2	DRDO	2997000
		2	DBT	19,98,000
2	Applied Physics	1	IUAC	2,61,000
		1	DAE, Indore	3,04,000
		1	UGC	600000
		1	CSIR	15,50,000
3	Architecture	1	UGC	6,32,300
		1	AICTE	3,50,000
		1	ICMR	33,95,592
4	Biotechnology	5	DBT	27894800
		2	CSIR	3787800
		2	UGC	2216600
		1	IFCPAR	2193000
5	Botanical and Environment Sciences	7	UGC	5983800
		2	CSIR	2501000
		1	DBT	4950000
		1	DST	2806800
6	Commerce and Business Management	6	UGC	3119600
		1	AICTE	710000
7	Electronics and	1	UGC	4,00,000

	Communication Engineering	1	CSIR	346000
8	Food Sciences and Technology	4	UGC	3920400
		2	DST	6949000
		1	CSIR	1521667
		1	DBT	5012800
9	Human Genetics	2	DST	3684000
		2	DBT	12415000
		6	UGC	5384500
10	Hindi	2	UGC	1143600
11	History	2	UGC	1042400
12	Library and Information Science	1	UGC	381200
13	Mathematic	5	UGC	3690200
14	Microbiology	2	UGC	2041600
		1	CSIR	1795000
		1	DST	1044000
		1	DBT	2460000
		1	ICAR	15491540
15	Microbiology and Bio Chemistry	2	DBT and CSIR	780000 1715000
16	Punjab School of Economics	4	UGC	2017800
17	Physics	5	DST	10813347
		5	IUAC	1305000
		1	DAE	2156250
		2	DAE-BRNS	3374150
		2	UGC	1530800
18	Political Science	2	UGC	1115400
		1	ICSSR	421400
19	Sanskrit	1	UGC	850800
20	School of Social Sciences	1	UGC	150000

Further details are given in the Annexure- III

3.3 Research Facilities

The University has made significant efforts to improve its infrastructure requirements to facilitate research. Under the UPE and CPEPA the first step which has undertaken is to provide a centralised instrumental facility for all researchers to benefit instead of getting bogged down into the rigmarole of the bureaucratic process involving various departments. Following instrumental facilities are available in the centre:

1A. UPE (Material Science)

S. No.	Name of Equipment/Amount
1	High Resolution Transmission Electron Microscope (250 lac)
2	Vibrating Sample Magnetometer (130 lac)
3	Pulse Laser Deposition System (100 lac)
4	Vector network Analyser (100 lac)
5	Spectroscopic Ellipsometry (70 lac)
6	Dynamic Light Scattering (35 lac)
7	Brunauer-Emmett-Teller (BET) surface analyzer (30 lac)
8	Semiconductor IV-CV Characterisation Systems (30 lac)
9	Software Virtual Nano Lab Silvaco Quantum 3D (20 lac)
10	PVD System (Multi target) with electron beam gun (20 lac)
11	SAXS and high temperature stage (60 lac)
IB. UPE: Health Care, Drug Development and Sports Medicine	
12	NMR spectrometer (500 MHz) (250 lac)
13	Motion Analysis Equipment (250 lac)
14	Flash Chromatography (15 lac)
IC. UPE Environmental Management	
15	Next Generation Sequencer ((150 lac)
16	Accessories of SEM (50 lac)
17	Atomic Absorption Spectrometer (40 lac)
18	Amino Acid Analyser (40 lac)
19	CHNSO Analyzer (30 lac)
20	Preparative/ Semi-prep. HPLC (30 lac)
21	Ion Chromatography (20 lac)
22	Freeze Drier (20 lac)
23	Mobile environmental Analysis lab (20 lac)
24	Software for Remote Sensing. Statistics Mathematical, Environmental and other applications (30 lac)
25	Five parts Haematology Analyser ((30 lac)
26	Standard Radon Equipment (30 lac)
CPEPA	
27	Cytogenetic Workstation (80 lac)
28	Real Time PCRs (2 nos) (25 lac)
29	Ultracentrifuge (35 lac)
PURSE	
30	Automated DNA Sequencer 24 capillary (100 lac)
31	Scanning Electron Microscope (SEM) 100 lacs Bio-samples
DBT	
32	Inverted Microscope with Fluorescent Attachment (20 lac)

University Funds

33 Confocal Microscope (150 lacs)
34 LC MS system (150 lacs)
35 Scanning Electron Microscope (150 lacs)
36 Flow Cytometer (25 lacs)

List of Equipments/ Instruments in the Departments:

Life Sciences

Sr. No.	**Name of Instruments**
Department of Biotechnology	
1.	Gel documentation System
2.	High Speed Centrifuge
3.	Deep Freezer -80^{o} C
4.	UV-VIS Spectrophotometer
5.	CO_2 Incubators
6.	Stereo Microscope
7.	qRT-PCR Machine
8.	Walk-in Cold Room
9.	Cryomicrotome
10.	ELISA Plate Reader
11.	Inverted Microscope
12.	Upright Fluroscent Microscope
13.	HPLC
14.	Incubator Shaker
15.	Refrigerated Centrifuge
16.	AKTA Prime Plus
17.	3100 Offgel Fractionator
18.	Protein Purification System
19.	Distillation Unit
20.	Laminar Flow Hoods
Department of Botanical & Environmental Sciences	
1.	AAS
2.	GCMS
3.	Gel Docs
4.	PCR
5.	Deep freezer -40^{o} , -80^{o}
6.	CO_2 incubator
7.	Lyophilyzer
8.	Inverted microscope
9.	Infra Red Gas Analyzer
10.	Rotary evaporator
11.	Centrifuge

12. Spectrophotometer
13. Vapour pressure osmometer
14. Fluorescent microscope

Department of Human Genetics

1. DNA Sequencer ABI-PRISM 377
2. Fluorescent Microscope
3. Cytogenetic Work Station Fluorescent Microscope BX51 (Cytovision Software)
4. Cytogenetic Work Station with AHBT3 Olympus Microscope (Vysis Software)
5. Water Purification System Elix 3 (Millipore)
6. Trinocular Inverted Microscope
7. Photographic System Model PM 30 (Olympus)
8. Electronic Balance
9. Icematic Flaker
10. Stadiometer
11. Harpenden-Type Calliper
12. Lange's Skinfold Callipers
13. Electronic Weighing Machine Gym Model
14. Blood Analyzer Semi Automatic
15. Blotting System
16. Refrigerated Centrifuge
17. Body Fat Analyzer
18. Laminar Hoods
19. B.O.D. Incubator
20. Deep Freezer -20^{o}C
21. Gel Documentation System
22. Hybridization Incubator
23. Thermocyclers
24. CO_2 Incubators
25. ELISA Systems
26. RT-PCR
27. Electrophoretic Systems
28. Nano-Drop
29. Thermobrite
30. Personal Exposimeter
31. Cytospin
32. -80^{o}C Deep Freezer

Department of Microbiology

1. High Performance Liquid Chromatography
2. Fast Protein Liquid Chromatography
3. Lyophilizer
4. Two Dimensional Gel Electrophoresis
5. Gradient PCR
6. Bench Scale Fermentor

7. Centrifuge C-24BL
8. Gas Chromatography
9. Flash Chromatography
10. Rota Vapour
11. Sonicator
12. Freezer-20
13. Freezer-80
14. Plant Growth Chamber
15. Spectrophotometer UV1601

Department of Molecular Biology & Biochemistry

1. Water Purification System
2. Refrigerator Centrifuge
3. Thermocycler
4. UV-VIS spectrophotometer
5. Microscope Flourence
6. FPLC
7. 2D Electrophoresis
8. Gel Documentation System

Department of Pharmaceutical Science

1. Partical size Analyser
2. Rehometer
3. Brookfield Viscometer
4. Non Invasive Blood Pressure Measuring
5. HPLC
6. J.R.
7. Diffusion Cell
8. Dissolution apparatus autosampler
9. Probe Sonicator

Department of Zoology

1. Turbiditymeter and Thermoreacter
2. Muffle furnace 150x150x300mm
3. Double Beam UV-VIS spectrophotometer
4. Nikon Trinocular Research Microscope Model E20 with accessories
5. Benchtop freezer dryer
6. Water Purification System with prefilter, ultrapure, RO System
7. Humidity Chamber
8. Microplate Reader

Sciences

Department of Chemistry

1. JEOL-FT NMR−AL 300 MHz spectrophotometer
2. Varian fluorospectrophotometer
3. Varian IR spectrophotometer
4. (TGA)/ differential scanning calorimetrtic analyzer (DSC)

5. CHNS analyzer
6. Polarized optical microscope (POM)
7. Chiral HPLC
8. Bruker's Apex-II CCD diffractometer
9. UV-vis spectrophotometer
10. Biotage initiator microwave
11. HP-TLC
12. X-ray powder diffractometer
13. Tensiometer
14. Fluorescence life time TSPC

Department of Food Science & Technology

1. UV/VIS Spectroscopy
2. Freeze Drier
3. Differential Scanning Calorimeter
4. Rapid Visco-Analyzer
5. Spray Drier
6. GPC
7. Hunter Color Lab.
8. Watr Activity Meter
9. HPLC
10. Farinograph
11. Viscoamylograph
12. Alveograph
13. Falling Number Apparatus
14. McGill Sheller/Polisher
15. Komat Oil Expeller
16. Hammer Mill
17. Barbender Flour Mill
18. Reel Type Baking Oven
19. Fermenter with Refrigeration Unit
20. Brookfiled Viscometer
21. Dough Mixer
22. Cabinet Driers
23. Texture Analyser
24. Dynamic Rheometer
25. Evaporator
26. Fluidized Bed Drier
27. Single Screw Extruder
28. FTIR
29. Mixograph
30. Atomic Absorption Spectrometer
31. Instron Universal Testing Machine

Department of Physics

1. X-Ray Diffraction
2. Photoluminescence

3. UV-Visible
4. FTIR
5. Atomic Absorption Spectroscope
6. Atomic Force Microscope
7. Raman Spectrophotometer
8. RF Sputtering Unit
9. Planetary Ball Mill
10. Thermal Evaporation Unit
11. Sputtering Unit
12. Source Meter
13. High Temperature Furnace
14. LCR Meter

In addition, the University has a University Science Instrumentation Centre (USIC) which is available to all researchers including the research scholars. The budget allocation for it for the financial year 2013-2014 is INR 65.22 lacs.

The university provides residential facilities with Wi-Fi facility for Junior/Senior Research Fellows and other scholarship holders, post-doctoral fellows and visiting scientists from other academies.

The University has Central Instrumentation Centre in the Emerging Life Sciences Building which is open to all researchers from within the University as well as other institutions which have MoU with GNDU to cater the need of the researchers to address the challenges of new research programmes.

3.4 Research Publications and Awards

University Research Journals

1.	Guru Nanak Journal of Sociology	Biannual
2.	Journal of Sikh Studies	Annual
3.	Journal of Regional History	Biannual
4.	Khoj Darpan (Punjabi)	Biannual
5.	Pradhikrit (Hindi)	Annual
6.	Personality Study and Group Behaviour	Annual
7.	Journal of Management Studies	Annual
8.	Punjab Journal of Politics	Biannual
9.	Punjab Journal of English Studies	Annual
10.	Perspectives on Guru Granth Sahib	Annual
11.	Indian Journal of Quantitative Economic	Biannual
12.	PSE Economic Analyst	Biannual
13.	Law Journal, Guru Nanak Dev University, Amritsar	Annual
14.	Journal of Sports Traumatology & Allied Sports Sciences	Annual
15.	Dharam Adhyan Patrika (Punjabi)	Annual

Details of Publications by the Faculty:

S No.	Department	Books Authored	Books Edited	Chapter in books	Research articles: National/ interna-tional	Mono-graphs	Impact factor	H-index	c-Index
a. Departments									
1	History	02	02	13	10		-	-	-
2	Library & Information Science	-	-	12	34	-	-	-	-
3	Political Science	1	-	11	21	-			-
4	Psychology	-	-	-	40	-	-	-	-
5	School of Social Sciences	-	-	3	16	-	-	-	-
6	Sociology	7	5	3	16	-		-	-
7	CSSEIP	-	1	3	11		-	-	-
8	Namdhari Guru Ram Singh Chair	4	-	7	-	-	-	-	-
9	Commerce and Business Manage-ment	3	-	3	215	-	-	-	-
10	Punjab School of Economics	1	-	159	11	-	-	-	-
11	Computer Science and Engineering	-		-	91	-	0.306-2.31	-	
12	Electronics Technology	-	-	-	94	2	0.242-2.073	-	-
13	Guru Nanak Studies	05	01	42	4	-	-	-	-
14	English	2	-	3	2	-	-	-	-
15	Foreign Languages	-	-	-	-	-	-	-	-
16	Hindi	2	2	2	41	-	-	-	-

17	Sanskrit, Pali and Prakrit	1	-	-	-	-	-	-	-
18	School of Punjabi Studies	23	13	14	42	-	-	-	-
19	Urdu and Persian	1	-	1	3	-	-	-	-
20	Laws	3	-	4	25	-	-	-	-
21	Biotech-nology	-	-	-	52		0 – 4.56	22	9
22	Botanical and Environ-mental Sciences	-	10	-	214		0 – 5.57	12	47.5
23	Human Genetics	-	-	6	163	-	0 – 14.6		4.5
24	Microbiolo gy	-	-	2	72	-	0 - 4.58	26	
25	Molecular Biology and Bio-chemistry	-	-	-	36	-	0 – 3.73	-	-
26	Pharma-ceutical Sciences	-	-	03	85	-	0 - 1.44		10.57
27	Zoology	-	-	-	78		0.310 - 4.750	2 - 40	-
28	Physical Education	-	-	-	-	-	-	-	-
29	Architec-ture	-	-	-	17	-	-	-	-
30	Guru Ram Das School of Planning	-	-	6	38		-	-	-
31	Chemistry	-	-	-	414	-	0 -14	10036	309
32	Food Science and Technology	-	-	8	100	-	0 - 2.052	35	13.20
33	Mathe-matics	-	-	12	109	-	0.1 -2.5	-	-
34	Physics	-	-	7	350	-	0.- 8.28	-	-

35	Sports Medicine & Physio-therapy	-	-	1	167	-	0 – 3.66	-	-
36	Music	-	-		3	-	-	-	-

b. Regional Campuses									
Maharaja Ranjit Singh Regional Campus, Jalandhar									
37	Computer Sciences and Engineer-ing	-	-	-	9	-	-	-	-
38	Electronics and Communic ation Engineer-ing	-	-	-	48	-	0.5 - 2	-	
39	Laws	-	-	4	36	-	-	-	-
40	Journalism & Mass Communi-cation	-	-	3	13	-	-	-	-
41	Punjabi	-	-	5	1	-	-	-	-
GNDU Regional Campus, Gurdaspur									
42	Business Manage-ment	-	-	5	28	-	-	-	-
43	Computer Science and Engineer-ing	-	-	-	52	-	0 - 1.467	-	-
44	Electronics and Communi-cation Engineer-ing	-	-	-	36	-	0.5 - 1.5	-	-
45	Laws	-	-	4	12	-	-	-	-
C. Constituent Colleges									

1	GNDU College, Verka	2	1	8	39	-	-	-	-
2	Bebe Nanaki University College, Mithra, Kapurthala	-	-	-	-	-	-	-	-
3	GNDU College, Chung	-	-	-	-	-	-	-	-
4	GNDU College, Narot Jaimal Singh, Pathankot	2	-	-	5	-	-	-	-
5	ASSM College, Mukandpur (SBS Nagar)	-	-	-	63	-	-	-	-
6	GNDU College, Patti	-					-	-	-
7	Sri Guru Teg Bahadur College, Sathiala	-	-	-	-	-	-	-	-
8	Shaheed Ram Singh Pathania Memorial GNDU College, Niari	-	-	-	-	-	-	-	-
9	GNDU College, Jalandhar	2	-	-	-	-	-	-	-

Details of faculty serving on the editorial boards of national and international journals and as members of steering committees of international conferences recognized by reputed organizations / societies

Department	**No. of Faculty serving on the editorial Board of national and International journals**	**No. of Faculty serving as the members of steering committees of International conferences recognised by reputed organisation/societies**
Biotechnology	None	2
Botanical and Environmental Sciences	4	2
Chemistry	1	None
Commerce and Business Management	5	2
Computer Science &Engineering, Amritsar	3	None
Food Science and Technology	4	1
Guru Ram Das School of Planning	1	None
Guru Nanak Studies	3	None
Hindi	1	1
History	5	None
Human Genetics	4	3
Laws, Amritsar	2	None
Library & Information Science	1	None
Mathematics	3	
Microbiology	1	1
Music	None	1
Pharmaceutical Sciences	1	1

Physics	2	1
Political Science	6	None
Psychology	4	None
Punjab School of Economics	4	3
School of Punjabi Studies	6	None
School of Social Sciences	None	None
Sociology	4	1
Sports Medicine and Physiotherapy	1	1
Urdu & Persian	1	1

Note: The Departments not listed in the above implies "none".

Details of Research awards received by the faculty and students/ National and international recognition received by the faculty

Department	**Research Rewards received by faculty and students**	**National and International Recognition**
Biotechnology	Faculty: 3	None
Botanical and Environmental Sciences	Faculty: 8	None
Chemistry	Faculty: 4 Students: 3	6
Commerce and Business Management	Faculty: 3 Student: 1	1
Computer Science and Engineering,	Faculty: 2	None
Electronics Technology, Amritsar	Faculty: 1	None
Food Science and Technology	Faculty:4 Students: 2	None
Guru Ram Das School of Planning	None	1
Guru Nanak Studies	Students: 4	None
Hindi	Faculty: 1	None
Human Genetics	Faculty: 2	None
Laws, Amritsar	Faculty: 2	2

Library & Information Science	Faculty: 2	None
Mathematics	Faculty: 3	None
Microbiology	Faculty: 2	None
Molecular Biology & Biochemistry	Faculty: 2	2
Music	None	1
Pharmaceutical Sciences	Faculty: 3	None
Physics	Faculty: 4	None
Political Science	Faculty: 3	None
Punjab School of Economics	Faculty: 2	4
School of Punjabi Studies	Faculty: 2 Student: 3	7
Sociology	Faculty: 1	None
Sports Medicine and Physiotherapy	Faculty: 3	None
Zoology	Faculty: 1 Student: 2	None

Average number of Successful M.Phil. and Ph.D. Scholars guided per Faculty (School) during the Last Four Years.

Ph.D.: 38.6; M.Phil.: 66

The University participates in Shodhhganga by depositing the Ph.D. theses with INFLIBNET. So far 150 theses have been deposited.

Plagiarism in Research

The University considers malpractices and plagiarism in research as serious offence and has been very strictly handling these issues. Only four cases have been reported so far during the last four years. In one case, the faculty member was dismissed, whereas in the second case the dismissal was revoked through the orders of the High Court. In the third case, the concerned faculty member had just retired and he was not given extension. In the fourth case the faculty member was removed from headship pending the inquiry, but due to the order of the honourable court, he was reinstated at his position.

Promotion of Interdisciplinary Research

The University has been promoting interdisciplinary research since its inception. In recent years many UGC schemes have enabled the University to pursue interdisciplinary research. Under the following schemes the interdisciplinary projects are underway at the present:

1. Centre for the Study of Social Exclusion and Inclusive Policy: The Centre was established in 2007 with the full grant of the UGC to

study and investigate exclusionary practices against certain communities and examining the plausibility of various inclusionary practices from the interdisciplinary perspective.

2. UPE focus Area on Comparative Literature, Language and Cultural Formations: The University received a grant of 275 lakh to do research in this area in which all language departments are engaged. In all 13 projects have been initiated.
3. Under CPEPA six departments of Life Sciences are carrying out joint research on different aspects of T2D, cancer etc.

3.5 Consultancy

The University has adopted the UGC rules as the official policy. The Department of Architecture and the Guru Ram Das School of Planning have undertaken significant number of consultancy projects.

The University has University-Industry Linkage programme which is headed by a senior professor of the University. It looks after all the possible linkages which the University can have with industry. For example, doing consultancy for the industrial houses, doing collaborative research, organisation of seminars and arranging for the apprenticeship of the technology and engineering students.

As such the university does not publicise the expertise in different areas, but the following departments have been providing the consultancy services:

1. Architecture
2. Guru Ram Das School of Planning
3. Computer Science and Engineering
4. Chemistry
5. Food Science and Technology
6. Electronics and communication

The University get the consultancy services of its faculty. In this regard, Departments of Architecture and Planning have been engaged in doing the work for the University.

The following are the details of the consultancy

Month	2009-2010	2010-2011	2011-2012	2012-2013
April	0	0	534467	0
May	18000	0	2000	895500
June	0	40000	0	90000
July	0	0	945900	0
August	0	150000	20000	0
September	1250	0	0	0
October	179800	115950	160650	2500
November	0	0	0	0

December	0	20000	0	90000
January	0	136000	0	1206945
February	0	0	0	0
March	297500	0	0	0
Total	**496550**	**461950**	**1663017**	**2284945**
University Share	**1,24,137**	**1,15,487**	**4,15,754**	**5,71,236**

3.6 Extension Activities and Institutional Social Responsibility (ISR)

The following are the social outreach programmes:

I. One of the major units of social outreach programmes is the NSS Department which was established in 1971. This Department annually organises Blood Group Testing Camps and prepares directory of the different blood group donors. Thereafter blood is donated to needy persons as and when required. To keep the environment pollution free, tree plantation is a regular feature of the NSS. Eradication of Congress Grass by the NSS volunteers is an important feature of the Department. Seven day camps are organised every year for the NSS volunteers. In these camps they are imparted training for social activities. Lectures on important social issues like drug addiction, dowry, girl child, communal harmony, AIDS awareness, cleanliness are delivered by the faculty. Major focus of these camps has been the overall development of the personality of the students through developing the feeling of community participation. The following are the details of various programmes organised by the NSS Department along with other details:

Allocation of NSS Volunteers Units	240
Volunteers	24,000
Total Enrolment of NSS Volunteers (including University Campus, Regional Campuses, Constituent Colleges and Affiliated Colleges)	24,090
Total NSS volunteers at University Campus, Regional Campuses and Constituent Colleges	15000
Total No. of Adopted Villages/slums	90
No. of Blood Donation Camps at Campus	22
Total No. of Units Blood Donated	890
No. of Tree Plantation Camps	24
No. of Saplings Planted	8440
No. of Special Camps (Seven Days) held	17
Total No. of self financing Units	19
Volunteers involved in Pulse Polio Drive	1490

II. The Department of Life Long Learning is running various skill development self-financed programmes to enable various sections of the youth and society to become self employed. In this regard, the training in dress designing is imparted to the prisoners at local prison. The on campus activities involve the following training programmes:

a. One year certificate course in Dress Designing (Cutting and Tailoring)
b. One year diploma in Textile Designing
c. One year diploma in Cosmetology
d. One year diploma in Computer Application
e. One year diploma in Fashion Technology
f. One year diploma in Dress Designing (Cutting and Tailoring) at Gurdaspur regional Centre as well as Amardeep Shergill Memorial College, Mukandpur

III. As a part of its vision to bring access to education among the rural and backward communities, the University has adopted the proactive policy during the last four years. As a result, four rural colleges have been established, two of which are located near the international border.

The Centre on Studies in Sri Guru Granth Sahib, and Centre for the Study of Social Exclusion and Inclusive Policy are the two UGC funded research centres which are engaged in various research activities on issues concerning the well-being of humanity and downtrodden. The Namdhari Guru Ram Singh Chair is also engaged in doing research in the similar areas.

All these programmes are open to all students and they can join any of them. They are informed through notices to the departments and the concerned departments are requested to join in such activities. Besides, the Department of Youth Welfare organises Youth Leadership Training/Hiking Trekking Camps. From 2010 to 2013 the Department organised 19 such camps.

Various Social Sciences Departments have been engaged in social survey and research with regard to the issues of marginal, underprivileged and vulnerable sections of the society. The details are as follows:

Department of Sociology:

1. Drug Addiction in Punjab
2. Female Foeticide in Punjab
3. Dalits of Punjab
4. Social Issues concerning the OBCs in Punjab

Centre for the Study of Social Exclusion and Inclusive Policy

1. Caste based Social Exclusion

2. Development and backwardness of the Border Areas.
3. Social Exclusion of Dalits in Urban Space

The Department of Human Genetics conducted a survey in the City of Amritsar for assessing the genetic awareness among youth. It also carried a survey of various villages around Amritsar to assess the genetic damage done by polluted drain.

The Department of Political Science carried out a survey on Problems of Farmers of the Border Areas of Punjab. Similarly, Punjab School of Economics also conducted a study on Farmers' Suicides in Punjab.

So far as the Extension work is concerned, the Department of Life Long Learning is engaged in various activities, but notable among them is the economic empowerment of the prisoners by training them to acquire skills for self-employment. The University introduced three vocational courses, namely TV Repair, Basics of Computers, and Dress Designing. The successful candidates are given certificates after the completion of examinations.

Social relevance of extension activities is linked with various facets of development of the personality of the students. The most important value is linked with the nation-building and national integration. Collective participation for the welfare of the society in general through blood donation camps, environment protection activities are important values to inculcate. Awareness of dangers of AIDS, female foeticide and drug addiction helps the students to develop as good citizens. In view of the fact that the students are involved in all such activities, they learn some skills, such as leadership skills, team work and communication skills.

The University directly and indirectly engages in the community development. Initiatives with regard to AIDS awareness programmes, anti-dowry lectures, campaign against female foeticide through conscience raising approach are some of the activities in which the University has contributed towards the community development. However, it is with regard to the development of educational institutions, regional campuses and constituent colleges that the community got engaged in a big way. The local community donated land to the University to open colleges at Mithra, Verka, Chungh and Narot Jaimal Singh, as well as the regional centre at Sultanpur Lodhi.

3.7 Collaboration

The University's collaboration with other agencies could be categorised into three, namely inter-institutional collaboration, collaboration with the government funding agencies and individual collaborations. All these collaborations have made a significant impact on the visibility and

identity of the University. The University, despite its limitation due to its location near the international border which was volatile for some time, the University has remained highly accredited by the NAAC. It was also identified as the University with Potential for Excellence (UPE) by the UGC. In Centre of Potential for Excellence in a Particular Area (CPEPA) six departments of Life Sciences Faculty are carrying out collaborative research. All this could be possible due to collaboration with various agencies. It has given distinct identity to the University. The financial gains have also occurred.

All these linkages promote

Curriculum development	Curriculum development is the major achievement as an ongoing process in which various linkages through collaborative research have been established. Collaborative research offers opportunities to analyse the course curricula of these institutes which provides a comparative view in the light of which the University curricula could be revised and updated.
On-the-job training	The linkages provide the students of the University to go and work in the institutes and utilise their state of the art training facilities to improve their skills.
Internship	It offers tremendous opportunities to students to undergo internship at the industry/institute. Certain programmes in the University have made internship as an integral part of the curriculum. Such linkages facilitate the internship of the students.
Faculty exchange and development	It helps the faculty in their overall development. Though the faculty exchange is limited, but the visits to various institutes due to collaborative research expose the faculty to recent developments in the field.
Research	The major outcome of collaboration is that quality research is done as it offers opportunity to use the advanced research infrastructure of other institutions.
Publication	As a natural corollary to research, these linkages promote the publication of research papers in journals with high impact factors
Consultancy	The linkage helps in identifying various fields where industry and University can cooperate and it helps in getting more and more consultancy.
Extension	The linkage with other institutions and with NGOs help in diversification of extension services for the betterment of society at large.
Student placement	In certain courses such as IT, electronics, business management, these linkages play positive role in the placement of students.

So far the University has signed the MoUs with the following national and international institutions:

S. No.	Name of the University/Institution	S. No.	Name of the University/Institution
1	University of Venda for Science and Technology, Thohoyandou, Limpopo Province, South Africa	21	Bureau of Police Research and Development, Ministry of Home affairs, New Delhi
2	Saxion Hogescholen, University of Higher Professional Education in Deventer and Enschede, The Netherlands	22	University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma (USA)
3	Centre for Cellular and Molecular Biology, Hyderabad	23	Central Scientific Instruments of Organisation, Chandigarh
4	University of the North, Mankweng, Limpopo Province – South Africa	24	National Institute of Advance Industrial Science and Technology, 1-1-1 Higashi, Tasukuba Science City, Japan
5	Max-Planck Institute for Molecular Genetics, Berlin, Germany	25	Bloomsburg University of Pennsylvania, USA
6	Industrial Toxicology Research Centre, Lucknow	26	China University of Political Science and Law, China
7	Centre for Research in Rural & Industrial Development, Chandigarh	27	University of Colombo, Sri Lanka
8	Gurbax Singh Nanak Singh Foundation, Preet Nagar, Amritsar	28	American Institute of Indian Studies, New Delhi
9	Kwantlen University College, Canada	29	Central Institute of Post-harvest Engineering and Technology (CIPHET), PAU, Ludhiana
10	City College, Birmingham (UK)	30	Indian Council of Agriculture Research/National Agricultural innovation Project (NAIP), PAU, Ludhiana
11	The University of Pittsburgh, PA, USA	31	Dr. B. R. Ambedkar National Institute of Technology, Jalandhar

12	Institutive of Indian and Integrative Medicine, Jammu	32	Karl-Frazens University of Graz, Austria
13	The Ethiopian Police College, Ethiopia	33	Punjab Government, Tourism Department, Chandigarh
14	The Lahore Chamber of Commerce & Industry, 11 Shara-e-Aiwann-e Tijarat, Lahore, Pakistan	34	HDFC Bank Ltd., Chandigarh
15	Institute of Himalayan Bioresource Technology, Palampur	35	Univeristi Sains Malaysia, USM
16	Indian Space Research Organisation, Department of Space, Govt. of India	36	Police Academy, Phillaur
17	Gomel State Medical University, Belarus	37	Sardar Jaswant Singh Rai Memorial Trust, Jalandhar
18	Jawaharlal Nehru University, New Delhi	48	University of the Fraser Valley, Canada
19	Allied Health Unit, faculty of Medicine, University of Colombo, Sri Lanka	39	Ranbaxy Laboratories Ltd.
20	Eurasia Pacific Uninet, Austria	40	Daichi-Sankhyo India Pharma Pvt. Ltd., Gurgaon

The University-industry interactions have helped in establishing laboratories as these have provided inputs into the needs of the industry as well as the development of the requisite skills.

CRITERION IV:

INFRASTRUCTURE AND LEARNING RESOURCES

4.1 Physical Facilities

The University has construction and maintenance department which is responsible for monitoring the construction of physical infrastructure. The infrastructural development is kept in tune with the growing needs of the University. During the last five years, there has been construction of the buildings of the constituent colleges, regional campuses and lecture theatre complex and the building of the central instrumentation facility and women's hostel. Construction work in certain cases is still going on. The University assures optimal utilisation of the physical facilities through various committees.

The construction of lecture theatre complex consisting of fourteen rooms equipped with multimedia is the major initiative. A newly constructed building of emerging life sciences has been completed. The provision of desk top for every member of the faculty and separate rooms for the faculty members are the attempts at promoting good teaching-learning experience. Through, details of the constructions of various buildings have already been provided in the executive summary, yet the same information has also been reproduced here.

(1) GNDU Campus, Amritsar:

S. No.	Nature of Development/construction	Amount
1	One Block of Girls' hostel # 3	1.75 crore
2	Six Storey Girls' Hostel# 4	15.33 crore
3	Emerging Life Sciences Building	2.30 crore
4	Lecture Theatres' Building	5.98 crore
5	Academic Staff College Guest House	1.23 crore
6	Velodrome	1.48 crore
7	Boys' Hostel	3.40 crore
8	4th Storey of Chemistry Block	1.52 crore
9	4th Storey of Physics Block	60.00 lac
10	Class Rooms in Maharaja Ranjit Singh Bhawan	1.84 crore

(2) GNDU Regional Campus, Sathiala:

Construction of various Buildings (Academic Complex, Boys Hostel, Girls Hostel, Dinning Block and Administrative Block)	14.00 crore

(3) GNDU Regional Campus, Sultanpur Lodhi (Fatudhinga):

Construction of IT Block	7.98 crore

(4) GNDU Regional Campus, Gurdaspur:

Construction of IT Block	1.44 crore
(5)GNDU Regional Campus, Jalandhar	
Construction of IT Block	3.40 crore
(6) ASSM College, Mukandpur	
Construction of School Building	2.11 crore
(7) GNDU College, Verka	
Construction of ICT Building	2.00 crore

Sr. No.	Projects in Progress	Amount
1.	Sri Guru Granth Sahib Bhawan	12.60 crore
2.	4th Storey of Maharaja Ranjit Singh Bhawan	4.31 crore
3.	One story in Electronics and Technology Department & Extension of Architecture Building	5.25 crore
4.	Extension of ICT Building at Verka	3.26 crore
5.	University College Ladhowali shifted to New Premises and the Building Construction	2.11 crore

The University has made all efforts to create conducive ambience for the faculty. There is computer centre which caters to the research needs of all the faculty members. The 24-hour power supply has been assured to the laboratories through the installation of generators. Departmental laboratories are provided with latest instruments. Central instrumentation facility has been created. The library is constantly updated through the purchase of latest books. Journals are subscribed and the University has also subscribed to the online resources.

All departments have been provided with facilities like, office room, common room and separate rest rooms for women students and staff.

In the construction of new facilities for the students, special attention is being given to make them disabled-friendly. In the older buildings the process of making them disabled-friendly is going on. For example, a ramp is being constructed at the entry gate of the library.

Facilities for Residential Students at Main Campus

Capacity of the hostels and occupancy: Men's Hostels: Total Capacity: 1297. Total Occupancy: 1215.

Women's Hostels: Total Capacity: 2333. Total Occupancy: 2270.

(Please see Page 14 for further details)

Recreational facilities in hostels:

Men's Hostels: Table Tennis Room (One Table in each hostel), Volley Ball court: One each, Badminton court: Two in each hostel, TV room and Reading rooms in each hostel (Yoga Camp occasional).

Women's hostels: Table Tennis Room (One in each hostel), Badminton Court (One in each Hostel), TV room and Reading Room in each hostel.

All hostels have broadband Wi-Fi connectivity.

The university offers medical facilities for its students and teaching and non-teaching staff and also for retired persons.

Special Facilities to Promote Students' Interest in Sports and Cultural Activities

The office of the Director, Youth Welfare looks after the cultural activities. The office of the Dean, Students Welfare is responsible for cultural needs of the campus students. Regular cultural programmes are organised in the campus. An Interdepartmental cultural festival Jashan is organised every year. The University campus has two big auditoriums, namely, Dashmesh Auditorium and Guru Nanak Bhawan Auditorium. So far as the sports are concerned, the University can boast of the best facilities for the students. In an area of 25 acres of land which is earmarked for playfields, the following facilities are in existence:

1. Hockey stadium: the new Hockey Astro Turf at the University campus is ready for the use of players.
2. Swimming Pool of international standard.
3. Indoor Multipurpose Gymnasium has been furnished with mapping wood flooring, wall panelling, sound proofing and false ceiling.
4. Cycling Velodrome
5. Shooting Range
6. One Grassy Track (400m)
7. Two cricket pitches
8. Two grassy hockey grounds
9. Two football grounds
10. One cemented and two grassy Basketball courts
11. Two cinder and two grassy Volleyball courts
12. One cemented and one grassy Tennis courts
13. One platform for wrestling, weight lifting, power lifting and Boxing.
14. Physical Conditioning Unit with various fitness stations.
15. Sports hostel with a capacity of 200 players to host various competitions.

4.2 Library as a Learning Resource

The University library has an advisory committee called 'Library Committee' which gives suggestions and makes decisions for the improvement of library services.

Composition of the Committee

1. Dean, Academic Affairs (Chairperson)
2. All Heads of the University Teaching Departments
3. Deans of the Faculties
4. Two members of Academic Council to be nominated by the Vice-Chancellor for two years
5. One member of the Syndicate
6. Two persons to be nominated by the Vice-Chancellor for two years
7. University Librarian acts as Secretary

Significant Initiatives of the Library Committee

All initiatives with regard to making the Library user friendly are taken by the Library Committee. In general terms the following functions of the committee could be identified:

- Suggestions are given by members for the improvement of services to the readers
- It frames regulations regarding the use of the library
- It scrutinizes the annual budget of the library
- It approves rates, terms and conditions for the purchase of books and subscriptions to journals, periodicals, etc.

Among its various steps one of the major initiatives has been to start an air-conditioned 24×7 Reading Room for the students.

Total area of the library (in Sq. fts.): 1,80,000

Total seating capacity: 350

Working hours (on working days, on holidays, before examination, during examination, during vacation)

- Monday to Friday: 9 A. M. T0 9 P. M.
- Saturday, Sunday and other Holidays: 9 A. M. To 5 P. M.
- Air conditioned Reading Room: Opens 24×7
- The library remains open on all days except on two national holidays: 26th January and 15th August.

Individual reading carrels: 6 carrels on 2nd Floor

Lounge area for browsing and relaxed reading: Air-conditioned Reading Hall on 1st Floor and Special chairs are for relaxed reading

IT zone for accessing e-resources: Internet Lab

Clear and Prominent Display of Floor Plan: Adequate signboards at each floor as section regarding the location of different subjects, class numbers are displayed on each book stack. Indications are provided for direction to each floor.

Access to Differently-abled Users: Access to differently-abled users is provided with door step facility.

Mode of Access to Collection: Open access, personal help provided to access to library collection

Library Holdings:

a) Print (books, back volumes and theses): 4, 70,000
b) Average number of books added during the last three years: 11306 per year
c) Non Print (Microfiche, AV): 2398
d) Electronic (e-books, e-journals): INFLIBNET: 7500; INDEST: 416
e) Special collections (e.g. text books, reference books, standards, patents): Text Books: 21973; Manuscripts: 2515; Reference Books: 7164; and Rare Books: 10,000

Tools the library deploys to provide access to the collection

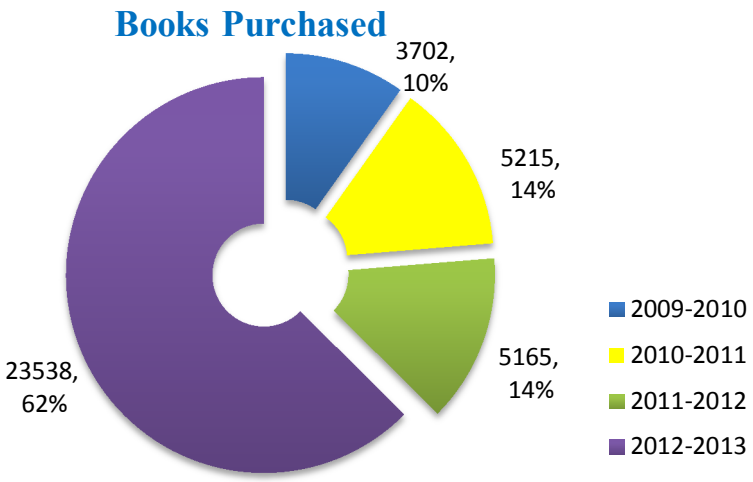
* OPAC: Yes
* Electronic Resource Management package for e-journals: No
* Federated searching tools to search articles in multiple databases: Yes
* In-house/remote access to e-publications: Yes (INFLIBNET Facility)

Deployment of ICT

* Library automation: Yes
* Total number of computers for public access: 40
* Total numbers of printers for public access: None
* Internet band width speed: 10 mbps
* Institutional Repository: 4, 70,000
* Content management system for e-learning: Weekly
* Participation in resource sharing networks/consortia (like INFLIBNET): Yes
* Average number of walk-ins: 9000 readers per week
* Average number of books issued/returned: 7500 per week
* Ratio of library books to students enrolled: 54:1 (Total Books 3, 77,000 enrolled students 7000)
* Average number of books added during the last four years: 9405

Books Purchased

2009-2010	3702
2010-2011	5215
2011-2012	5165
2012-2013	23538
Total	37620



* Average number of login to OPAC: 8000 readers
* Average number of login to e-resources: 1969 Users
* Average number of e-resources downloaded/printed: 10,900 articles
* Number of IT (Information Technology) literacy trainings organized: 2

Specialized Services

* Manuscripts: Yes (Bibliographical description of manuscripts are also available on library website)
* Reference: Yes
* Reprography: Yes
* Inter-library Loan Service: Yes (University library is also a member of DELNET)
* Information Deployment and Notification: Yes
* OPACS: Yes
* Internet Access: Yes
* Downloads: Yes
* Printouts: No
* Reading list/ Bibliography compilation: Yes
* In-house/remote access to e-resources: Yes (A number of awareness programmes, seminars and conferences have been organised by the library to assist the students, research fellows, teachers regarding the access of e-resources)
* Internet Access: Yes (Free Internet facility is provided to faculty members, research fellows and students)
* User Orientation: Yes
* Assistance in searching Databases: Yes
* INFLIBNET/IUC facilities: Yes

Annual library budget

Rs. 78, 58,125/- have been spent on purchase of books and journals out of the budget of Rs. 99, 80,000 for 2012-2013.

Initiatives to make the library a 'happening place' on campus

i. University Library has a fully Air-Conditioned reading hall for the students which is open 24 hours throughout the year.
ii. Uninterrupted power supply is given to the AC reading hall.
iii. Continuous alerts are sent to the faculty members and research scholars regarding latest arrivals, databases, e-journals, new additions, etc.
iv. University library has organised a number of conferences, seminars and awareness programmes.
v. Every year an exhibition of manuscripts, rare books, rare documents and photographs is organised.
vi. Bibliographies on different themes are prepared.
vii. All the fresh students are taken on a library acquaintance trip.

Feedback Strategies used by the Library

Strategies:

i. User awareness programmes are conducted by Bhai Grudas Library in collaboration with various publishers and INFLIBNET. Students are made aware regarding use of e-resources. Feedback regarding the use of e-resources is collected.
ii. User awareness programmes are conducted for research scholars and feedback is collected.
iii. Students using digital lab are personally contacted to know about their problems while accessing e-resources.
iv. Students are advised to send feedback through e-mail.

Analysis of Feedback:

Feedback is properly analysed and discussed with concerned section in the library. Problem regarding availability of Backsets and books etc. are positively addressed and INFLIBNET is intimated regarding use of various e-resources and searching of books and backsets.

Infrastructural Development in the Last Four Years.

2008-09		2009-10		2010- 11		2011-2012	
Double Face Stack	10	Laser Printer	1	Split ACs for Reading Hall	2	Chairs	50
Book Stacks	3	Computer System	1	RO System	1	Double Face Stack	20
Revolving Chair	1	Wooden Chairs	50	Heat Blower for Reading Hall	5	Revolving chairs	2
Camera for	1	Chair Godrej	12			Indication	3

Digitisation						Stand	
Godrej Optimizer D3 Drive type	2	Table Godrej Sofa Set	6 1	Camera for Digitisation	1	Camera for Digitisa-tion	15
		Bar Coding Scanner	4	Almirah for manuscript Section	4		
		Computer Sets for Internet Lab	25				
		Camera for Digitisation	1				

1-04 – 2012 to 31 – 3 – 2013

Item	Quantity	Amount (Rs.)
Almirahs	5	36500
Photostat Machine	1	92572
Steel Racks	9	69750
Air Conditioner	4	37990
Water-Cooler	1	40000
Book Stacks	12	93000
Camera	1	23950
Computers	4	96485
Laser printer	1	8650
Computer Chairs	10	46970
Battery (Old Battery)	1	10000

4.3 IT Infrastructure

IT policy of the University is in place with regard to IT Service Management, Information Security, Network Security, and Risk Management. So far as the Software Asset Management, Open Source Resources and Green Computing are concerned ERP solution is underway

Details of the University's Computing

- Number of systems with individual configurations: Approximate 1050 computers with PIV, i3 and i5.
- Computer-student ratio: Vary from Department to Department
- Dedicated computing facilities: 24 hours internet facility both in campus and hostels, computer access in library, e-journal access.
- LAN facility: 1Gbps leased line under NKN project and 40Mbps linked line form HFCL Info Tech Ltd.
- Proprietary software: Windows and Open Source Softwares
- Number of nodes/ computers with internet facility: Almost 75 per

cent computers are hooked up with LAN and internet facility

- In future the University is going to implement ERP solution in the entire University to provide total information online. It is proposed to upgrade labs, softwares and simulators for IT departments.
- Many Departments are equipped with ICT enabled equipments. 24 hours online journals are available for research purpose.
- As such the University has NKN project and the access of all online resources are authenticated.

New Technologies deployed by the university in enhancing student learning and evaluation during the last four years

a. Setup projector and computer built in projector in classes.
b. Digital classroom project implementation is in pipeline

Online journal access, computer, multimedia projector, printer, UPS and 24 hours internet access to individual teachers for effective teaching and quality research.

Almost all the IT departments' classrooms are equipped with multimedia projectors and to provide e-contents to the students. Computer Centre of the University is equipped with computers to handle these activities.

Refresher and short term courses are conducted from time to time to prepare slides and provide e-contents to the students. The JSTOR/INFLIBNET resources are used by the faculty.

The computers and their accessories are maintained through warranty, need based local market and through the assistance of the Computer Centre.

The University avails of the National Knowledge Network connectivity with 1GBPS lease line link under NKN Project.

There is 24 hour internet facility available to access resources, such as Wikipedia and dictionary with library assistance.

According to the University's perspective, the philosophy of open environment teaching and learning is good, but it will require longer period to transfer to the open environment learning.

4.4 Maintenance of Campus Facilities

The University has an Estate office which works under the Deputy Registrar Estate. It is responsible for keeping the physical ambience of the University clean and beautiful. However, so far as the maintenance of the buildings, class-rooms and laboratories are concerned, the work falls in the jurisdiction of Executive Engineer (Maintenance and Construction). The Landscape Department is responsible for plantation and maintaining lawns. The responsibility of the estate office is to maintain the guest houses and keep the campus clean.

Different departments are responsible for the maintenance of the infrastructural facilities. At the departmental level the head of the department is responsible for the maintenance of all laboratories for which the financial

allocations to all departments have been raised. This has helped in the efficient system of maintenance.

The University Science Instrumentation Centre (USIC) is also responsible for the repair of the instruments. All the new equipment purchased during recent times are having five years comprehensive maintenance contract.

Other infrastructural facilities are maintained by the Engineering Department.

CRITERION V:

STUDENT SUPPORT AND PROGRESSION

5.1 Student Mentoring and Support

The University has a system of student support and mentoring. Its structural and functional characteristics are as follows:

There is a structure which is formally headed by the Dean, Students Welfare (DSW). The well established office of the DSW looks after many of the needs of the students. The function of the allotment of hostel rooms to the students is discharged by the Dean Students' Welfare (DSW). All the hostel messes and canteens are monitored.

The DSW conducts students' elections for the University students Union. The cultural activities of the students are coordinated. The DSW is also responsible for the Grievances Redressal of the students. In most of the departments, there is a provision of tutorials which provide counselling to the students. Similar support system and mentoring also exists in the regional campuses.

The University has not yet developed a formal system of mentoring programmes through the appointment of mentors except for tutorials. However, Ethics committees in certain faculties make students aware of plagiarism and academic ethics. The concerned teachers help students to develop writing skills and help them to develop communication skills and leadership capabilities. The organisation of academic tours by certain departments, such as Sociology, Political Science, and Guru Ram Das School of Planning, under the supervision of faculty members, contributes towards academic mentoring of the students outside the classroom interaction.

The Placement Department organises programmes to counsel the students on various job opportunities. The office of the Dean, Students Welfare looks after the well-being of the students during their stay in the campus.

To make the system more transparent and accessible to all stakeholders, the University prospectus is uploaded on its website and it can be accessed by anybody. The prospectus includes the following:

(i) Vice-Chancellor's message
(ii) An introductory note on the University
(iii) Admission schedule
(iv) Important notes for the students to keep in mind while applying for admission
(v) Detailed information about the teaching departments
(vi) Seats for foreign/foreign sponsored/NRI-sponsored candidates
(vii) Reservation policy
(viii) Scholarships offered to the University students,
(ix) Warning against ragging
(x) Profile of allied departments.
(xi) Fee Structure

Types of Freeships/Financial Aid

S. No.	Type
1	Grant of Full Fee/Half Fee Concession by Dean, Academic Affairs
2	Grant of Facilities to Physically handicapped Students
3	Sports incentives (50 Lakhs)
4	Employee Ward Concession
5	Brother-Sister Concession
6	Riots Affected/terrorist Affected Concession
7	Full Fee and Funds Concession to Very poor Students
8	Fee Concession to Children of Gallantry Award Winner
9	Poor Aid Fund

Financial Aid Given to Students during the last four Years

S. No.	Session	Amount (Rs.)
1	2012-13	4,24,00,000
2	2011-20012	3,23,00,000
3	2010-2011	2,03,00,000
4	2009-2010	4,00,00,000

Approximately 12 percent (including the fellowship for minorities and scheduled castes) of the students get financial help

The University has an International Student Cell to attract foreign students and cater to their needs

Support Services Available for

* **Overseas students:** Admissions to the all courses of the University are open to the overseas students. A professor is made incharge of the overseas students who looks after their various needs. The overseas students are provided hostel facility on priority.
* **Physically challenged/differently-abled students:** Special care is made to assure the equal access to the differently-abled students. Special efforts are being made to make all buildings accessible to the differently–abled students
* **SC/ST, OBC and economically weaker sections:** Students belonging to marginalised sections of the society, both socially and economically, are supported in various ways depending upon their marginality. The students belonging to the scheduled castes are not charged any fee which is reimbursed by the Punjab government. They are given free coaching for the competitive examinations. The economically weaker sections are helped in terms of either the tuition fee remission or the poor aid funding. The All India Services Pre-Examination Training Centre provides, with aid from the Government of India, free training to the scheduled caste students to prepare for various competitive examination.

* **Students participating in various Competitions/Conferences in India and Abroad:** Students participating in various competitive examinations are given coaching. There is no provision for financial support to the students going abroad for participating in the international conferences.
* **Health Centre and Health Insurance:** The University has a well developed health centre where the students are provided free health care in lieu of certain amount of charges which are collected at the time of admission. However, except for the faculty and non-teaching employees, the University has not any health insurance policy for the students. Facilities provided at Health Centre are: Outpatient facility, Ambulance, Emergency care facility, Dental Surgeon, Orthopaedic Services, Ayurvedic Doctor, ECG, Ultrasound, Digital X-Ray, DEXA, BMD, OPG, Physiotherapy Centre, Chemilumniscent assay for hormones, Electrolyte Analyser, Whole body colour Doppler test, Memography, Spirometery, TMT, 5 Part Haematological Analyser etc.
* **Skill Development (Spoken English, Computer Literacy, etc.):** So far as spoken English skill development is concerned, the University has not yet developed any institutional mechanism. The computer literacy programmes are organised by the Computer Centre from time to time. The establishment of computer labs in various departments as well as hostels has enabled the students to learn computer use. English and computer training are integral components of B.A./B.Sc. (only undergraduate) classes for the first two semesters.
* **Performance Enhancement for Slow Learners:** There are only informal mechanisms to help the slow learners at the departmental levels.
* **Exposure of students to other institutions of higher learning/Corporates/Business Houses, etc.:** The University-industry linkage programmes organise the visits and internship programmes for the students to get exposed to corporate and business houses.
* **Publication of Student Magazine:** There is no practice of publishing student magazine.

The All India Services pre-Examination Training Centre is in existence and functioning quite effectively. There were 300 students who were given coaching for Central and Punjab Civil services (Prelim. and main) Examinations, 247 for UGC NET, 219 for remedial coaching during 2012 - 2013 and 64 of them cleared examinations.

Policies for Enhancing Student Participation in Sports and Extracurricular activities

The University occupies an important place in the sports map of Indian universities. It has won MAKA Trophy (Maulana Abul Kalam Azad

Trophy) 22 times – the maximum for a University in the country so far. It could have been impossible without the academic flexibility and academic support to the students.

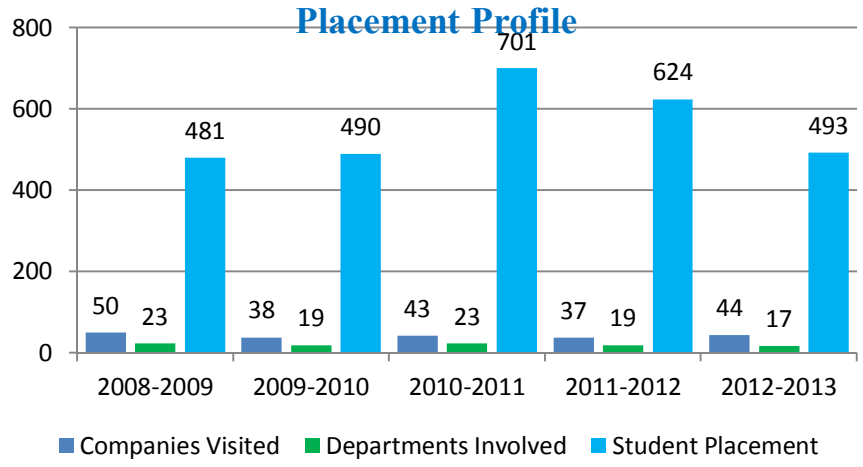
The University takes care of most of the needs of the sports persons. There is a policy of giving them hostel accommodation on priority and covering their expenses when they participate in various sports events.

Students' Placement

The University has Placement Department, which organises career counselling programmes from time to time. The placement department provides career counselling and guidance by organising special lectures as well as the visits of various corporate/industrial houses for campus placement. The Detailed information regarding their placement has been provided here:

Placement Profile

Session	Number of companies Visited	Number of Departments Involved	Number of Students Placed
2008-2009	50	23	481
2009-2010	38	19	490
2010-2011	43	23	701
2011-2012	37	19	624
2012-2013	44	17	493
Total	212	101	2783



More detailed information has been provided in Annexure- IV

Alumni Association

The University has a registered Alumni Association which is headed by the Dean, Alumni. The main objective of the University Alumni Association is to bring all the old students together to promote the GNDU brand, to provide the common platform worldwide to promote a spirit of

cooperation between the University and the alumni. Dean, Alumni is responsible for various activities of the Association. Website: http//:gndualumni.net

Student Grievance Redressal Cell

The Student Grievance Redressal Cell was constituted as a result of the internal academic audit conducted in 2007. It is reconstituted every year. It exclusively deals with the general grievances of the students. However, due to the Right to Information Act (RTI), the issue of grievance redressal has undergone a radical change. The University has an RTI cell. It has been noticed that much of the grievance redressal has begun to occur through the judicial intervention. However, Anti-Ragging Committee and Anti- Sexual Harassment Committee have been fully operative. There has been no record kept by the university with regard to the number of grievances received and redressed by various committees.

Gender-Sensitive Environment

The University strictly adheres to the norms of gender justice and it has established a committee which looks into matters related to sexual harassment.

Anti-Ragging Committee

There is an Anti-Ragging Committee headed by the Dean, Students Welfare. The Committee has been established as per the norms of the UGC. However, during the last four years no case of ragging has occurred in the University largely due to the pro-active interventions of the DSW.

Stakeholders and the Overall Development of Students

Teachers, students, non-teaching employees, parents of the students, potential employers belong to the category of stakeholders. Among them teachers constitute the most important agency in the overall development of the students. The teachers are engaged in curricular development and innovating teaching methods by taking into consideration the changing educational scenario by inculcating leadership skills, communication skills and above all the knowledge and attitudes. The University endeavours to appoint the most suitable and qualified faculty for various courses. The administration and support services including hostels, library, and health care are made clear that the students have priority. The University website has brought most of the information in the public sphere. The admission process has been made online and transparent. The depositing of fee has been mostly made through the banks saving thereby precious time of the students by cutting off waiting in long queues at the University cash counter. The library is replenished with new and latest books every year for the students to consult. The potential employers are invited to recruit the students through the campus placement programmes.

Participation of Women Students

In all sports and cultural events, the participation of women students is at par with the men students. All sports events have separate and parallel programmes for women students. Same is the case with the cultural events.

5.2 Student Progression (in Percentages)

Faculty	U.G.-P.G.	M.A.-M.Phil.	Ph.D.
Arts and social Sciences	65	15	35
Economics and Business Management	60	-	3
Computer Science and Engineering	19	-	5.8
Humanities and Religious Studies	-	48	5
Languages	20	61	5
Law	25	-	6
Life sciences	68	77	15
Physical Education	80	-	2
Planning and Architecture	61	-	2
Sciences	74	-	16
Sports Medicine and Physiotherapy	10	-	10
Visual & Performing Arts	-	33	9
Food Science and Technology	10	-	16
Constituent Colleges			
Mukandpur	56	-	-
Jalandhar	100	-	-
Regional Campuses			
Jalandhar	95	14	-
Gurdaspur	14	-	-
Sathiala	-	-	-

Programme-wise Completion Rate

Under Choice Based Credit System at the campus:

Masters Degree can be completed in 3 years: 95%

B Tech in six years: 94%

B. Arch. in seven and half years: 90%

B.Sc./B.A. in four and half years: 96%

Under the Semester System at the U.G. level in colleges there is no limit. However, in the Undergraduate courses the completion rate is 40%

Students Appeared/Qualified in Competitive Examinations

Exact figure is not available, because the students are free to appear in these examinations on their own without informing the University. However, the following information may be incomplete, but reasonably approximates real picture:

Department	Nature of Examinations	Number of Students	Total
Arts and Social Sciences			
History	UGC-NET	3	
Library and Information Science	UGC-NET	7	
Political Science	PCS JRF/NET	3 12	NET/JRF=56 PCS= 8 UPSC=4 CDS=2
Psychology	UGC-NET	6	
School of Social Science	UPSC PPSC UGC-NET CDS	4 5 2 2	
Sociology	SRF JRF UGC-NET	1 7 18	
Economics and Business Management			
Commerce and Business Management	UGC-NET	50	NET= 75 IES= 4
Punjab School of Economics	UGC-NET Indian Economic Service	25 4	
Engineering & Technology			
Computer Science and Engineering	UGC-NET GATE	55	NET+ GATE= 55
Electronics Technology	-	-	
Humanities and Religious Studies			
Guru Nanak Studies	UGC-NET	22	NET=22
Languages			
Hindi	UGC-NET	8	
English	UGC-NET	4	UGC NET=71
School of Punjabi Studies	UGC-NET	57	- -

Foreign Languages	--	-	
Sanskrit, Pali and Prakrit	UGC-NET	2	
Urdu	-	-	
Laws			
Law	UGC-NET UGC-JRF PCS (Judicial) Law Officer	9 4 8 3	NET/JRF=13 PCS= 8 Law Officer=3
Life Sciences			
Biotechnology	CSIR-JRF/SRF DBT- JRF/SRF CSIR-UGC-NET	7 6 1	NET/JRF/SRF=61 Civil= 1 Defence=2 GATE=27
Botanical and Environmental Sciences	Civil Defence Services NET/SET GATE	1 2 27 5	
Genetics	NET GATE	2 3	
Microbiology	NET GATE	5 6	
Molecular Biology and Biochemistry	NET GATE	6 10	
Pharmaceutical	GATE/GPAT	41	
Zoology	NET GATE	6 3	
Physical Education			
Physical Education	UGC-NET	12	NET= 12
Physical Planning and Architecture			GATE: 11
Architecture	GATE	6	
Guru Ram Das School of Planning	GATE	5	
Sciences			NET/GATE/SET/CSIR = 43
Chemistry	CSIR/UGC	7	
Food Science and Technology	UGC-NET GATE	4 2	
Mathematics	NET/SET/GATE	5	
Physics	NET GATE JSET	12 10 3	

Visual and Performing Arts			
Music	NET/SET	7	NET/SET= 7
Regional Campuses			
Maharaja Ranjit Singh Regional Campus, Jalandhar	GATE UGC-NET PCS Legal Researcher Civil services Indian Information Services Session Judge Defence Services Army and Air force	5 23 9 6 2 1 1 10 26	GATE= 20 NET=43 PCS= 15 Civil+ Defence= 10 Bank=7 Legal researcher=6 Indian information Services= 1 Session Judge= 1 Army+ Air Force= 26
Regional Campus, Gurdaspur	UGC-NET GATE Civil Services and Defence PCS Bank	20 15 8 6 7	
Constituent Colleges			
GNDU College, Verka	CA/CPT CS	18 9	
Bebe Nanaki University College Mithra, Kapurthala	-	-	NET=15 CS= 9 CS/CPT= 18
GNDU College, Chungh	-	-	
GNDU College, Narot Jaimal Singh, Pathankot	-	-	
ASSM College, Mukandpur (SBS Nagar)	UGC-NET (CBM, Pbi, Music)	6	
Guru Nanak Dev University College, Patti	-	-	
Shri Guru Teg Bahadur College, Sathiala	-	-	

Shaheed Ram Singh Pathania Memorial GNDU	-	-	
Guru Nanak Dev University College, Jalandhar	UGC-NET (MBA)	9	

During the last four years 579 scholars got their Ph.D. degree. There was no submission and thus acceptance of D.Litt./D.Sc. theses.

5.3 Student Participation and Activities

The students can participate in a large number of sports, cultural and extracurricular activities. All sports events are open to student participation, but in order to be member of any event at different levels, he/she has to compete with others. Same is the case with cultural events. Students can participate in all items of Music, Theatre, Literary, Fine Arts & Dance. In addition to the organisation of Youth festivals at Zonal, Inter-zonal and national levels, the office of the Dean, Students' Welfare organises cultural events known as Jashan. NCC, Youth Leadership Camps, Hiking & Trekking Camps are organised in which any student can participate. There are 51 sports events out of which the students can opt to participate. Most of the events involve both men and women students.

Achievements of Students

(a) Cultural Activities:

Achievements in North Zone Inter-University Youth Festival

Year	Overall Position	Other Trophies
2010-11	Champion	Music & Literary
2011-12	Champion	Theatre, Literary and Fine Arts
2012-13	Champion	Music, Dance, Theatre, Literary, Fine Arts
2013-2014	Champion	Music, Fine Arts & Runners up in Dance

Achievements in Inter-University National Youth Festival

Year	Overall Position	Other Trophies
2009-10	Runners Up	Theatre
2010-11	Runners Up	Literary
2011-12	Co-Champion	Music
2012-13	Runners Up	Music

(b) Sports: So far as sports are concerned the University was the winner of MAKA Trophy for the years 2009-2010 and 2010-2011. It was runners up in the year 2011-2012 and third placed in 2012-2013.

(c) To promote heritage consciousness, cultural programmes are organised during the academic session. Sports competitions and Interdepartmental competitions are organised. The University has been collaborating with the government of Punjab regarding the development of a heritage village on the campus. The project has finally come through.

(d) So far as involving and encouraging its students to publish materials like catalogues, wall magazines, college magazine, and other material are concerned, the University has so far not evolved a distinct policy regarding creative works. On occasion of foundation day, the University organises painting competition and the best paintings are displayed in the exhibition. The University system is largely comprised by the P.G., M.Phil. and Ph.D. students who are motivated towards building their careers. In this regard, the University has a rule according to which every Ph.D. students must have one publication in the research journal before submitting his/her thesis. Therefore, during the last four years all the Ph.D. students have had at least one publication each at the time of submitting their theses.

Student Council

There is a student council in the University which is elected every year through the indirect elections. At the level of the department the Departmental Representatives are selected on the academic criterion and the Departmental Representatives elect various office bearers as per the following: President, Vice-President, Secretary, Joint Secretary, Cashier, and six executive members. The Student Council is responsible for addressing the student related issues and articulate them to the authorities. The source of funding is the amalgamated fund of the University.

CRITERION VI:

GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional Vision and Leadership

Vision and Mission of the University

The University was established on November 24, 1969 on the occasion of the fifth birth centenary of the founder of the Sikh religion, Guru Nanak Dev ji, with the mission of encouraging teaching and research in applied sciences, promotion of Punjabi language, research on and teaching of Guru Nanak's writings and promoting education among the educationally backward communities. With underlining perspective that the mission and the vision of the University do not change arbitrarily, the proceeding is the revised mission and vision taken from the Self-Study Report (SSR) of the University submitted to the NAAC in 2007.

It is the endeavour of the University to achieve excellence in the areas that have been delineated in its mission. In the 45th year of its existence, the University has achieved considerable heights in certain areas, such as academic research, sports, and co-curricular activities. However, we must strive to achieve excellence in all areas that have emerged as a result of globalisation. We must see and seek opportunities in the age of globalisation, rather than treating it as a threat. The possibility of dual consequences certainly exists in the present era and we should be prepared to meet all challenges and threats and emerge as winners. To do so we must identify what is happening around, which is creating an impact on the education system in general and the University education in particular.

One, there is a rise in the significance of knowledge. It is not simply knowledge as understood in a layman's way, but it is in the form of 'episteme' and 'techne' the way Plato defined them two millennia ago. Both episteme and techne have got intertwined to produce the patent regime that has turned the knowledge into an asset, which is as important as the capital. We have thus started asking question: what is the use of knowledge? Therefore, the only useful knowledge is the one that generates capital.

Two, education is directly linked with the human resource development. This development is generally understood in terms of employability of the educated. Present conditions have made certain types of education as more employable. To what extent is the present state of affairs of imparting knowledge, skills and attitudes linked with the job opportunities? The present generation is witnessing a paradigmatic shift in the programmes from basic sciences to the professional courses.

Three, caste based discrimination is specific to the Indian society. The place where Guru Nanak Dev University is located is known for the message for equality of mankind. Punjab has been the land of the Gurus and the Sufi saints who always preached universal brotherhood. Unfortunately, the menace of birth-ascribed inequalities has not ceased to exist in this land of the Gurus and Sufis. Over a period of time, the country has been polarised along caste lines providing threat to its unity and integrity and Punjab is no exception.

Four, India is characterised as 'sub-continent' largely due to the fact that it has geographical and biological diversities that match with that of a continent. Importance of the bio-diversity that requires protection is recognised everywhere. The fears of green house effect and other factors are leading towards environmental disaster. The danger to our flora and fauna that has been caused by the development process is pushing us towards raising various issues that legitimise the path of development. Are we prepared enough to face the threat to our environment that is looming large over us? The first step towards ensuring sustainable development is to make the environment safe for the future generations.

Finally, the University is located near the international border and a considerable area that is located near the border falls under its jurisdiction. Owing to historical contingencies related to the border which has been volatile for a long time, the entire border belt has remained socially and educationally backward. The social responsibility of the University as enshrined in the Act is to promote education among such people.

Keeping in view the above-formulated perspective that takes cognisance of both the universal and particular concerns of the University, the vision statement has been prepared. As an institution, this university exists on the universal principles of academic development and is providing continuous service to the country by imparting skills, knowledge and attitudes that are congruent with our cherished goals and needs. Therefore, the University proposes to develop its faculty, curricular design, teaching and learning, research priorities, administration and resources by introducing certain changes, bringing modifications in the existing structures and strengthening healthy practices, which are as follows:

1. The first step will be towards strengthening of the curricular design and teaching-learning processes by continuously improving the curricula in the light of changes that have occurred in the knowledge as well as with a view of increasing employability of the students. There is a well-developed mechanism to bring changes in the curricular design at the levels of department, faculty and the University, which will be made more responsive to the changing conditions with the participation of every member of the faculty.
2. In view of the transformation of knowledge as capital, the knowledge-producing process will be reinforced and encouraged through incentives and ensuring quality. Though the process of support to the research has already got tremendous impetus, but it requires more attention in the form of setting higher standards such as getting patents registered, developing diagnostic techniques, suggesting policy measures on socially relevant issues, etc. The research activities would be encouraged in certain manner which may be stated as follows: (i) It is felt that research should be made an integral part of the teaching process by encouraging the participation of faculty members at the

level of assistant professor. This will be done through the resources of the University though the faculty members shall be encouraged to send proposals to various national and international funding agencies. (ii) Collaborative research will be encouraged and boosted. (iii) The faculty members will be supported and motivated in sharing their research with their peer groups at the forums made available in the form of seminars and conferences, etc., industrial sectors, and policy makers.

3. The research priorities could only be developed in a positive manner if the University appoints quality teachers. The procedure to appoint such a faculty will be made more transparent. Inbreeding has been universally acknowledged as the major threat to the high academic and research standards. Our endeavour shall be to ensure that inbreeding is discouraged.
4. At this juncture of time, it seems that the future belongs to certain branches of knowledge and the endeavour is to anticipate the course and direction of the production and distribution of knowledge and skills. Keeping in view the cherished objective of the University in promoting research in areas of basic and applied sciences, it is planned to link research and teaching in applied sciences with the anticipated future developments. Future is predicated upon the present, and the present guides us to certain areas that are likely to become more important in basic and applied sciences. These are information technology, nanotechnology, biotechnology and health sciences, to name the few. The plan is to develop modern and updated infrastructure and highly qualified and competent faculty in these sciences.
5. Emerging social, economic and political issues that have implications for the overall development of a society always require attention and understanding. It has been a widely accepted view that culture and social institutions play an important role in the development of a society and a nation. Any two Europeans nations do not have a common trajectory of development though after a particular point of time they began to disseminate scientific knowledge to each other. New phase comes with new sets of social problems. The primary future orientation is to develop a strong research and teaching base by promoting research in the social and economic areas that have recently emerged and likely to weigh heavily on the Indian state and society. It is proposed to link the future research in social sciences with policy implications.
6. Punjab has been the land of Gurus and the Sufi saints. They have been the citadels of a composite religious tradition in which equality of communities and men were the core values. We plan to continue to

further strengthen our research and teaching in the areas of religious studies, secularism and Sufi and Sikh literature.

7. All these future plans could only be achieved if the University has an adequate and efficient administrative support system. So far the desired teacher: non-teacher ratio of 1:3 has not been attained. In order to achieve the desirable ratio, the role of ICT (Information Communication Technologies) is going to be crucial. Thus, it has already been planned to make ERP (Enterprise Resource Palnning) functional in 2014. To bring efficiency into the system, the plan is to adopt the principles of knowledge management by also keeping the size at the optimum level. It is an objective that is considered most crucial to overcome certain bottlenecks like lengthy procedures and unnecessary delays. Most of the dysfunctions of the administrative and support system are a legacy of the colonial administrative culture and practice in the country. Despite certain changes, the need is being felt to streamline the administration by using latest management principles that pertain to knowledge management. The change will require the alteration of rules, procedures, statutes and hierarchical order. We hope to complete the process by 2020.

The present generation has the ambition to contribute in making this institution as one of the leading universities of the country and no effort shall be spared in achieving that goal. The mission statement defines the institution's distinctive characteristics in terms of addressing the needs of the society, the students it seeks to serve, the institution's tradition and value orientations, its vision for the future. In a nutshell, we have the following mission and vision for the future.

Mission: To increase the strength of the students by providing better facilities for high quality teachings and research.

Vision: The University aspires to be an important institution of learning and research at national and international levels. It will be achieved through the following actions:

(a) Providing state of art infrastructure, research facilities, qualified faculty and good ambience on the campus.

(b) Integrating teaching and research programmes to promote holistic development of the students.

(c) Providing better access to education to underprivileged sections of the society through the development and expansion of the University through regional campuses and constituent colleges.

(d) To make the University a happening place to constantly engage the students to develop their graduate attributes of communication skills, public responsibilities, leadership qualities and learning to work in teams for nation-building through the efforts at their overall development and growth.

(e) Building strong research infrastructure through the development of world-class laboratories and enriching the University library and the departmental libraries. Following areas have been identified for the future research of the University:

(1) Focus Area: Materials Science: (a) Materials for Energy Conversion and Storage; and (b) Electronic and Optoelectronic materials.
(2) Holistic Area: Health Care, Drug Development and Sports Medicine
(3) Holistic Area: Environmental Management (in respect of Punjab)
(4) Holistic Area: Comparative Literature, Languages and Cultural Formations
(5) Holistic Area: Development and Nation-Building
(6) Genetic basis of cancer and type2 diabetes mellitus in Punjab

Leadership: Management System

There is a well defined chain of command in the functioning of the University. Various committees are constituted to ensure the wider participation of teachers. For example, Medical Committee, Landscape Committee, Publication Committee, Planning Board, and Finance Board are formed to ensure proper inputs in taking decisions. Board of Control, Board of Studies, Faculty, and Academic Council have statutory existence with regard to all academic matters. Research Degree Committee and Research Degree Board along with the Office of the Director of Research are responsible for taking decisions and working out policy with regard to research.

The University has a website on which most of information has been uploaded. From time to time, advertisements in the daily newspapers are also put.

The University has been constantly engaged in devising innovative methods to create a culture of excellence. In pursuance of this objective, the University has introduced the Choice Based Credit system and has brought in transparency in the examination system. Efforts are on to make all information accessible to the students and faculty with regard to the University, academics, research and teaching.

Organisational needs are identified through the inputs and feedback of the stakeholders and efforts are made to fulfil them.

No top leadership position was vacant in the University for a year. The University ensures that all positions in its various statutory bodies are filled and meetings conducted regularly.

Participative processes are built in the practices of decision making process. At the level of teaching departments, each department has Board of Control which consists of the head of the department and members of the faculty. All decisions are taken by the Board of Control. The representation of

the teachers has been ensured by the Calendar of the University at all levels. However, students participation in the decision making process is almost absent.

So far as the academic and administrative leadership provided by the University to its affiliated colleges and the support and encouragement given to them to become autonomous is concerned, the University is committed to all aspects of their development. The University interacts with the affiliated colleges through the mediation of the College Development Council which is headed by the Dean. Meetings of the Council are periodically held. The University remains in constant touch with its affiliated colleges and inform and encourage them to apply for various grants. The University is responsible for the designing of the curriculum in which the participation of the college faculty is also ensured. The University has been encouraging the colleges to apply for the autonomous status and so far only one college, namely, Khalsa College, Amritsar, has got the autonomous status.

However, the University Act and Statutes do not provide for conferment of degrees by autonomous colleges.

Grooming Leadership at Various Levels

The University is an organisation which is essentially governed on the principle of rules and statutes. Democratisation of the functioning of the University through the rotation of headship at the departmental levels was the first step towards exposing the faculty to make decisions and implement them. The beginning made through rotation of headship was reinforced by the committee work which is carried out through the collective decision-making. The Guru Nanak Dev University Teachers Association is a body of teachers which is democratically elected. Every year elections are held. The Teachers who seek election contact all their colleagues and hear their grievances which they articulate by preparing the election manifesto. After getting elected, the teachers' body negotiates with the authorities and raise the issues. Through the interest articulation and aggregation, the teachers learn the leadership traits which help in improving the University's functioning as well as prepare teachers for the responsible roles.

At the level of administration and support services the typical model which is inculcated is the legal authority in which the employees have to facilitate the teaching and research. However, the University has provided for the Non-teaching Employees Association and Officer's Association to work on the democratic principles to articulate and aggregate their interests.

At the level of students, the University is committed to providing adequate conditions for the students to learn leadership roles. The Student Council as a representative body is in existence and operational. Elections of the office bearers are organised by the DSW and the Departmental Representatives participate in the elections.

The University has made serious efforts to evolve a knowledge

management strategy. Knowledge management strategy entails three related and inseparable aspects, namely, identification of knowledge sources, creation/production of knowledge and storing of knowledge to make it accessible to the students and faculty. Library and online sources are the major sources of knowledge which is available for the researcher to consume for further creation or critiquing of knowledge. The research done by the University is stored in the library. All Ph.D. dissertations are available in the University library. All these sources are available to the concerned faculty and students. The University is part of the Shodhganga project.

National and Social Values

Development and nation-building is the broad agenda of the University which reflects in its Calendar. National Development reflects in the technological advance, access of education and secularism. All these values reflect in the functioning of the University. The emphasis on education in the areas of technology is there. The access to education among the backward communities has been the special focus of expansion in the recent years. Secularism is the ideology of the teachings of Guru Nanak Dev ji and the University has been functioning on these principles.

The system which has been evolved during the last four years has been introduced with the idea of increasing the global competencies of the students.

Values of secularism, democracy and justice, and equality are the principles to which the University is committed and wishes to inculcate among its students. .

The University has been continuously endeavouring to promote technology at all levels, viz. administration, teaching, research and support services. In the case of administration, the online availability of all kinds of forms, prospectus, the University Calendar, and the depositing of fee directly in the Banks anywhere in India are some of the promotions of technology at making administration more efficient. At present the installing of Enterprise Resource Planning (ERP) system is under way.

In the case of support services, library services and health services have been technologically upgraded.

Various technological upgradations have been carried out to facilitate teaching and research. The use of online sources and multimedia for teaching, and installation of latest laboratory equipments listed earlier are the obvious instances of this effort.

The mission of the University is to achieve excellence in all aspects of its functioning. It is evident from all the efforts made. The awarding of the status of the University with Potential for Excellence (UPE) as well as the Centre for Potential for Excellence in particular Area (CPEPA) in life sciences on the part of the UGC is the fitting recognition of such efforts.

6.2 Strategy Development and Deployment

The University has a perspective plan for development, which reflects clearly and unambiguously in its Vision and Mission, teaching and learning practices as well as in research development. The Community engagement of the University entails twofold efforts. First, its outreach programmes through the activities and efforts of the Department of Life Long Learning as well as the NSS. Second, during the last four years the University has made serious and successful efforts to open various centres for making education accessible to the backward areas and communities. This has been done by establishing constituent colleges in rural areas and by opening centres under its capacity enhancement programme.

It is the endeavour of the University to have optimal level of utilisation of human resources and infrastructure.

Despite the fact that there is University-Industry Linkage Programme, but due the location of the University near the volatile border the industry has shifted to other places. However, as the Placement record indicates, the University has been making all out efforts to interact with industry. The endeavour is to engage industry in areas of consultancy and research where satisfactory progress has not yet been made.

In terms of MoUs and research collaboration a considerable progress has been made. As a part of the plan perspective, efforts are made to further expand our international interaction. However, the number of foreign students is quite low.

Internal Organizational Structure and Decision Making Processes

The internal organisational structure of the University and decision making process is in existence in accordance with the University Calendar which are as follows:

Officers of the University

1. Chancellor
2. Vice-Chancellor
3. Dean, Academic Affairs &Student Welfare
4. Registrar
5. Deans of various Faculties
6. Such other persons in the service of the University as may be declared by the statutes to be officers of the University

Authorities of the University

1. The Senate
2. The Syndicate
3. The Academic Council
4. The Faculties
5. The Board of Studies
6. Such other authorities as may be declared by the Statutes to be the authorities of the University

The internal organisation of the University is typical of most of the Universities in the country and it is largely based on the bureaucratic principles to ensure continuity and accountability. In certain sense the terms of the industrial organisation such as line and staff could be metaphorically used to describe it. The reason for stating so is that administration and teaching/research departments are separated. The smallest unit of administration is the teaching department where democratisation has occurred due to the policy of rotation of headship after three years.

The functional head of the University is the Vice-Chancellor who takes all decision subject to the approval of the Syndicate/Chancellor.

It is important to underline the fact that most of the work of the University is carried out according to the prescriptions of the Calendar. The most important decision making is related to curricular design and development. It begins from each of the Departments and finally concludes at the meeting of the Academic Council after passing the same through the meeting of each faculty.

Formal Policy to Ensure Quality

The University has been traditionally employing the strategy of annual report writing and presenting it in the meetings of the senate and syndicate. Comments of the members of the senate or syndicate are taken as feedback which is conveyed to the departments by circulating the proceedings of such meetings. The Internal Quality Assurance Cell has been making suggestions by setting goals for the University. However, there is no formal policy exclusively dealing with the issue of quality.

Autonomy of the Departments

Under the present and prevalent system of democratisation the Board of Control has the autonomy and independence at the level of academic departments. Each Department has complete autonomy in matters related to curricular design, taking various decisions with regard to the immediate issues confronting the department, maintenance of student discipline, organising the examinations and setting the question papers.

Accountability is ensured through the observation of rules as provided in the University Calendar.

Court Cases Filed by and against the University

Following are the details of the court cases filed by and against the University:

1. Total cases from 2009 to 2013: 864
2. Pending cases: 208
3. Not contested: 86
4. Disposed cases: 214
5. Dismissed: 305
6. Allowed: 51

Total cases from Jan. 2010 to Dec.2013: 729

Among these court cases 369 cases pertain to educational matters. Besides it, 245 cases are concerning service matters and then there are 41 miscellaneous cases.

Grievances/complaints of the stakeholders are addressed in terms of the nature of the complaints and most of the times the concerned department/branch of the University is asked to respond to the matter within the stipulated period.

So far as the student feedback with relation to the institutional performance is concerned, the University has been able to elicit responses from the research students through the periodic meeting with them. However, the feedback from the students in general and the subsequent action taken has not been yet worked out at the institutional level. The IQAC conducted the internal academic audit in 2013 and interacted with students at the departmental level. Their responses were submitted to the authorities concerned.

Mechanisms to Identify the Developmental Needs of Affiliated Institutions

The following mechanisms are in place for the said purpose: (a) Frequent Meetings of the College Development Council. (b) The principals of Affiliated Colleges are nominated in the governing bodies such as the Academic Council, Senate and the Syndicate by rotation.

It may be submitted that the University has a vibrant College Development Council (CDC) which functions under the routine authority of Dean.

6.3 Faculty Empowerment Strategies

The efforts involving the professional enhancement of the teachers revolve around the encouragement and motivation to attend various courses and workshops, and participate in seminars and conferences. At the level of assistant professors, the teachers are expected to attend Orientation and Refresher courses. Similarly, efforts are made to encourage all teachers to participate in various seminars and workshops organised by national and international institutions. As a part of professional development among the students, they are encouraged to get their research published in standard refereed and/or peer reviewed journals.

So far as the non-teaching staff is concerned, the University provides for the opportunities if some member of the non-teaching staff wishes to improve his/her qualifications. After the computerisation of the work special computer literacy programmes were organised by the Computer Centre of the University to create functional literacy among the non-teaching staff.

There are different appraisal methods in place at different levels of functioning in the University. So far as the non-teaching staff is concerned Annual Confidential Report (ACR) is the prescribed procedure to appraise the work of the staff member. It has not been a very effective method to appraise

the employee. In the case of the teaching staff, the UGC guidelines are used under which the Academic Performance Index is used.

In both the cases the outcomes are linked with promotion of the concerned teaching or non-teaching staff member. In the process, to get the motivation to work hard and increase efficiency.

Welfare Schemes for Teaching and Non-teaching Staff

Among various welfare schemes, the first is the group insurance scheme under which a very small amount of money is deducted from the salary, but at the time of illness of the employee lump sum money is given to him/her. The University's Medical Committee periodically diagnoses the employees who suffer from chronic illnesses such as diabetes, hypertension, etc. and provide reimbursement of their expenses on medicines.

In addition, provision of various kinds of loan exists in the University; for example, house construction loan, loan for purchase of vehicle and class IV employees are given loan to buy foodgrains after Rabi crops are harvested. The University also provides for the interest free loan from the Provident Fund of the concerned employee in cases of certain contingencies.

Measures for Attracting and Retaining Eminent Faculty

The University has developed a pro-active policy of attracting faculty at the level of assistant professor. The retired faculty is given reemployment for two years subject to the extension by one year. It may be informed that there has been a decline in the direct appointment of professors and Associate professors largely due to the Career Advancement Scheme. However, in the case of the Centre on Studies in Guru Granth Sahib, eminent faculty have been appointed by invitation for tenure. In all such cases recommendations from the eminent scholars is the condition for such offer.

Gender Audit

Though the gender audit has not been conducted in the University, but it is important to mention that women members of faculty constitute more than half of the total. Almost similar situation prevails in the case of the students except for some constituent colleges.

University's Academic Staff College Programmes

The Academic Staff Colleges were conceived by the UGC in pursuant to the national policy on Education in 1986 in order to improve quality of teaching, enhance the motivation skills and knowledge of college and university teachers through systematic orientation in specific subjects, techniques and methodologies. The University Academic Staff College was established in 1988 with the mission set by the UGC for it. Till date the Academic Staff College has already conducted 92 General orientation Courses (GOCs), about 250 Refresher courses (RC) in a variety of disciplines, and number of short term courses. The curriculum of GOCs is designed to cover as diverse fields as (a) awareness of linkage between society, environment, development and education, (b) Philosophy of education, Indian education

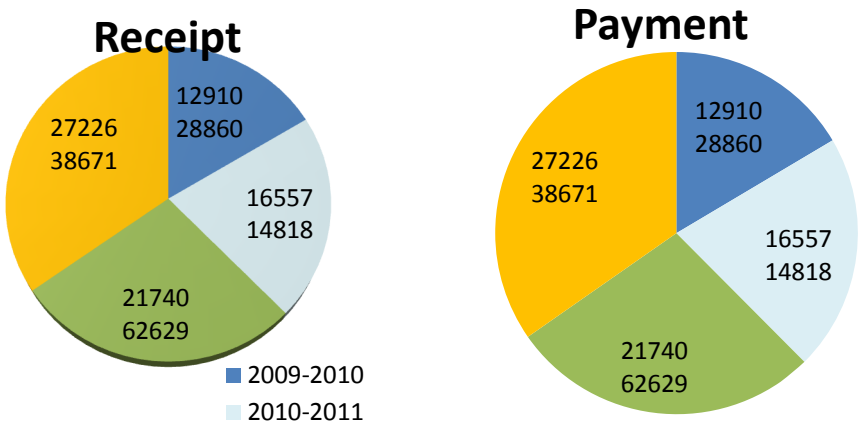
system and pedagogy, (c) Resource awareness and knowledge generation, and (d) management and personality development. It has been observed that the GOCs and Refresher Courses provide an excellent opportunity to the teachers of diverse disciplines from various geographical, socio-linguistic, cultural backgrounds to interact with each other for a few days, which is of great value in a multi-lingual, multi-religious and culturally plural country. Close interactions go a long way in overcoming inhibitions, stereotypes and sometimes, prejudice to understand and appreciate each other's cultures, customs and traditions thereby contributing to national integration. Interaction with eminent academicians and scholars of diverse fields further contributes towards the expansion and richness of knowledge and builds inter-disciplinary perspective. In all these endeavours of the Academic Staff College, the University faculty constitutes the core both as the participants and the resource persons. Through refresher courses young teachers come across latest developments in the fields of research. Such occasions provide opportunities for collaborative research as well as opening up of the new fields of research and knowledge.

Financial Management and Resource Mobilization

The University uses its financial resources through the Planning Board and Finance Board. The accounts section under the Finance and Development Officer is responsible for internal audit. The internal audit is carried out by the Government deputed auditor under the Deputy Controller (Local audit). There is a provision of internal audit followed by pre-audit. The pre-Audited Statement of Income and Expenditure for the last four years has been detailed below

Financial Statement

Statement of	2009-2010	2010-2011	2011-2012	2012-2013
Receipt	1291028860.00	1655714817.66	2174062628.70	2722638671.39
Payment	1291028860.00	1655714817.66	2174062628.70	2722638671.39



I. **Financial statement of the main account for the year 2009-2010**

(A) Receipts

S. No.	Receipts	Amount (Rs.)
1	Opening Balance as on 01-04-2009	31,65,65,056.54
2.	Grant-in-Aid from Punjab Govt. (a)Maintenance Grant (b) Guru Ravidas Chair Total	 17,91,88,000.00 10,00,000.00 18,01,88,000.00
3	Examination Fee	29,08,35,778.00
4	Registration/Certificate Fee etc.	5,72,29,767.00
5	Tuition Fee and Funds	34,46,29,523.00
6	Bhai Gurdas Library	66,487.00
7	Miscellaneous Receipts	9,54,50,152.00
8	Loans and Advances	45,65,747.00
9	Unpaid Salaries/Uncashed Cheques	24,98,350.00
	Total	1,29,10,28,860.54

(B) Payments

S. No.	Payments	Amount (Rs.)
1	General Administration	17.62,75,429.00
2	Conduct of Examination	5,20,59,960.00
3	University Teaching and Research Departments/Centres/Colleges	39,00,64,028.00
4	Allied Teaching Departments	5,38,03,942.00
5	Non-Teaching Departments	15,87,21,603.00
6	Improvement of Education	1,52,00,122.00
7	Miscellaneous	10,11,55,984.00
8	Loans and Advances	62,00,000.00
9	Main A/c. (20001) to pension Fund (9092)	1,00,00,000.00
	Total	96,34,81,068.00
	Closing Balance	32,75,47,792.54
	Total	1,29,10,28,860.00

II Financial statement of the main account for the year 2010-2011

(A) Receipts

S. No.	Receipts	Amount (Rs.)
1	Opening Balance as on 01-04-2009	32,75,47,792.54
2.	Grant-in-Aid from Punjab Govt. (a)Maintenance Grant	23,69,90,000.00
3	Examination Fee	43,1208,066.00
4	Registration/Certificate Fee etc.	8.22,85,493.00

5	Tuition Fee and Funds	45,41,28,840.40
6	Bhai Gurdas Library	1,18,893.00
7	Miscellaneous Receipts	11,44,25,062.72
8	Loans and Advances	60,22,578.00
9	Unpaid Salaries/Uncashed Cheques	29,88,092.00
	Total	1,65,57,14,817.66

(B) Payments

S. No.	Payments	Amount (Rs.)
1	General Administration	20,69,02,088.00
2	Conduct of Examination	5,59,36,311.00
3	University Teaching and Research Departments/Centres/Colleges	50,71,70,856.00
4	Allied Teaching Departments	6,36,94,244.00
5	Non-Teaching Departments	18,96,08,651.00
6	Improvement of Education	67,65,911.00
7	Miscellaneous	18,04,12,457.00
8	Loans and Advances	62,59,000.00
9	Capital works (Transfer to building Fund A/c)	1,00,00,000.00
	Total	1,22,6749,518.00
	Closing Balance	42,89,65,299.66
	Total	1,65,57,14,817.66

III. Financial statement of the main account for the year 2011-2012

(A) Receipts

S. No.	Receipts	Amount (Rs.)
1	Opening Balance as on 01-04-2009	42,89,65,299.66
2.	Grant-in-Aid from Punjab Govt. (a)Maintenance Grant	35,32,85,000.00
3	Examination Fee	55,36,81,591.00
4	Registration/Certificate Fee etc.	9,82,02,652.00
5	Tuition Fee and Funds	61,97,28,912.00
6	Bhai Gurdas Library	1,07,963.00
7	Miscellaneous Receipts	11,24,59,300.04
8	Loans and Advances	60,80,073.00
9	Unpaid Salaries/Uncashed Cheques	15,51,838.00
	Total	2,17,40,62,628.70

(B) Payments

S. No.	Payments	Amount (Rs.)
1	General Administration	22,85,41,966.49
2	Conduct of Examination	7,28,75,722.00
3	University Teaching and Research Departments/Centres/Colleges	58,15,90,593.00
4	Allied Teaching Departments	6,17,46,471.00
5	Non-Teaching Departments	22,85,25,288.00
6	Improvement of Education	3,18,44,232.00
7	Miscellaneous	21,58,10,590.00
8	Loans and Advances	60,55,000.00
	Total	1,42,69,89,862.49
	Closing Balance	74,70,72,766.21
	Total	2,17,40,62,628.70

IV. Financial statement of the main account for the year 2012-2013

(A) Receipts

S. No.	Receipts	Amount (Rs.)
1	Opening Balance as on 01-04-2009	74,70,72,766.00
2.	Grant-in-Aid from Punjab Govt. (a)Maintenance Grant (b) Constituent Colleges Grant Total	 35,34,85,000.00 3,00,00,000.00 38,34,85,000.00
3	Examination Fee	64,25,91,239.00
4	Registration/Certificate Fee etc.	9,89,73,978.00
5	Tuition Fee and Funds	68,44,66,991.00
6	Bhai Gurdas Library	1,11,897.00
7	Miscellaneous Receipts	15,45,68,656.18
8	Loans and Advances	70,27,050.00
9	Unpaid Salaries/Uncashed Cheques	43,41,094.00
	Total	2,72,26,38,671.39

(B) Payments

S. No.	Payments	Amount (Rs.)
1	General Administration	27,35,25,979.00
2	Conduct of Examination	8,80,59,994.00
3	University Teaching and Research Departments/Centres/Colleges	65,52,33,979.00
4	Allied Teaching Departments	6,44,82,980.00
5	Non-Teaching Departments	24,96,58,692.00
6	Improvement of Education	3,09,03,230.00
7	Miscellaneous	29,89,76,038.00

8	Loans and Advances	55,60,000.00
9	Transfer to Building fund A/c	8,34,00,000.00
	Total	1,75,08,00,892.00
	Closing Balance	97,18,37,779.39
	Total	2,72,26,38,671.39

Details of Expenditure of Departments during the year 2012-13

Name of Department	Heads of Expenditure	Revised Estimates 2012-13	Actual Expenditure 2013-13
Applied Chemical Sciences & technology	Chemicals, Glasswares, Labwares, Equipments incl. repairs & hardware	700000	699654
Food Science	Chemicals, fruits, Vegetables, Glasswares, Misc. expenses	500000	457005
Food Science	Equipments & its repairs	500000	438821
Pharmaceutical Sciences	Chemicals, Glasswares, Labwares, Solvents Equipments incl. repairs.	1000000	997572
Computer Sci. & Engg, Amritsar	Equipments, Computers, Hardware, Software Training Programme including internet subscription, AMC, TA/DA & course fee	1400000	1357523
Electronics Tech.	Equipments, Components & repairs, etc.	1200000	808722
Electronics Tech.	Workshop Consumables, Chemicals, Glasswares, etc.	300000	278557
Chemistry	Equipments, Chemicals, Glasswares, Gases, Labwares, Solvents included maintenance etc.	3500000	3163966
Physics	Equipments, Electronic components incl. repairs etc.	800000	615218
Physics	Chemicals, Consumables, Glasswares & Radiation source charges	600000	550519
Biotechnology	Bio-Chemicals, Labwares, Glasswares, Consumables incl. radioactivity Lab.	370000	349159

Biotechnology	Equipments included its maintenance.	550000	542047
Botanical & Env. Sci.	Bio-Chemicals, Glasswares and other Consumables	400000	387488
Botanical & Env. Sci.	Equipments included its maintenance, herbarium museum and other class room material.	300000	299965
Human Genetics	Chemicals, Bio-Chemicals, Glasswares, Consumables etc.	650000	647450
Human Genetics	Equipments included its maintenance, Lab & other classroom material, AMC etc.	600000	581493
Microbiology	Bio-Chemical, Glasswares, Consumables incubation & cold room facility (Common facility for all the department of life Science)	400000	399655
Microbiology	Equipments/ Lab. Material & its maintenance.	300000	276074
Molecular Bio & Bio-Chemistry	Bio-Chemical, Glasswares, Consumables etc.	400000	365922
Molecular Bio & Bio-Chemistry	Equipments & its maintenance	300000	296729
Zoology	Bio-Chemical, Glasswares, Consumables, Animals feed, maintenance of animals house	400000	399405
Zoology	Equipments, herbarium, museum incl. maintenance & other class room material	300000	293731
Computer Sci. & Engg, Jalandhar	Equipments, computers, Hardware, software, internet subscription, repairs, gas supply, Training Programme incl. TA/DA & course fee.	1000000	87991
Electronics & Comm. Engg., Jalandhar	Equipments, instruments, components, computers, repairs, gas supply, Training Programme incl. TA/DA & course fee.	700000	84208
Electronics & Comm. Engg., Jalandhar	Workshop Consumables, Chemicals, Glasswares, etc.	100000	41856

MCA Course, Gurdaspur	Computer, software, hardware incl. AMC, Components, training programme & audio visual aids (incl. TA/DA, course fee & internet access charges)	600000	535110
B.Tech Electronics, Gurdaspur	Equipments, components, etc.	600000	597430
B.Tech Electronics, Gurdaspur	Workshop Consumables, Chemicals, Glasswares, etc	100000	42051
Computer Sci. & Engg, R.C Sathaila	Equipments, computer, printers, UPS, Software, internet subscription, air-conditioner, Photostat, repairs & consumables	1000000	999323
Electronics & Comm. Engg., R.C Sathaila	Equipments, computer, printers, UPS, Software, air-conditioner, Photostat, repairs & consumables	1000000	871080
Computer Sci. & Engg,	Equipments, computer, printers, UPS, Software, internet subscription, air-conditioner, Photostat, repairs & consumables	1000000	0
Electronics & Comm. Engg.,	Equipments, computer, printers, UPS, Software, air-conditioner, Photostat, repairs & consumables	1000000	0
Improvement of Education (IM-001)	Central instrumentation facility-chemicals, glasswares, spares etc.	2000000	266826
Improvement of Education (IM-021)	Development of Research work (incl. incentive) equipments, computers for teaching/non teaching deptt. (Purchase and insurance)	4800000	2760966
Improvement of Education (IM-025)	Research Development fund (for transfer to research development fund)	15000000	13516978
Total		**44370000**	**34010494**
	Annual Budget of the University during 2012-13 (Revised)	**2,19,81,89,000**	
	%age of the total Budget earmarked for research (4,43,70,000/2,19,81,89,000 x 100 = 2.02)	**2.02**	

Resource Mobilization

The major efforts at resource mobilisation undertaken by the university are:

(a) Expansion of accessibility to the people in rural and backward areas by opening colleges and regional campuses;

(b) Expansion in the size of students without raising tuition and other fees substantially

(c) Funding agencies such as UGC, DBT, etc. were approached with adequate proposals

(d) Consultancy

(e) Contribution of the alumni fund

Corpus Fund

At present the total corpus fund of the university is INR 42,94,19,799.

6.5 Internal Quality Assurance System

The detailed report of the academic audit of the teaching departments, regional campuses and constituent colleges has been detailed below.

Faculty of Arts and Social Sciences:

Department of History

Teachers' Response: There is regular updating of syllabi. In 2011, total restructuring of the courses was done, updated for session 2014-2015. The LCD Projector facility is used for seminars only. Informal feedback is always sought when answer scripts are shown to students. The department however does not have any formal system of feedback. A differently designed proforma is required for feedback as suggested by the department. The Department has got a grant of 56 lacs for SAP from the UGC. A history forum is constituted at departmental level. Administrative Staff needs addition. There are no independent research projects with the teachers of the department. Major placement of students is in teaching field and some are selected for jobs through national level competitive examinations. Infrastructure of classrooms (fans, furniture etc.) needs replacement. Renovation of class rooms and addition of a seminar room is required. General courses of personality development, communication skills and language development are required to cater to the needs of students from rural background.

Research Scholars' Response: A strong need is felt for a separate room for research fellows with proper amenities along with Wi-Fi facility. Latest encyclopaedias and multiple copies of research books be made available. Reference books like The Practice of History and Encyclopaedia of Sikhism (4 vols.) are also needed.

Students' Response: All students demanded that a qualified teacher be appointed to teach ancient history and more stress be given on field visit and practical work along with infrastructural improvements in the class rooms. The notices concerning students be displayed prominently.

Political Science Department:

Teachers' Response: Syllabi updated every 2nd year. Syllabi have been revised two times after introduction of Choice Based Credit System. Classes are held regularly. One Clerk and one Clerical Assistant are appointed in SAP sanctioned to the department. Although there is no formal feedback, informal feedback is obtained through discussion with students in classes and during showing of answer sheets. Faculty has completed 3 major research projects. SAP (UGC) sanctioned in 2011, but implemented in 2013 due to less number of faculty members. Department publishes its own Journal. Student's placement is good, e.g. in PCS, (Executive branch) and other allied fields. Students are awarded direct JRF/SRF, Maulana Azad and Rajiv Gandhi fellowships for pursuing higher studies. Students are involved in projects and data collection/societal surveys (Crime against Women, State of Indian Farmers, Perception of Women, Effect of MNREGA etc). Projectors are being installed in class rooms. Curtains and blinds are required for proper projection. Black boards need to be replaced with white board as reflection of light creates problem. There is a need for provision of ramp for differently-abled, one of the stair case may be converted to ramp. Faculty recharge to maintain academic momentum. Faculty members use web resources to avoid wastage of printing paper; however certain students couldn't afford the internet facility, thus face problem.

Research Scholars' response: Computer lab is required in the department, although facility is available in the University Library. The purchase/transfer of books purchased in book fair or otherwise be transferred quickly in departmental library.

Students' Response: Power cut is serious problem. Maps of countries being discussed are required. INTERNET lab is required. Multiple copies of books are required. Books of course content in Punjabi and Hindi medium should be made available. More Lectures from Eminent Scientists must be organised. More presentations by students should be there. Access to library of the department is not proper. Problem of stray dogs. In general students are not reasonably satisfied with the teaching in the department.

Department of Psychology

Teachers' Response: There are five faculty members. M.Phil. should not have been discontinued. No formal feedback, discussions in class room. Urgent need to appoint one lab attendant with basic qualifications. Appointment of regular Counsellor for effective working of counselling cell for students. The provision earlier existed under DSW. One steno typist in the office. The admission to ID courses should be finished early. ID courses for students doing 'Diploma Medical Health Counselling', after doing Masters are redundant. Better coordination is needed with the office of the DSW so that students do not face problems of hostel allotment. A better internet facility is required.

Research Scholars' Response: The research scholars of the department emphasised the need for purchasing latest editions of books, a good Wi-Fi connection, practical work with patients and a separate section of the building for their seating.

Students' Response: Students mainly demanded for practical *hands on experience* like internships, more practicals, holding of workshops and improved laboratories. The latest editions of books are required in the library. Overall an improvement in the infrastructural facilities in various class rooms needs upgrading. The extracurricular activities are needed for the development of students.

School of Social Sciences:

Teachers' Response: Three permanent faculty. More faculty is required as total strength of students is 350. Students get selected for PCS/IAS/ Judiciary/media studies. Students are also able to get admission in various courses in prestigious institutes like JNU, DU, Tata Institute of Social Sciences for higher studies. Feedback from students is regular. Students give 10 minutes presentation along with a term paper submission at end of each semester. Active interaction of faculty and students with an NGO "Pratham". Library seating capacity needs to be augmented in the light of increase in student uptake, more access to journals of interest. Additional wash rooms are required as number of girl students has gone up.

Students' Response: Students wanted upgradation of audiovisual facilities in the classrooms and proper sitting place for girl students in the canteen. They also emphasised that the admission to the course be made through entrance test and more arrangements for extracurricular activities and trips be made. There is parking problem and also that of stray dogs.

Department of Sociology

Teachers' Response: Need more permanent staff as members are going to retire in near future. The department cannot apply for the third phase of UGC SAP due to lack of prescribed strength. Regular feedback from students. Problems related to on-line registration of ID courses. There is a need for Lab attendant to monitor the internet laboratory, otherwise students misuse it. Drainage system needs fixing, leading to damage to building. All students who have cleared NET are placed in jobs. Three projects completed.

Research Scholars' Response: There is delay in registration process of new students, leading to delay in issue of library cards, affects studies. Release of scholarship to students registered last year. Internet facility in the department needs augmentation. Power cut in the department and hostels affect studies.

Students' Response: Availability of books in Punjabi medium in library is not adequate.

Library and Information Science:

Teachers' Response: The intake of students affected by on-line application process as students from remote areas cannot apply due to lack of accessibility of internet cafe/booths. Internet connectivity is dependent on library, as no individual hub is available for the department. Data Entry operator for internet lab is required. Class room furniture needs replacement. Regular feedback, problem in storing the earlier forms.

Research Scholars' Response: Better internet connectivity on all terminals in computer lab and more news papers are needed. Research student's carrels are required. They are having more teaching load (B Lib, M Lib and ID) weekly 7 lectures.

Students' Response: Books related to sociology and other subjects are not available. Seminars and assignments should be part of the curriculum.

Faculty of Economics and Business

Department of Commerce and Business Management:

Teachers' Response: The syllabi were updated in 2010 due to change to CGPA system. In 2012 about 20% syllabus has been updated and a major updating is planned this year keeping in view the modern market forces at the global and national levels which helps students clear the UGC NET. Classes are held regularly as per the time table. There are two ongoing research projects and 8 have been completed. The faculty has got more busy due to the introduction of CGPA hence research suffers.

The teachers desired that at least 20% of the revenues generated by the department through its self-financing courses be given to department for updating the infrastructure. As the number of students has increased exponentially so a new building with modern amenities is needed. The teachers felt that by giving state of the art infrastructural facilities the department must make amends to keep up with peer universities to attract more number of students.

Keeping in mind the inflation, the Head should have more power to spend the contingency and Rs. 2000/- limit is too low and the statute of the calendar be amended for this purpose.

Students need more case studies rather than the class room quiz. The administrative staff of the department is adequate, but need a central software facility and one data entry operator for examination results and grading etc. of more than 700 papers. The total number of students and research scholars is more than 600 and thus an adequate canteen is urgently required.

Research Students' response: The department has the largest number of UGC-NET cleared research students and the total number is 60. Internet speed was excellent. The research students have access to two very good air conditioned computer laboratories having a large number of

networked computers with excellent internet facility. They felt that online access to journals through Inflibnet was very good but the journals published by Taylor and Francis may also be made available. Keeping in view the large number of students more toilets, canteen facility and cooperation of administrative staff is sought for.

Students' Response: The classes are held regularly. Syllabus of some subjects needs updating as per market trends and demands. More case studies, more group discussions, industrial trips and stress on communication skills should be included rather than only class room teaching. The department should also help students in summer training.

As the student strength of the department has gone up, it needs more books in library, a common room for students, more water coolers with aqua gaurd to provide good quality of drinking water, more toilets, better equipped classrooms etc.

Punjab School of Economics:

Teachers' Response: The syllabi were updated in 2010 for Choice Based Credit System. A major change is envisaged for the course contents of session 2014-15. In the MBE course case studies are being introduced which will help in placement of students. The pure theoretical papers have been updated to have recent information. Syllabi are according to UGC NET. Student Feedback Performas were filled in 2010. The department has completed 6 major research projects and 3 are ongoing. Most of the faculty face problems at the hands of audit and accounts branch. The department is UGC SAP sponsored department. The research facilities are adequate and most of the databases needed are available in the library either through INFLIBNET or through direct online access as of World Bank etc. The University has increased the intake in all the courses offered by the department and faculty feels that it is the major cause affecting educational standards of department. They further felt that admission through Entrance test was a better method to ensure entry of quality students. Administrative staff according to Head is adequate and responsive and do their duty well, the other faculty differed on the issue. Faculty felt the need of more LCD projectors in the department. Under the SAP the department has been sanctioned computers, however the faculty wished that the department be allowed to buy Laptops which will make teachers tech savvy and they will start using ICT for teaching also. Drinking water facility with water purification system is urgently needed. The overall cleanliness of the department was adequate.

Research Students' Response: Most of the research students felt that online resources including Inflibnet are satisfactory for their research, but subscribing to indiastat.com will be of immense help. They did not have any interaction with other faculty from different institutes. Research scholars participate in conferences at National level to gather more exposure in their concerned fields. They claimed that Internet connectivity is a major problem. They further demanded that workshops should be held on the practical aspects

of various statistical tools. Most of them felt that only research problems related to Punjab economy are preferred.

Students' Response: Students felt that their syllabi should be more comprehensive and dynamic and an effort should be made to explain about implications of economics to society. Economic surveys are updated and number of textbooks is limited and latest books need to be added. Students emphasised the need for practical training in the department.

The students felt that seminars should be encouraged. The behaviour of the office staff is not upto the expected standards as their attitude towards students is not positive.

MBE students wanted more practical experience in industry by visiting these and demanded a dress code as it is a professional course.

Faculty of Engineering and Technology

Department of Computer Science and Engineering:

Teachers' Response: The syllabi are updated regularly and major reshuffle took place in 2010 due to shifting to CGPA system. In 2012-13, 20-30% content of some papers has been updated. There are 18 regular, 34 contract and 22visiting faculty in the department. Teachers use modern methods of teaching and sufficient resources for ICT enabled teaching are available. The department has got a grant of 5 crores from World Bank for infrastructure development. There is one ongoing research project in the department and 2 minor projects were completed. The faculty felt that student feedback Performa in the present form is not suitable as they have 1800 students and 4 papers in each semester so it makes 7200 responses which are technically difficult to analyse. They suggested that online feedback system from representative student sample should be introduced. As the department caters to very large number of students, so more faculty, office and technical staff is needed for proper functioning. More class room and laboratory space, good drinking water facility, more toilets for staff and students etc (1800 students) are required. There is no open space for the students. Inflibnet does not carry their journals and subscription to IEEE for multiple users is needed. For 5 users it is 15 lakhs per annum. Single user is available in main library. Most of the faculty felt 25% money of the fees collected from Self Financed Course should be given to department for creating state of the art the infrastructural facilities in the department.

Students' Response: Most of the students felt that to improve the teaching potential of the department, competent regular faculty should be recruited. The practical component of teaching needs more stress and labs of the department should have more number of latest computer terminals so that each student gets more hands on training in the laboratory. As CSE is a fast emerging technological area, the students need exposure to high end computing also. Thus more laboratries having this type of facility are the need

of the hour. The class size is large approx 120 students and so adequate PA facility is required in all classrooms. Departmental library needs more number of latest editions of books. As many students from rural or semi urban background are studying hence a professional trainer is needed in the department for toning up the communication and aptitude skills etc for better placement. The department needs high speed Wi-Fi connectivity and training in JAVA. They further suggested that JAVA and HTML training is a must and University should get instructors for this during summer vacations.

Department of Electronics and Communication Technology:

Teachers' Response: There are 17 sanctioned posts of teachers out of which 15 are filled. There are 16 contractual teachers in the department. The major updating of syllabi was done in 2011 during shift to CGPA system. Classes are held as per schedule. There is one ongoing research project in the department. The student feedback Performa is not filled regularly. Teaching and research facilities are adequate and 5 class rooms are fitted with LCD projectors for modern teaching methods. In order to cater to 1100 students, more administrative and technical staff is needed. The access to Inflibnet is good, but many teachers felt that they need multiuser access to IEEE in the central library. At present this database is single user, and the teachers are finding it difficult to carry out their research work. The single user data base costs 5 lakhs while 5 user costs 15 lakhs. The department has Wi-Fi and 125 computers for students. Only the teachers of department are enrolled as researchers.

Students' Response: The classes are held regularly and on time. The syllabus needs updating and more practical component is needed. A regular power supply is needed for better conduct of practicals. In the library more text books should be added as the total student strength is 1100. The placement service of the department needs more proactive and department should also help students in arranging industrial training. The students from self financed stream suggested that they should not be discriminated as regards allotment of score based scholarships during their course.

Faculty of Humanities and Religious Studies

Department of Guru Nanak Studies:

Teachers' Response: The Department has 3 permanent faculty members and 3 are on contract basis. The department runs two M.A. programmes, one in Philosophy (23 students), and the other in Religious Studies (25 students), 2 M.Phil. and one Ph.D. programme. There are 450 students from 15 departments attending the Interdisciplinary programmes offered by the department. The classes are held regularly as per the time table. As there are many courses taught by the department, the faculty is less so most of the teachers are having 19 hours of teaching per week. The syllabi of the

department are updated regularly. The Department publishes two journals, one in English and the other in Punjabi.

The department has got SAP sanctioned by UGC. All the teachers are involved in projects from SAP. The facilities for research are adequate. The research journals are also adequate. A separate library is needed. More class rooms are needed. The student feedback performas are not filled on regular basis. As the major component of the course is Philosophy, a regular faculty in this specialisation is urgently needed. The administrative staff in the office is needed for better functioning of the department. Placement is good as Philosophy students get jobs in college and Religious study students get jobs in SGPC projects etc.

Student's Response: Although the department has a computer lab with Internet connectivity so internet services should be improved. Latest books need to be added in the library. Students with rural background should be provided books in vernacular language. Number of class rooms, size of class rooms, furniture in classrooms, drinking water facilities and toilet facilities need urgent improvement. More interactive sessions with faculty are required as suggested by students.

Faculty of Languages

Department of English

Teachers' Response: There are four regular teachers and two are on extension. The department handles more ID courses. The Department designated as Outreach centre of Hong Kong Polytechnic University. The Department publishes a Journal. 100% placement, 17-18 NET cleared students more than any other University. A language laboratory should be developed and department should be provided with better internet connectivity. Teachers suggested printing of text books for university courses and introduction of new fields on media, education and women empowerment at U.G. level.

Research Scholars' Response: Better library facility with internet connected computers is needed.

Students' Response: Language lab for phonetics is required. More practical training should be imparted. Seminars by students should be conducted.

Department of Foreign Languages

Teachers' Response: More permanent faculty is required. Better lecture rooms with good furniture are needed. There is disturbance due to classes of Music department. Better library facility for part time lecturers and students should be made available. The building needs repair and better sanitation facility.

Department of Hindi

Teachers' Response: Needs more regular faculty. Current faculty have full strength of Ph.D. scholars. Students with fellowship are waiting to join. The Department cannot have access to the generous grants available with UGC and MHRD, GOI due to lack of minimum faculty. Recently introduced new papers related to Studies on Comparative literature (International/National /Regional). The departmental faculty completed two projects. Regular feedback is taken from students. Software for translation in Hindi (8000-10000) is required.

Research Scholars' Response: Condition of departmental library should be improved and latest books concerned with syllabi may be added. The infrastructure of sitting place of research scholars needs improvement. Better sanitation of the department is needed.

Students' Response: Problems faced due to frequent change of teachers on contract which affects overall learning. More time required for minor papers related to literature.

Department of Sanskrit/Pali

Teachers' Response: Two permanent, one contract and one Professor Emeritus are currently teaching in the department. However, more regular faculty is needed. The department is catering to 500 ID course students. The Syllabi are regularly updated. The department completed one project. Better office and classroom infrastructure facility is needed.

Research fellows' and Students' Response: A proper sitting place for research students and better equipped class rooms for M.A. students are required. Students donot have access to internet facility.

School of Punjabi Studies

Teachers' Response: Pioneer department on studies of folklore, and immigrant studies. Faculty regularly publishes, and conducts workshops and refresher courses. Students are sent to field work involving photography, documentary making and interaction with people for preserving the traditional Punjabi culture and folklore. Faculty has won prestigious honours/awards. Active Khoj Manch of research students involves interaction with artists of repute, provides platform for exhibiting personal talents. The Department publishes a journal. The Department needs more teachers for better transition/training of new faculty in folklore and other traditional attributes of Punjabi culture. It also needs more space to accommodate research students. Text books published by University need to be upgraded as per the new syllabus.

Research Scholars' Response: Better infrastructure to accommodate 55 research fellows is needed. Committee room used for Ph.D. viva/presentations and Khoj Manch needs upgradation. In the department a better Wi-Fi facility and a better equipped library with availability of journals

of repute are desirable. The administrative and financial work of research students needs to be improved.

Students' Response: It was suggested by students that Punjabi should be included in Mulana Azad National fellowships of UGC for minority community. HOD suggested minor alteration to improve the seating capacity in two lecture rooms. Work estimates had been already worked out by maintenance department. Similarly, research fellow room could be made more spacious by minor alterations. Some rooms are not being utilised.

Department of Urdu/Persian/Arabic

More faculty is required. Space for staff is not sufficient. Lecture rooms, are required with better black boards. Library facility for part time students is not available.

Faculty of Laws

Department of Laws

Teachers' Response: The syllabi are updated every year with 20-25% variation depending on new developments. The syllabi are designed as per requirements of the Bar Council. The classes are held regularly from 9.00 a.m. to 4.00 pm. Students are given assignments on latest judgments of significance and they are discussed in class. Feedback of students is taken while showing answer sheets. As the department caters to a large number of students, hence more supporting staff is needed for smooth functioning of the department. Faculty members have two major projects and one minor project and have got articles published in refereed journals and published/edited books. Presently, there are two Post Doctoral Fellows in the department. Faculty members are members of Juvenile Justice Board and regularly interact with NGOs. The students are employed in diverse streams ranging from Judiciary, Customs, RAW, Corporate Sector and teaching. Alumni of the department hold high level posts in their respective streams. Department manages legal aid clinic. 15 students of the department have been selected as National Legal Volunteers and were given training by Session Judges. Department has arranged 5 seminars in last five years. The department faces severe shortage of lecture theatres and need more (eight, 8) lecture halls to meet the basic requirement of Bar Council of 60 students in a section, presently the batches of 90 are conducted. As per guidelines of Bar Council separate committee rooms for boys and girls are not currently available. The Moot Court for training of students is not sufficient and the problem of echo hampers the proper conduct of the sessions there. The department has no budget allocated for calling experts for Moot Court, lectures and organizing extracurricular activities like Law Fest. Online access to relevant journals is not available. A better sanitation facility for the Department is needed. The building lacks proper facilities for handicapped persons.

Research Scholars' response: The research scholars require the availability of more on-line resources required as presently. The research scholars have to go to ILI, New Delhi for consultation of relevant literature. The subscribed journals need to be transferred to departmental library. The Bare acts are also needed in the library.

Students' response: The classes are regular and students enjoy their learning experience. However need more practical exposure and extracurricular activities like lectures by experts, Law Fest, discussions/open forum etc. Moot court should be held regularly with active support and guidance of faculty members. More books of foreign authors should be available.

Faculty of Life Sciences

Botanical and Environmental Sciences

It is a DST FIST and UGC SAP Sponsored department. The department needs to have good software application programmer and has good environment for the research. Regularly collects samples (requirement for a vehicle for collection of samples from far-flung places). Since presentation of flora & fauna species is one of the major activities of the department, there is lack of adequate space & facilities for that.

Biotechnology

The department is FIST and UGC SAP sponsored department. Faculty has enough funds & relatively smaller number of students. No problem with space & laboratories. By and large they are satisfied with the facilities. There is no organization of extracurricular activity and educational tours. A common room facility for students is required. Mostly Students feel only jobs are available in education institutes. Need to expose opportunities in corporate sector/industry.

Human Genetics

The Department has 9 regular and one re-employed teacher. The department is DST FIST and UGC-SAP sponsored department. Almost every teacher of the department has major research projects hence sufficient availability of grants. With increase in number of students the competitive spirit among the students has increased. Infrastructure (even basic necessities) is needed for newly appointed faculty. For solid waste disposal co-ordination with health Department is there (they have to go to the health centre to handover the waste, whereas for most of the liquid waste – the van should come to the department and collect the waste. Students feel that too much repetition in syllabus and content is less. A common room facility for students is needed. No educational trip being organized.

Microbiology

The Department has a faculty of 7 members. The Department is DST FIST and UGC SAP sponsored department. It needs more classrooms with audio-visual facility. Need of CC TV cameras at parking places (suggestion of students). Maintenance of equipments especially repair of the machines is not proper. No-educational or industrial visit is arranged. Dissertation should be made part of master's curriculum. The new equipment should be made available for use.

Molecular Biology and Biochemistry

The Department is sponsored under DST FIST programme. Normalisation factor has led to the lack of diversity among the students. Need for animal house & Bio-safety measures. New faculty needs proper sitting facility. The Department needs better equipped functional laboratories.

Pharmaceutical Sciences

Class rooms are inadequate (since introduction of post graduate classes). There is a problem of space. Library & Store are in another building. There is a requirement of one floor.

Zoology

It is a DST FIST sponsored Department. The department needs power back-up. They suggested for sharing of back-up facilities from other sister Departments. General observation of faculty is that quality has been compromised with quantity. There is a lack of synchronisation between department exams & ID courses. Additional class rooms are required.

Faculty of Physical Education

Physical Education Department

Syllabus needs updating in accordance with competitive examinations. Computer laboratory is needed in the department. Students have to go to the main Library to search the literature. More washrooms are needed for students and faculty. Changing rooms especially for girl students are required, when they come back from the grounds. There is no departmental Library.

Faculty of Physical Planning and Architecture

Architecture Department:

Teachers' Response: The syllabi are updated every year and it is an ongoing process. Teachers asserted that new subjects like Sustainability, Green Building plans, Disaster Management and Barrier free environment have been added to the course curriculum. The modern teaching methods, viz. power point presentations, simulations and study models are being employed

by the faculty. Various case studies, drawings and educational tours to actual sites are also employed to teach the students. The student feedback proforma are not filled on regular basis. The administrative staff is adequate and is doing duty diligently. Due to increased intake of students there is a shortage of faculty and technical staff. The Department got 48 lakh under UGC SAP programme. The teachers stressed that they are associated with every major architectural project being carried out in the city. There are major infrastructural problems as the seats have been increased from 40 to 80. New block has been sanctioned and tender given in newspapers for its construction which will ease the pressure on lecture theatres. The placement is 100% as it is a professional course. There are only two research supervisors for guiding Ph.D. in the department; hence six part time persons were pursuing their Ph.D.

Students' Response: There are 80 students in each class but Wi-Fi connectivity and departmental library facilities are not adequate. Every student has his or her own laptop to carry out their work, but the irony is that there are no charging points in the studios. Public address systems in different class rooms or studios of department are needed. Use of modern teaching methods is limited. The students cannot work after 5 pm as all the studios are locked. Students also felt that practising architects should be called in for delivering lectures.

Guru Ram Das School of Planning:

Teachers' Response: The department has 12 regular teachers and 4 contractual teachers. It has B.Tech and M.Tech. (Planning) courses. The syllabi were updated in 2010 during the shift to CGPA system. Minor changes are carried out on regular basis. Non teaching staff is in shortage. There is one steno, one senior assistant, one daftari and one peon. Classes are held regularly as per the schedule. There is no ongoing research project in the department. Only two persons are having Ph.D. degree. In the last one year the faculty published 26 research papers in peer reviewed journals. They organise guest lectures. More computers are needed. The department needs more students and operators as they need to digitise the archival data. They also need remote sensing software for carrying out surveys and for teaching the students. CAD/CAM software is available but number of plotters is less. More infrastructural facilities are needed as the student strength has increased.

Students' Response: Classes are held regularly. In second year of M.Tech., there is more work to be done on Laptops and Planning department has not planned a very basic requirement of students i.e. more charging points for the laptops of students. Students wanted more practical component which would help in finding better jobs. They wanted that department should have good Wi-Fi system so that they have a better access to Internet for latest study resources. Internship should be in the last semester for minimum period of 6 months so that those who are good in their skills may get job opportunity with the companies where they were doing training/internship. The overall sanitation of the department needs improvement.

Faculty of Sciences

Department of Chemistry:

Teachers' Response: With the merger of Applied Chemistry and part of Applied Chemical Science and Technology departments into Chemistry department the faculty strength has grown to 26. The department needs a committee room for holding meetings etc. The laboratories need an up gradation as the instruments are quite old. Besides more practical material is also needed as the numbers of students have grown due to merger of various departments and due to increase in number of seats by the University. The overall cleanliness and upkeep of the department needs serious attenstion. The department is one of the largest departments in Sciences catering to large number of students but the administrative staff of department is inadequate. Although the internet facility is adequate the faculty felt that departments should have Wi-Fi access. Practical teaching suffers because of lack of laboratories and technical staff. More laboratory technicians are needed to cater to large number of students of the department and those of subsidiary courses of other departments. Fume hoods are urgently needed in new and old labs. More working benches are needed in the labs to accommodate the increased student strength. The teachers have large number of research projects and they publish voraciously in peer reviewed journals but most of them felt that although high end instrumentation is available in Central facility, basic instruments are needed in the department. They further felt that:

1. Departments should have more administrative and financial autonomy
2. The financial powers of Heads/PIs should be increased as Rs 2000/- limit is too meagre in the present scenario.
3. PA system and LCDs should be installed in new lecture theatres of the department.
4. Electricity supply is very erratic which hampers teaching and research work. Regular electricity should be ensured to the departments.
5. Infrastructure for differently-abled persons should be created.
6. Lift may be made functional to carry instruments to other floors
7. Water supply should be ensured on upper floors

Research Students' Response: There are 90 research students. There is no Wi-Fi. The repair of instruments should be done on priority as the research of students suffers because of this. The download of 200 MB per day is insufficient. There should be availability of more research Journals.

Students' Response: Classes are held regularly and as per time table. The teachers are very good and cooperative and hence they did not have any problem at the level of teachers. A good Ice-flaker is needed so that the problem of availability of ice for practicals and research is solved. Infrastructure in the labs for practicals is less. General facilities like toilets

especially for girl students, fuming hoods in various laboratories, fire fighting equipment needs to be revamped.

Department of Food Science and Technology:

Teachers' Response: It is a DST-FIST and UGC-SAP sponsored department and has 18 approved posts and 11 teachers are working on regular basis. 2 part time teachers are also employed. Course curriculum was overhauled in 2010 and now 10-20% is changed regularly. The department has completed 20 research projects and 9 are ongoing. The classrooms are too small to accommodate the increased strength of students. There are two LCD projectors which are not fixed in the classrooms. The equipment and material for practicals is just adequate. The administrative staff of the department is sufficient and is cooperative. The faculty felt that qualification of technicians should be as per the needs of the Department. They felt that more e-books should be added. Teachers get access to only 10-12 journals of their subject on Inflibnet. The Wi-Fi facility is needed and the internet wiring needs structured cabling. Furniture in the class rooms and faculty room needs replacement. The erratic electricity supply is a major problem for teaching and research.

Research Students' Response: The internet access through Wi-Fi is needed which will help in downloading the research articles. The download limit of 100 MB per day is too less. The maximum research work of the department is on Cereal Chemistry. The repair of major instruments available in the department is delayed a lot, which hampers their research work

Students' Response: The classes are held regularly on time. In the practicals, instructions were given by teachers and then research students helped students perform different practicals. The major flaw they pointed out that there was less of practical content otherwise the course contents were satisfactory. Students have demanded latest books, Wi-Fi internet facility, a good computer laboratory with more terminals, a good drinking water facility and better toilet facility. Lectures on communication skills and ICT enabled classrooms are needed. Students suggested following for improvement of the department:

1. Prolonged summer training be arranged for the students in food industry so that they are aware of the ground realities in Industry.
2. Short term courses/workshops be arranged by inviting experts from Industry/other educational institutions.
3. Group Discussions should be initiated which will help them improve their communication skills and build confidence which is utmost necessary for placements these days.
4. Educational and motivational lectures for the benefit of students be initiated.
5. The teaching should be more interactive

Department of Mathematics:

Teachers' Response: The syllabi of the undergraduate teaching programmes in colleges have been revised and 10-15% content changed. 5-6

new optional papers for MSc (Hons.) programme have been added. New Interdisciplinary courses have also been added. The faculty suggested that Research Methodology course for Pre-Ph.D. classes should be common in allied sciences for the maximum benefit of students. There is no departmental library. The use of ICT for class room teaching is very limited. Assignments are presented on LCD projector. The availability of various online resources and journals through Inflibnet is adequate. As the teachers of the department are catering to other departments of the University for mathematics and statistics courses thus all of them have more teaching load which leaves lesser time for research. The faculty is publishing around 25 research papers annually in peer reviewed journals. Employment of students is good.

Research Scholars' Response: There are 9 research scholars in the Department. They felt an urgent need to organise seminars, conferences etc. in the department.

Students' Response: Classes are held regularly and on time. There are no seminars etc for development of their communication skills

Department of Physics:

Teachers' Response: It is SAP and FIST sponsored department. The Department has sanctioned strength of 29 posts and only 14 permanent faculty members are in the department. There are 3 contractual and 5 part time teachers. The Department has student strength of almost 400 in 9 different classes. The major updating of syllabus was done in 2010 and 5-10% of the syllabus is revised every year. An innovative course in MSc in Material Sciences is being planned. There are 14 ongoing research projects worth Rs 2 crores. The Department published over 70 papers in peer reviewed journals in 2012. There is shortage of office staff. Technical staff is adequate. Placement is good as many are self employed. The famous alumnus of department Dr Gurtej Sandhu has 1445 patents. The faculty felt that: Amenities like seminar hall, proper sanitation, drinking water, furniture, latest books need to be looked into seriously.

Research Students' Response: The department has 40 research scholars. They also wanted official mail IDs as many sites will not send them material unless they have official mail ID .....@gndu.ac.in. Major concerns of the research students were getting faulty equipment repaired, latest editions of books on nano science technology, applied physics etc, better internet connectivity and general security of the department.

Students' Response: As the classes are bigger now the students complained that the lectures are not at all audible at the back benches hence a good Public Address system needs to be installed in these lecture theatres. Students wanted latest editions of books and newer instruments in laboratories for better practical training. As many students were from rural areas, so they wanted some training on improving their communication skills.

A good computer lab with Internet facility is needed in the department. A good Wi-Fi in the department is needed. Department needs 3-4 coolers with water purification systems for serving good potable water to students. Cleanliness of the department and especially toilets is a major issue. Physics club should be initiated. Youth leadership be promoted by the Department.

Faculty of Sports Medicine and Physiotherapy

Sports Medicine and Physiotherapy

Department has been granted SAP by UGC. The Department has adequate space and equipments, but regular Research Fellows are not there. Only one full time fellow and Eligibility for master's from different streams is needed to do bridge course for non-medical students. No organised system for placement of students (they get jobs at their own in the hospitals etc.) During the first year of the course the students and teachers face a problem of communication. All the courses are new so they need more advertisement to get more input of students and to help them in getting placed. All students are attached with hospitals in their Masters, so better organization with the hospitals needs to be done.

Faculty of Visual and Performing Arts

Department of Music:

Teachers' Response: Three permanent, four on contract. More staff and accompanying staff is needed. Presently electronic devices being used which hamper the training of students. No sufficient separate class rooms, teachers have to take classes in their personal rooms. Payment to guest artist not sufficient, affects the interaction and exposure of students. No budget allocated for performing and visual arts. Proper training and performance auditorium rooms are not available. The creations and performances which are not published because of lack of journals are not given due recognition in CAS promotions. The policy needs to be reworked. Cassettes and CD's of performances and training material available but no proper place for keeping them and for use by faculty and students. The learning experience of students and teachers affected due to interference from the adjoining rooms practicing some other music form. Sound proofing of rooms is strongly needed.

Research Scholars' Response: No proper space for theory classes and sitting. They sit in corridors in free time. Cassettes and CD available in departmental library not issued. Delay in issue of library cards for regular students. Release of fellowship is a problem. Modalities for leave for field work and payment of TA/DA not clear.

Students' Response: Separate digital library with recording and play back facility is required for proper training. Sound proof rooms are required. Proper ventilation in rooms lacking, generally cramped. Conference room used for performing arts lacks AC. Availability of books in the departmental library is not adequate. Departmental library lacks air circulation and fans.

Regional Campuses

Regional Centre, Gurdaspur:

Teachers' Response: There are four departments at the centre; Electronics and Communication Engineering, Computer Science Engineering, Commerce and Business Management, and Laws. The faculty has two major ongoing research projects. Regular faculty has personal rooms, whereas the contractual faculty share a common room. The Electronics labs have adequate equipment but lesser number of tables to keep these instruments. Library of CSE and ECE is well stocked with course books, but lacks general reading books. Teachers felt that expansion of the centre is possible with the addition of MSc programme in some basic sciences courses and teachers will also help in strengthening these subjects as subsidiary courses in other technical subjects. Management course needs updating of Infrastructural facilities. A good auditorium, gymnasium, indoor games facilities, play grounds are urgently needed at the campus. Medical facility is required.

Students' Response:

- **Computer Science Engineering:** Classes are held regularly and on time but most of the lectures are not delivered in English. There is no ATM on campus and taking out money in city and coming to campus at night is not safe. They felt that uniform policy on coordination for common courses being run at Amritsar and all other campuses and colleges be developed so that students do not face any problem.
- **Electronics and Communication Engineering:** The Departmental classes are held regularly. They felt more emphasis should be given on practicals in labs. They also wanted a career counselling unit and one semester of practical training in the electronics industry.
- **Business Management Department:** Classes are held regularly. Students wanted more group discussions rather than regular teaching to know more about market trends and to improve their communication skills which are vital for jobs. They also wanted to have professional training in: Aptitude development; Personality development and English communication skills. They wanted the help of the Department in arranging the Industrial training.
- **Department of Laws:** In the department moot courts are held regularly which ultimately helps students in gaining academic and communication skills. The library of the Department is very well stocked and also has a

good computer lab with good internet connectivity. More permanent faculty is needed. The Department should organise guest lectures by renowned lawyers more often.

In general the students from all the departments at regional centre wanted improvement in overall sanitation of the departments with special reference to toilets, Wi-Fi facility for them in the campus and in the hostels, canteen facility, better playgrounds, organisation of extracurricular activities and better coordination between main campus and regional campus as the examination papers are common and set by main campus.

Maharaja Ranjit Singh Regional Campus, Ladhe Wali, Jalandhar

Classes are held regularly. Sports and Extra Curricular Activities are required. Boys Hostel is required on the campus. Local Conveyance up to regional centre is not available. Washrooms need repair. In general students have security concerns while going back form campus

- **Department of Journalism and Mass Communication**

Teachers' Response: Department needs better infrastructural facilities to excel other institutes affiliated with the University offering the same course. (Financial help needed for production of films, fabrication of language lab and visit to TV production houses).

Student's response: Apart from regular academic activities which are satisfactory, Placement is good. Alumni are helpful in the placement and other activities. Students feel that the syllabi need improvement. Latest equipment like CONSOLE for the recording of radio programs and latest Video Cameras are required for recording films etc.

- **Departments of Computer Science and Engineering, and Electronics Technology**

Teachers' Response: Academic activities of the department are satisfactory. More permanent faculty especially in basic sciences along with other infrastructural improvements like more classrooms etc is required. Inter departmental communication with the main campus department needs improvement.

Students' Response: Teaching is satisfactory. Latest software and more practicals should be added.

- **Department of Legal Studies**

Teaching is satisfactory. Syllabus needs to be updated keeping in view the syllabus of National School of Law. Easy accessibility to recent judgements of the courts and International journals be made available

Regional Centre, Sathiala

Teachers' Response: The campus is undergoing major construction activities for the construction of various research labs. Library is being made operational. The campus is going to be first one in University to offer Civil and Mechanical streams in Engineering from next year. The development of

the Campus could be more meaningful if Senior Faculty (Professors and Readers) of respective streams would be appointed against the sanctioned posts in engineering Faculties. The licensed software of different languages/ programs and e-access to journals are urgently required.

Students of (CSE/Electrical Engineering): As the regional centre is being developed more infrastructural and academic facilities like more Computer Terminals (with software of languages), Better facilities for sports and other extracurricular activities, Better practical exposure through on-line tests, Expert Lectures, debates etc. are needed. Training for improving Communication skills required. A good Canteen is needed. Medical room is required.

Constituent Colleges

Amardeep Singh Shergill Memorial College, Mukandpur

Principal's Response: The college is functioning satisfactorily with the potential for running Engineering courses (B.Tech or Diploma etc) as there is no Engineering college in the radius of 20 km. M.Com and M.Sc. (Dietetics and Nutrition) can also be started.

Teachers' Response: Infrastructural facilities for basic science courses are required. Computerization of library is required. Internet facility is needed for teachers.

Student's Response: Students found the teaching satisfactory however they felt the need to improve practical work for M.C.A. and B.Sc. (Eco) students, better internet facility and better placement services. General awareness regarding fee concession and funds for needy students should be disseminated from time to time.

University College, Jalandhar

Teachers' Response: The faculty felt that as the college has a great potential, so some infrastructural facilities like more space for Library, more computer labs etc are required.

Students: The teaching is satisfactory but updating syllabus with more practical aspects is needed. Medical, Hostel and sports facilities are also required.

Guru Nanak Dev University College, Verka

Teachers' Response: The College is meant for students with rural background and it has served that purpose very well as the students in this college come from 70 villages on the border, viz. Attari, Fatehgarh Churian, Ramdas and villages surrounding Batala town apart from Verka and other villages in its vicinity. There are 63 teachers and 14 are permanent. The college in its 3 years of existence has been able to attract more than 3000 students which is a landmark in itself.

The good practices of the college are: Anti ragging cell is in place. Grievance cell is in place. The practice of Sanjha Chulha for regular faculty is in operation. However, the faculty felt that ICT enabled lecture theatres, good internet facility are urgently required. Other facilities like a staff room, common room and hostel facility for girl students, dispensary and sports facility are needed.

Students' Response: The students were extremely happy with the teaching by the faculty. They pointed out that discipline of the college is very good and the faculty is caring. The teacher-student relations are good. The students felt that the college has metamorphosed into one of the best institutions in such a short time span of 3 years. Most of the students want to do Post Graduation after their degree at GNDU. However, they felt that improvement of drinking water facility, sports facility and laboratory equipment is needed.

University College, Narot Jaimal Singh:

Teachers' Response: Out of a total faculty of 27 teachers only 5 are regular. More teachers in various subjects and a librarian are needed. Teachers felt that the library should be computerised and networked so that more students can access it. Due to development of various laboratories in the college, teachers felt that over last 3 years the quality of students joining the college has improved and now they are getting better students. Teachers have held sadbhawna rallies in schools of surrounding area and in villages to motivate students and their parents to send students to this college. Young and enthusiastic teacher of Geography has initiated a survey of the area to find out incidence and causes of cancer in the area, a survey on the impact of MGNREGA etc. Another survey on the condition of agriculture of the area and farmer suicides is also being carried out. The most of the works in college are undertaken out of PTA funds. As it is an upcoming college, facilities like accommodation for Teachers, hostels for students, books on various subjects in library, better drinking water facilities are urgently required.

Students' Response: Classes are held regularly. Most of the students are from economically backward background and they were of the view that college has contributed in getting higher education. They felt that science labs are adequately equipped. They wanted more books in the library and hostel facility as they sometimes get late doing their practicals. Most of the students are encouraged to spend their free time in the library. The students felt that college should have ICT enabled classrooms, better sports and medical facilities. Cultural activities should be organized. Students felt that the teachers should make efforts to improve the communication skills of the students by assigning seminars etc. About 80% of them wished to pursue their Post Graduation from GNDU.

Bebe Nanaki College, Mithra

The College was established in 2011 and presently has total strength of 1140 students and currently have 41 faculty members out of which 9 are

permanent. The building of the College is almost complete however the furniture is not available in Faculty meeting room and common room for girls. The college has planted around 300 trees. A regular Mali is required. The College has developed a system of class tests and has appointed two CR's (one for boys and one for girls) who gave regular feed back to Principal on quality of teaching. To improve the quality of the intake of students Principal suggested initiating a College level scheme for meritorious students.

Teachers' Response: Regular staff should be appointed, as appointment of Part Time/Contact faculty delays the start of effective teaching by one month. Appointment should be for 12 months as students suffer as Teachers are relieved almost 45 days before close of the semester.

Student's response: The students in general were satisfied with the teaching and evaluation system. The students studying Physics pointed out some problem in comprehending the teaching of one teacher. The laboratories donot have laboratory attendants, especially in Chemistry lab students encounter difficulty. The software related to Oracle not available in Computer Lab. Internet facility is not available. The students stressed the need to develop extracurricular activities for personality development along with good academic inputs they are getting from College. A trained teacher in Sports and Music need to be appointed. More NSS camps and NCC activity need to be initiated.

Guru Tegh Bahadur College, Sathiala

Students Response: Course related books not available in the library. PCs in computer lab are not sufficient for proper practical work. Physics lab lacks apparatus for practical work. No sitting room for girls. Elective subject choice of Home Science, Punjabi should be made available. Frequent power cuts affect study. There is a sense of insecurity among students due to disturbance/nuisance caused by outsiders.

Guru Nanak Dev University College, Chung

The college presently has 1085 students enrolled in different classes. Six faculty members (Physics, Chemistry, Maths, Commerce and Political Science) appointed out of 15 posts sanctioned in budget. Rest of the faculty members are either on contract or part time. The laboratories of Chemistry, Physics, Psychology and Geography are well maintained. The college needs more permanent staff in languages, social sciences, computer and other subsidiary courses like Environmental Sciences and the library staff (librarian, restorer and helper) needs to be appointed. The college also requires a high capacity overhead water tank to ensure proper water availability during college hours and an auditorium. The general upkeep of the class rooms and class equipment is required.

Students' Response: In general the students seem to be quite happy as they are getting good education near to their home. Most of the students were of the opinion that this College has enabled them to pursue higher

education at nominal cost. Many third year students were eager to know if P.G. courses would be started in College in near future. In general, students wanted that extracurricular activities need to be strengthened and general information regarding various scholarships available to students may be disseminated by the college

Guru Nanak Dev University College, Patti

The college building is being extensively renovated since last year and the work need to be further expedited so that complete building is ready by start of the next academic session. The college has processed cases of almost all the eligible students for award of post matric fellowships. There is no permanent staff member appointed in the College.

Students' response: Academic activities are satisfactory. The library has two sections. Girls are able to access the books, whereas in boys' section books are being sorted out and they are not able to read the books. Upgrading of Physics, Chemistry and computer labs need augmentation for better practical training. Washrooms, canteen facility and sports facilities need upgradation.

Identification of Areas for Improvement to Assure Internal Quality

The primary objective of conducting the Internal Academic Audit is to identify the weaknesses and strengths of the University as a system of higher learning and research. With new developments and growth new challenges emerge and they are to be addressed adequately to maintain high standards of academic practice. The primary objective of the IQAC is to identify areas of weakness and suggest viable and adequate measures for the University to take care of such challenges that emerge from the weaknesses. In the age of globalization and privatization, the Universities in India face serious challenges of not only keeping the academic and research standards, but also retaining good quality of faculty and students to achieve excellence. This part of the Report identifies areas of challenges and strengths so that the pursuit of excellence becomes reality. Obviously, it is not one time treatment of the issues, but a constant and continuous endeavour to maintain standards. Keeping in mind all these issues the weaknesses and strengths of the University are detailed here.

1. Negative Practices/Challenges/Threats

Three stakeholders of the university, namely teachers, researchers and students seem to be dissatisfied with each other as well as the university authorities- both higher officials and low level officials. However, the foremost problem identified during the entire exercise is that there is a general lack of the notion of academic administration among the heads of the various departments. They tend to run their departments through their administrative staff. As a result, the administrative staff, particularly the office incharge begins to exercise the authority of the Head of the Department and attends

teachers, research students and students poorly. The Departments where the permanent faculty is less than the temporary teachers, the environment is authoritarian and administration is poor. The following challenges have emerged from the audit:

(i) The social sciences and humanities and language departments are facing a serious crisis of the decline in the size of faculty. As a result the level and extent of research has come down. In most of the cases the junior most teachers in the Department are above forty or fifty years of age. It implies that even if the faculty is recruited now there is going to be academic deficit. There may not be continuity of the research and teaching tradition. There is a threat of extinction of some of the departments.

(ii) One of the recurrent complaints was about the intake of too many students without any increase or improvement of infrastructure. The increase of students led to the increase in workload, which is a alleged to be at the cost of research.

(iii) The administrative block, it seems, creates more bottlenecks in research and working of the departments rather than facilitating it.

(iv) The Wi-Fi facility does not work properly and classrooms are not equipped with latest technology. Wi-Fi system is not working in the Hostels as well.

(v) The faculty members feel that they do not feel inclined to get projects because of red tapism in the administrative block.

(vi) Problem of Space.

(vii) Problems of Cleanliness and Drinking Water and Hygiene of Wash rooms.

(viii) Security Problem for girl students who work late hours in laboratories. (many time there is no security guard)

(ix) Menace of stray dogs.

(x) Inter-net connectivity & enhancing of download limit.

(xi) No Alumni activities by individual departments.

(xii) No organised system for getting feed back of the system by the department authorities.

(xiii) No extra efforts are being made by any department for developing critical thinking among the students.

(xiv) Research students have to get their work done from administration block on their own which wastes lot of their time.

(xv) No effective disposal of used samples.

(xvi) There is no gender sensitisation programme organised in the University. The only body which looks after the gender issues is the one which takes up the issues of Sexual Harassment. The committee

is confined to looking after the complaints of the female students, researchers, faculty and non-teaching technical and administrative staff.

2 Positive Practices

Between 2007 and the present the University has undergone a change in terms of both the rise of student strength and expansion of infrastructure. It may be mentioned that the Internal Academic Audit takes cognizance of micro-level practices of the University, that is, at the level of the smallest unit of the system, such as departments, colleges, etc. There are certain macro-level indicators which remain more or less unnoticed under such an exercise. There remains a perpetual need for the IQAC to take into consideration the macro-indicators while assessing the strengths. In this regard, the University has achieved a great leap forward as a result of which various negative practices identified in the previous section should be understood as challenges.

- There has been expansion in terms of regional campuses and constituent colleges. It has led to the increase in the student strength. The infrastructural growth in regional campuses and constituent colleges has been satisfactory. However, there is a need to expand along with the rising strength of the students.
- With the introduction of Choice Based Credit System the University has brought about a major change in the teaching learning process. Establishment of central instrumental facility for scientific research has facilitated the interdisciplinary research as well as the plausibility of raising the research standards.
- Introduction of interdisciplinary courses and the construction of lecture halls equipped with multimedia have facilitated the consolidation of Interdisciplinarity.

3 Steps and Scope for Improvement

- There is a need to recruit faculty in various departments. There are a considerable number of departments which are facing extinction and the need is to appoint the faculty is such a way that a minimum of six faculty members are working regularly in every department. It will help in seeking SAP from the UGC. Those departments which have already got SAP are expected to maintain this minimum number.
- There is a need to rationalise the student strength in the Amritsar main campus as well as the regional campuses. The increase in seats is likely to draw the best of the candidates. There is also the dimension of financial security of the University. Keeping the two in mind is suggested that the number of seats should remain constant (that is prior to the increase) but an additional number of seats may be

created and could be called paid-seats for which the candidates may have to pay double or triple tuition fee.

- To make Constituent colleges self-sufficient in long term, it is suggested that the maximum student strength may be fixed at 6000. For accommodating such a large number of students there is still a need for infrastructural expansion. However, for such an expansion the role of leadership is very important.
- While raising the tuition fee it is important that the already admitted students are exempted from the fee raise. It means that only the fresh entrants should be charged with raised fee.
- The University faces serious crisis in terms of clearance of bills at the level of audit. There has been a practice of shifting the blame on the teachers in terms of their not following rules and procedures. As a matter of fact the principal investigator or his research students waste more time on clearing the bills and getting the grant released than on research.
- It should be made mandatory for the establishment Branch to get new faculty appointments audited within one month of appointment.
- The University should conduct gender audit and organise gender sensitive programmes. It is important to mention that at this moment among both the faculty and students females are in majority. However, the gender sensitive practices are to be learnt by certain section of the support services and administration. Security and the clerical staff which deal with students should be sensitised on gender issues.
- The practice of short leave/half day leave should be discontinued. These are misused. The number of gazetted holidays among the non-teaching and teaching varies a lot. It creates structural dysfunctionality. It is also a contradiction in terms, because there cannot be two simultaneously operating different systems under different principles. The vacation time should not be confused with holidays. The best is to reduce the number of holidays among the non-teaching offices and departments. It will create more efficient system of administration.
- Specific person from teaching faculty be assigned the responsibility for placement efforts, because in every department students are not aware of job opportunities available to them.
- Updating of information regarding infrastructure facilities available with the departments and efforts should be made for its optimum use by evolving an organized system.
- Purchase limit of Heads and Principal Investigators need to be increased from Rs. 2000 in view of the increase in prices of items.

- Admission should be made on the basis of entrance examinations.
- Centralised Alarm system in every building especially in labs where chemicals are handled.
- For Project Adjustments, the office staff should be made responsible and accountable.

Following measures have been taken by the university on the basis of the recommendation of the IQAC:

1. Better access to the library for the physically challenged students
2. Equal opportunity to the women research scholars
3. Improvement in the physical conditions of the hostels, particularly the women hostels

Central Body to Review the Teaching Learning Process

The Academic Council is the central body which reviews the teaching and learning process once a year. It is consists of the heads of the various departments and principals of the colleges, deans of faculties and it is chaired by the Vice-Chancellor. The meeting of the Academic Council is held once a year in which all decision regarding teaching and learning are made.

However, the Academic Council's meeting is culmination of a year long process of review of curriculum at various levels.

The process begins at the levels of boards of studies. For example, during the last four years the number and levels of meetings which have been held are given below.

S. No.	Year	U.G.	P.G.	Common Board (U.G. & P.G.)
1	2010-11	28	23	15
2	2011-12	31	25	14
3	2012-2013	24	18	12
4	2013-2014	24	19	12

The University has in place certain institutional provisions as provided by its Calendar. Internal Quality Assurance Cell has conducted SWOC analysis of the University by working out various parameters and identified various threats and challenges to the University. Following decisions have been placed before the University authorities for implementation

(i) Making the University as a differently-abled friendly: Construction of ramp to make accessible for the differently-abled students began with the recommendations of the IQAC
(ii) Further improvement in the students' hostels.
(iii) Gender sensitisation
(iv) Improvement of Departmental Infrastructure

There are external members of the IQAC. They have largely contributed by attending the meeting and giving their suggestions.

Policies for the Periodic Review of Administrative and Academic Departments

The University has statutory bodies in place which periodically review both administration and academic departments. These are: Senate, Syndicate, Academic Council, Planning Board, and Finance Committee.

CRITERIA VII:

INNOVATIONS AND BEST PRACTICES

7.1 Environment Consciousness

The University campus is one of the most beautiful places with lush green plants and trees and herbs and rich fauna. The University has made special efforts in keeping the campus environmental friendly. For the conservation of environment in the University various initiatives taken for the university are indicated below:

(i) Rain water harvesting channels are constructed in the administrative block and parking lots.
(ii) Organic manure production by vermi-composting of litter and kitchen waste introduced.
(iii) Sound proofing of the main generator located in the middle of academic complex undertaken to reduce noise levels <75 db.
(iv) Solar water heating systems are installed in the Guest House & Hostels.
(v) 200 Solar street lights installed at main and regional campuses.
(vi) Conservation of plant diversity in the botanical garden.
(vii) First university in North India to achieve the target of zero discharge with the installation of waste water treatment plant of 2.5 million litre per day capacity using its low cost technology.

7.2 Innovations

Following innovations have been introduced during the last four years which have created a positive impact on the functioning of the university:

(i) Introduction of Choice-Based Credit System
(ii) Transparency in evaluation by showing the answer books to the students after evaluation
(iii) Introduction of capacity enhancement programme
(iv) Inclusive policy of creating access to higher education among the backward communities and areas.
(v) Recruitment of ex-servicemen to provide reemployment opportunities as security personnel.

7.3 Best Practices

Best Practice: I

I. Title of Practice: Introduction of Capacity Enhancement Programme

2. Objectives of Practice:

Guru Nanak Dev University passed resolution vide Syndicate meeting 30-10-2012 para No. 30 to change nomenclature of Distance Education to Capacity Enhancement Programme. Under this Practice higher education needs to be imparted in remote rural and border areas.

1. The Context:

Under this programme, a number of technical, professional, arts, commerce, P.G. Diplomas, Certificate Courses and P.G Degree level courses have been started and they run parallel to courses offered in the regular mode of education.

2. **The Practice:**

The ordinances, syllabi, examinations, evaluation etc. of this programme are the same as of the regular programme. Unrestricted mobility of students between this programme and conventional modes of education is the merit of this programme.

3. **Evidence of Success:**

During the introduction of this Programme i.e. in the session 2012-13, the number of Associate Institutes was 71 with enrolment of 9,994 Students. For current year 2013-14, the number of Associate Institutes is 82 including 13 new Institutes with enrolment of more than 10514. In addition to this existing Institutes also been granted new courses.

4. **Problem Encountered and Resources Required:**

i. Administration Block of the University, especially Registration Branch approach toward Associate Institutes is casual and also incompetent.

ii. Registration Branch did not provide demanded information in time. If they do, it is also incomplete.

iii. Need timely Inspection of Associate Institute by the Inspection Committee.

Notes: The quality in delivery of educational instructions is ensured by way of regular inspections and supervisions of Associate Institutes. Students of Associate Institutes are encouraged to participate in extra curriculum activities and they also take part in Cultural Youth Welfare programmes and festivals in the University.

Best Practice: II

1. **Title of the Practice:** Transparency in the Evaluation of the Students Performance

2. Objectives of the Practice:

The following were the objectives of the practice:

(a) To bring transparency in the evaluation system in the University campus and its regional campuses

(b) To end any possibility of bias and subjectivity in the evaluation of the answer books.

(c) To discontinue with the long and unnecessary delay in the process of revaluation

(d) To build the credibility of the evaluation system

3 The Context:

The examination system was perceived as outdated and was understood as the reason for many of the problems which create lot of dissatisfaction among the students. The revaluation of the answer books of those students who felt defeated by the system had to spend money and suffer from lot of anxiety while waiting for the results. It was thought that may times

the subjectivity of the evaluator could cause serious problems with the future career of the students. Moreover, the system was designed in such a way that there was no faith in the integrity and honesty of teacher, which was one of the reasons for the alienation.

2. The Practice:

The University took a momentous decision to bring transparency in the evaluation system by restoring the faith in the teacher-evaluator. The practice was simple but it carried the students whose performance was evaluated. It was made mandatory that the entire evaluated answer book shall be shown to the students within the stipulated period of the examination. After the examination is over, the concerned department shall announce the date and time on which the answer books after evaluation would be shown to them. Each paper was to be shown to the students in the presence of two teacher comprised by the evaluator and the non-evaluator. The concerned teacher was supposed to first inform the students about how they should have answered the questions asked and then the evaluated answer books were given to the students. Students were free to ask for reasons regarding rewards given to particular students and then the concerned teacher was supposed to respond to the queries of the students. After the introduction of the Credit Based Continuous Evaluation and Grading System the minor tests and the quiz, and major test results were subject to the same principles.

3. Evidence of Success:

The practice proved to be tremendous success. It raised the levels of students' satisfaction with the system and also restored the credibility of the teacher. It has been an institutionalised process. The practice is well monitored and if in certain departments the answer books are not shown to the students, they are immediately reminded by the concerned authorities. In case of inordinate delay explanation is sought form the head of the department. It has ended cynicism involved in the evaluation system as highly biased.

4. Problems Encountered and Resources Required:

As an innovative practice it encountered certain opposition in the beginning. But most of the faculty was also aware of such practices in various universities and institutions in India and abroad. One major problem which was encountered in the beginning was to overcome unnecessary delay in showing the evaluated answer books to the students. It has been largely taken care of through proper monitoring

Notes: The University plans to introduce the practice at the level of colleges in future

C: EVALUATIVE REPORTS OF THE DEPARTMENTS, RESEARCH CENTRES, CHAIRS, REGIONAL CAMPUSES, AND CONSTITUENT COLLEGES

FACULTY OF ARTS AND SOCIAL SCIENCES

==/ 1 /==

1. **Name of the Department:** History
2. **Year of establishment:** 1971
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered:** P.G., M. Phil and Ph. D.
5. **Interdisciplinary programmes and departments involved:** U.G., P.G., M. Phil and Pre- Ph.D.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc**.: None
7. **Details of programmes discontinued, if any, with reasons :** None
8. **Examination System:** Choice Based Credit System
9. **Participation of the Department in the courses offered by other departments:** B.A. (HS) Punjabi Department, B.Sc (Hons.) School of Social Sciences
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	1	4
Associate Professors	3	0	2
Asst. Professors	3		1
Others			0

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Bir Good Gill	Ph.D.	Associate Professor	Political and Economic History of Modern India	22	Ph.D. 5 M.Phil. 8
Radha Sharma	Ph.D.	Professor	Polity, Society and Economy of Medieval India	35	Ph.D. 5 M.Phil. 9
Sulakhan Singh	Ph.D.	Professor	Sikh and Punjab Studies, Socio-Cultural History	26	Ph.D. 5 M.Phil. 15

Sukhwant Singh	Ph.D.	Professor	Economic History of Modern India	33	Ph.D. 4 M.Phil. 8
Sukhdev Singh Sohal	Ph.D.	Professor	Social History of India	22	Ph.D. 1 M.Phil. 6
Amandeep	Ph.D.	Associate Professor	Society and Politics of Modern Punjab	17	Ph.D. 1 M.Phil. 8
Parveen Paul	M.A.	Assistant Professor	Ancient India	27	0

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None
13. **Percentage of classes taken by temporary faculty–programme-wise information:** Not Applicable
14. **Programme-wise Student Teacher Ratio:**

    M.A 8:1

    M.Phil./Pre Ph.D. 4:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:**

    Total 3

    Filled 2
16. **Research thrust areas as recognized by major funding agencies:** Social and Economic History of Modern India.
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.:** None
18. **Inter-institutional collaborative projects and associated grants received:**

    a) National collaboration b) International collaboration

    None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**:

    UGC-SAP Sanctioned Rs.56 lacs.
20. **Research facility /centre with**
    - **State recognition:** None
    - **National recognition:** None
    - **International recognition:** None
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    * **Number of papers published in peer reviewed journals (national/International):** 23

* **Books Authored:** 02
* **Chapters in Books:** 13
* **Edited Books**: 02

23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories/ Institutions /industries in India and abroad:** None
26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify):
    Faculty members are part of Journal of Regional History, Department of History.
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).** ASC Refresher Courses.
28. **Student projects**
    • **Percentage of students who have done in-house projects including inter- departmental projects:** None
    • **Percentage of Students doing Projects in Collaboration with other Uuniversities /Industry /institute:** None
29. **Awards /recognitions received at the national and international level by**
    • **Faculty:** None
    • **Doctoral /post doctoral fellows:** None
    • **Students:** None
30. **Seminars/Conferences/Workshops organized and the source of funding (National/ International) with details of outstanding participants, if any**.
    1. International Seminar on the Debates and Trends in the Punjab and Sikh Historical Studies since Independence, March 19-21, 2008. (Funding from ICHR and ICSSR)
    2. National Seminar on Revival of Buddhism in India, March 31, 2008.
    3. National Seminar on Baba Deep Singh: Life and Contribution, January 29-30, 2009.
    4. National Seminar on Guru Gobind Singh: New Perspectives, February, 2010.
    5. National Seminar on Jallianwala Bagh Revisited, March 3, 2010.
    6. National Seminar on Emerging Trends in Historiography of the Punjab, March 18, 2011.
    7. National Seminar on History, Literature and Punjabi Society, September 19-20, 2012.

    Serial Nos. 2 to 7 Seminars were organized by funding from UGC grants for seminars sanctioned to the University.

31. **Code of Ethics for Research followed by the Department:** Attempt is made to ensure quality of research at all levels M.Phil./Ph.D.

32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
P.G. (Session 2013-14)	47	8	19	100	
M.Phil. (Session 2013-14)	55	9	10	100	
Pre Ph.D. (Session 2013-14)	10	3	4	100	

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
P.G.	85	12	03	-
M.Phil.	68	16	16	-
Pre Ph.D.	80	0	20	-

34. **How many Students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise:** NET cleared by 3 candidates

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G. (2013-14)	Not Applicable
P.G. to M.Phil. (2013-14)	6
P.G. to Ph.D. (2013-14)	40
Ph.D. to Post-Doctoral	Not Applicable
Employed • Campus selection • Other than campus recruitment	 None None
Entrepreneurs	None

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	85.7
from other universities within the State	14.3
from universities from other States	None
from universities outside the country	None

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the Assessment period:** None

38. **Present details of departmental infrastructural facilities with regard to**
    a) **Library:** Library with Reading Room
    b) **Internet facilities for staff and students:** Available for all.
    c) **Total number of class rooms:** Three
    d) **Class rooms with ICT facility:** None
    e) **Students' laboratories :**None
    f) **Research laboratories:** None

39. **List of doctoral, post-doctoral students and Research Associates :** Doctoral Students
    a) from the host institution/university: 30
    b) from other institutions/universities:

40. **Number of post graduate students getting Financial Assistance from the University:** 6

41. **Was any Need Assessment Exercise Undertaken before the Development of new Programme(s)? If so, highlight the methodology?** None

42. **Does the department obtain feedback from?**
    a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?**
    Feedback is taken from various colleges as well as faculty members and syllabi are revised accordingly from time to time.
    b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**
    Yes, this is to improve the method of teaching, to encourage group discussion.
    c. **alumni and employers on the programmes offered and how does the department utilize the feedback?**
    Their suggestions are incorporated while revising the course work for various classes from time to time.

43. **List the Distinguished Alumni of the Department (maximum 10)**

Sr. No.	Name of the Alumnus	Degree from GNDU	Passing Out	Present Occupation and Designation	Present Location
1	Indu Banga	Ph.D.	1974	Research, Professor	Chandigarh
2	S.S. Hans	Ph.D.	1982	Research, Professor	Chandigarh
3	Kamlesh Mohan	Ph.D.	1979	Research, Professor Emeritus	Chandigarh

4	Ravi Inder Malhotra	Ph.D.	1977	Research, Professor	Chandigarh
5	Anand Gauba	Ph.D.	1982	Research, Lecturer	Amritsar
6	S. D. Gajrani	Ph.D.	1982	Research, Professor	Patiala
7	Raj Kumar Hans	M.A	1977	Research, Professor	Vadodara

44. **Give Details of Student Enrichment Programmes (special lectures/workshops/seminar) involving external experts**: Students gain from seminars organized by the Department and the discussions generated there in.
45. **List the Teaching Methods adopted by the faculty for different programmes.**
    For M.A.: Class Room teaching and tutorials
    M. Phil.: Class Room teaching with group discussions and seminars.
    Pre-Ph.D.: Class Room teaching with group discussions and tutorials.
46. **How does the Department ensure that programme objectives are constantly met and learning outcomes are monitored?**
    By surprise tests and discussion with students.
47. **Highlight the participation of students and faculty in extension activities.**
    Extension lectures delivered by the faculty members in various colleges from time to time.
48. **Give details of "beyond syllabus scholarly activities" of the department**.
    Preparation for competitive exams, interviews and preparation for interview for various jobs in schools and colleges.
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details:** None
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied**.
    Knowledge is imparted to the students on agricultural technology, improvement in the economic conditions of rural areas and the allied occupations in present day Punjab.
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department**
    Strength: Department has library with largest collection of books (more than 8500 books), **c**ollection of rare sources in the departmental library.
    The Department has been awarded the SAP (DRS – I) status by the UGC.
    Weaknesses: There is no new appointment of lecturers as a result of which the Department is declining in strength.

52. Future plans of the department.

Studies for the improvement of economy of the Punjab may be undertaken, especially agriculture. Extension of tourism and the study programme concerning this and project on heritage sites may be undertaken.

1. **Name of the Department:** Library & Information Science
2. **Year of establishment:** 1973
3. **Is the Department part of a School/Faculty of the University?**: Yes
4. **Names of programmes offered**: U.G., P.G., Ph.D.
5. **Interdisciplinary programmes and departments involved:** Interdisciplinary courses both at U.G. and P.G. level. Students from the departments of Physics, Chemistry, Electronics, and Food Science and Technology are attending these courses.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc**.: None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System**: Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:** Students are attending ID courses in other departments
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	0	1	1
Associate Professors	1	0	0
Asst. Professors	3	2	2
Others	0	0	0

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance:**

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr. Amritpal Kaur	M.A(Eng., Phil.) M.Lib.I.Sc. Diploma in Russian, Ph.D.	Professor	Information Services	25	11
Dr.Asha Narang	M.A(Hons) Eng, B.Ed, M.Lib. I.Sc., Ph.D.	Asst. Prof.	Preservation of Library Materials	6	3
Mrs. Satwinderpal Kaur	B.A., M.Lib.I.Sc.	Asst. Prof.	0	1	0

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None
13. **Percentage of classes taken by temporary faculty – programme-wise Information:** There is no temporary faculty in the department.
14. **Programme-wise Student Teacher Ratio:**

B.Lib	M.Lib
26:3	13:3

15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:**
    All sanctioned post are filled:
    - Librarian 1
    - Data Entry Operator 1
    - Peon 1
    - Safai Karamchari 1
16. **Research thrust areas as recognized by major funding agencies:** Electronic Resources
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise:** None
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:** None
20. **Research facility /centre with National recognition:** None
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications**:
    - **Number of papers published in peer reviewed journals (national /International)**: 34
    - **Monographs**: None
    - **Chapters in Books**: 12
    - **Edited Books**: None
    - **Books with ISBN with details of publishers**: None
23. **Details of patents and income generated:** NA
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally/ internationally to visit other laboratories / Institutions /industries in India and abroad:** None
26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify): None

27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs):**
ASC, Refresher/Orientation Programs, Workshops.

28. **Student projects:** Nil

• Percentage of students who have done in-house projects including inter- departmental projects

• Percentage of students doing projects in collaboration with other universities /Industry /institute

29. **Awards /recognitions received at the national and international level by the faculty faculty:**

Dr. M.P. Satija

- ILA-PSG Kumar Life-Time Achievement Award (2007) by the ILA, New Delhi.
- IASLIC-PB Roychoduhary Best Teacher Award-2008

Dr. Amritpal Kaur

- IATLIS-Smt. Ratna Laxman Rao Best Women Teacher Award, 2000
- ILA-PV Verghese Award for the Best Paper, 2000
- Vijay Shree Award
- Certificate of Excellence

30. **Seminars/Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any:** Nil.

31. **Code of ethics for research followed by the departments:**
Fair use of information

32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
B.Lib.I.Sc	35	4	22	100	
M.Lib.I.Sc	16	2	11	100	
Ph.D.	12 (UGC/NET) 9 (Appeared in test)	3	1		

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.Lib.I.Sc	92.3	7.7	0	0
M.Lib.I.Sc	92.3	0	7.7	0
Ph.D.	50	50	0	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.**
Total NET – 7 GEN-1 SC- 2 BC - 4

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	69.3
P.G. to M.Phil.	0
P.G. to Ph.D.	50
Employed	
Campus selection	0
Other than campus recruitment	100
Entrepreneurs	0

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	66.7
from other universities within the State	33.3
from universities from other States	
from universities outside the country	

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None

38. **Present details of departmental infrastructural facilities with regard to**
a) Library: 1000
b) Internet facilities for staff and students: Yes
c) Total number of class rooms: 2
d) Class rooms with ICT facility: Nil
e) Students' laboratories: 1
f) Research laboratories: NA

39. **List of doctoral, post-doctoral students and Research Associates**
a) from the host institution/university: 2
b) from other institutions/universities: 2

40. **Number of post graduate students getting financial assistance from the University:** 5

41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:**
Meetings of B.O.C. are the platform for framing any need assessment exercise.

42. **Does the Department obtain feedback?**
Remedial/corrective measures are taken to remove the gaps if any to make the system fool proof.

a) Remedial/corrective measures are taken to remove the gaps if any to make the system fool proof.
b) Suggestions from employees and alumni are always welcome and implemented also.

43. List the distinguished alumni of the department (maximum 10):

a. Dr. M. P. Satija
b. Dr. H. S. Chopra
c. Dr. Amritpal Kaur
d. Dr. Sukhdev Singh
e. Dr. Asha Narang
f. Dr. Babita
g. Ms. Prabhjot
h. Yadwinder Singh
i. Manbir Kaur
j. Sukhdeep Kaur

44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

Extension lectures by eminent scholars is a regular practice in the department for the enrichment in knowledge of the students.

45. List the teaching methods adopted by the faculty for different programme:

Multimedia, Power point presentations, Hands-on-experience.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Regular feedback from the students is solicited.

47. Highlight the participation of students and faculty in extension activities.

Students take part in cultural activities.

48. Give details of "beyond syllabus scholarly activities" of the department.

Internship for BLIS Students.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details: None

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied:

Teachers are actively contributing new ideas by publishing their articles in reputed peer-reviewed journals.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

S. No.	S (Strength)	W (Weakness)	O (Opportunity)	T (Threat)
1	Faculty Strength	Student Strength	Library and Information Science being a professional course has a lot of scope in the coming future.	The quality of student input is not up to the mark.
2	Students' Evaluation of Teachers/feedback	Number of days of receiving the file back when submitted for approval of the concerned authorities	Besides the library sector, the students can join jobs in profit making sectors also.	As the computers have built deep inroads into the libraries, the future librarians need to be computer experts.
3	Decision-making process: Democratic and participatory	Delay in getting the file back.	The department has a vision to train future librarians in the latest trends in librarianship	As this course is available only in universities, the teaching positions available to the students is very less.

52. Future plans of the department:

We plan to start some add – on courses in IT that may lead to the earning of dual degrees during the same period.

New courses will be IT based so as to facilitate our students to find new avenues for jobs based services outside the library sector.

We plan to upgrade our Internet lab into a multimedia lab in the near future.

1. **Name of the Department**: Political Science
2. **Year of establishment:** 1972
3. **Is the Department part of a School/Faculty of the University?** Yes,
4. **Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt. etc.):** P.G., M.Phil., Ph.D.
5. **Inter- disciplinary programmes and departments involved:** Yes
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:** Participation in the Interdisciplinary Courses
10. **Number of teaching posts sanctioned, filled and actual Professors/ Associate Professors/ Asst. Professors/others)**

Post	Sanctioned	Filled	Actual including (CAS & MPS)
Professor	01	0	Professor (CAS)-2
Associate Professors	02	0	Associate Prof.(CAS)-1
Asst. Professors	06	6	3
Others	--	--	--

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Quali-fication	Designa-tion	Specialization	No. Of Years of Experience	No. of Ph.D./M.Phil. students guided for the last 5 years
Kuldip Singh	Ph.D.	Professor	International Politics/ Post Soviet Central Asia	31 Years	Ph.D. -4 M.Phil. -9
Jagrup Singh Sekhon	Ph.D.	Professor & Head	State Politics with special reference to Punjab	27 Years	Ph.D. – 2 M.Phil. – 6
Rajinder Singh Sandhu	Ph.D.	Associate Professor	Indian Polity, Pub. Administration	22 years	Ph.D. – 02 M.Phil.– 8
Harmit Singh	M.A	Assistant Professor	International Politics	24 Years	M.Phil. - 03

Harpreet Kaur	Ph.D.	Assistant Professor	Diaspora Studies, Exclusion Studies, State Politics	1 Year	
Satnam Singh Deol	Ph.D.	Assistant Professor	Human Rights	1 Year	

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors

i. Dr. Aswini K. Ray, (Retired) Professor of International Relations and Comparative Politics, Centre for Political Studies, Jawaharlal Nehru University, and New Delhi.

ii. Mr. Bal Anand I.F.S. Ambassdor (Retd.)

13. Percentage of classes taken by temporary faculty –programme-wise information

None

14. Programme-wise Student Teacher Ratio: 15:1

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:

Technical Staff: 2

Administrative Staff: 2

Sanctioned-3, (1 Ad hoc)

16. Research thrust areas as recognized by major funding agencies

i. Indian Politics with special reference to State Politics has been recognized by the UGC as thrust area of study under SAP. Already, in depth empirical studies have been conducted on socio-political movements, Dalit politics, terrorist violence and changing nature of political processes in Punjab. At present, the focus is on studying electoral politics, peasant movements and political sociology of the people living in the border –belt of state. Another important dimension of research is emerging area of Sikh Diaspora.

ii. In addition, the Department has been specializing in two other research areas namely: International Politics and Indian Polity. The focus of research in international politics is on Post-Soviet Central Asia Politics of Climate change, immigration studies and foreign policy of India. While, research areas of Indian Polity are the emergence of coalition politics with focus on national and regional parties, Dalits, backward classes, minorities, state autonomy demand, movements for new states, issues of fundamentalism, identity, secularism, changing patterns of voting behaviour and the role civil society and public policy initiatives.

17. **Number of faculty with ongoing projects from national international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.**

Sr. No.	Name of Faculty	Total Grant Received	Name of the funding agencies	Project Title
1.	Prof. J.S.Sekhon (2009-11)	5,66,200/-	University Grant Commission	General Elections2009: A Behavioural Study of Political Attitudes and opinions in Punjab and UT of Chandigarh
2.	Prof. J.S.Sekhon (2009-11)	4,21,400/-	Indian Council of Social Science Research	Problems of Border Area Farmers: An empirical Study
3.	Prof. Gurnam Singh (2009-11)	5,49,200/-	University Grant Commission	The Quandary of Human Trafficking: Kaleidoscope on Indian Punjab & Introduction, Origin of the Research Problem and Relevance

18. **Inter-institutional collaborative projects and associated grants received a) National collaboration) International collaboration**
The department has collaboration with Centre for the Study of Developing Socities, Delhi and has conducted many empirical studies including Exit Poll and election studies, youth, women and issues related to farmers
19. **Departmental projects funded by DST-FIST; UGC /CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.**
Department has been granted Rs. 40,00,000/- by the University Grants Commission at the level of DRS-I for five years under the Special Assistance Programme (SAP).
20. **Research facility/Centre with**
•State recognition -
•National recognition Yes
•International recognition -
21. **Special research laboratories sponsored by/created by industry or corporate bodies:** NA
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national /International):** 21
    - **Monographs:** None
    - **Chapters in Books:** 11
    - **Edited Books:** None
    - **Books with ISBN with details of publishers:** One

23. **Details of patent and income generated:** None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories / Institutions/industries in India and abroad**
    1 Prof. Sukhwant Singh Bindra was appointed as visiting Professor of Indian Studies for the Rotating Chair at Johannes Guttenberg University of Mainz, Germany, for a period of three months from November 12, 2008 to February 11, 2009 and delivered a series of lectures on various topics in the visiting university.
    2. Prof. Kuldip Singh was awarded ICCR India Chair visiting Professor at Getulio Vargas Foundation (FGV), Brazil and served in this capacity for one semester from 1st January 2012 and delivered India Chair lecture on the theme, 'Nehruvian Economic Model and its Contemporary Relevance'
    3. Dr. Harpreet Mangat was awarded Fulbright Post Doctoral Fellowship at University of California, Berkeley (before she joined the department)
26. **Faculty serving in National committees b) International committees c) Editorial Boards d) any other (please specify) International Committees/National Committees**

Name	International Committees	National Committees	Editorial Boards	Any other (Specify)
Prof. Kuldip Singh	0	3	3	3
Prof. J.S.Sekhon	0	1	3	3
Dr. R.S.Sandhu	0	0	1	3
Mr. Harmeet Singh	0	0	1	3
Dr.Harpreet Kaur	0	0	1	1
Dr. S.S.Deol	0	0	1	1

27. **Faculty recharging strategies (UGC, ASC, Refresher/orientation programs, workshops, training programs and similar programs).**
    Teachers deliver lectures at orientation courses and refresher courses organized for college and University teachers and attend seminars at national and international level.
28. **Student projects**
    •Percentage of students who have done in-house projects including inter-departmental projects: None
    •Percentage of students doing projects in collaboration with other universities/Industry/institute: None

29. **Awards/recognitions received at the national and international level by**
    - **•Faculty:** 3
    - **•Doctoral /postdoctoral fellows:** None
    - **•Students:** None
30. **Seminars/Conferences/Workshops organized and the source of funding (National/ international) with details of outstanding participants, if any.**
    i. Organised National Seminar on "Good Governance and Role of Education" January 4, 2008.
    ii. Organised National Seminar on "Indo-US Nuclear Deal" August, 23, 2008
31. **Code of ethics for research followed by the departments:** The research fellows and the graduate students are taught about research ethics in their courses on research methodology.
32. **Student profile programme-wise:**

Name of the Programme	Applications received		Selected Male Female		Pass percentage Male	Female
M.A	2008 2009 2010 2011 2012	38 30 52 50 77	2008 2009 2010 2011 2012	31 (M-11, F-20) 24 (M-12, F-12) 34 (M-18, F-16) 33 (M-12, F-21) 50(M-24,F-26)	2008 2009 2010 2011 2012	100 100 100 100 (Pursuing)
M.Phil.	2008 2009 2010 2011	42 40 42 50	2008 2009 2010 2011 2012	10 (M-2, F-8) 10 (M-4, F-6) 10 (M-2, F-8) 20 (M-5,F-15) 13 (M-4 F-9)	2008 2009 2010 2011 2012	100 100 100 100
PhD	2008 2009 2010 2011 2012	None None 10 None 14	2008 2009 2010 2011 2012	None None 10 (M-8, F-2) None 12 (M-6 F-6)	2008 2009 2010 2011 2012	None None (Pursuing) None (Pursuing)

33. **Diversity of students**

Name of the Programme	%of students from the same university		%of students from other universities within the State		%of students from universities outside the State	
M.A.	2008 2009 2010	100 79.16 76	2008 2009 2010	0 0 0	2008 2009 2010	0 20.83 23.8

	2011 2012	64.70 80	2011 2012	0 0	2011 2012	35.29 20
M.Phil.	2008 2009 2010 2011 2012	99 70 100 79 92.30	2008 2009 2010 2011 2012	0 30 0 20 0	2008 2009 2010 2011 2012	1 0 0 1 7.69
Ph.D.	2008 2009 2010 2011 2012	0 0 0 0 100	2008 2009 2010 2011 2012	0 0 0 0 0	2008 2009 2010 2011 2012	0 0 0 0 0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

1. PCS (Administration -3)
2. JRF/NET -12
3. Rajiv Gandhi National Fellowship for SC/ST – 4
4. Mulana Azad National Fellowship for Minority – 1

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	NA
P.G. to M.Phil.	2008- 40 2009 – 30 2010 – 60 2011 – 45 2012 - 61.53%
P.G. to Ph.D.	None
Ph.D. to Post-Doctoral	None
Employed • Campus selection • Other than campus recruitment	25 -- --
Entrepreneurs	15

36. Diversity of staff

Percentage of faculty who are graduates	
Of the same university	66.67
From other universities within the State	16.66
From universities from other States	16.66

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: One

38. **Present details of departmental infrastructural facilities with regard to a) Library) Internet facilities for staff and students c) Total number of classrooms d) Classrooms with ICT facility e) Students' laboratories f) Research laboratories**
    a. In the department library 6200 Books and 22+8 Journals international and National Level, in addition Ph.D. theses, M.Phil. Dissertations
    Exchanged with the national journals approximately = 30
    Exchanged with the International journals approximately = 5
    The library of the department is facilitated with the international reputed journals, magazines etc.
    b. Internet facility for all the faculty members, staff, research fellows and students of the Department.
    c. 4 Class Rooms
    d. One reading room
39. **List of doctoral, post-doctoral students and Research Associates a) from the host institution/university (b) from other institutions/ universities:** None
40. **Number of post graduate students getting financial assistance from the university.**

Year	Fee Concession	Financial Assistance
2008	04	12
2009	04	03
2010	10	06
2011	11	07
2012	13	10

41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology**.
    Yes, interation with experts.
42. **Does the department obtain feedback from?**
    a. **Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feed back?**
    Thorough regular faculty meetings conducted every fortnight and taking measures to make learning easier for the students. Syllabus is revised with extra members of the B.O.S. committees.
    b. **Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**
    Through interaction among students and seeking point of views on teachers teaching methodology.
    c. **Alumni and employers on the programmes offered and how does the department utilize the feedback?**
    Initiating the process separately at department level, through the existing centralized placement cell and Alumni Association exists.

43. List the distinguished alumni of the department (maximum10)

i. Dr. Kulwant Kaur, Professor, Jammu University, Jammu
ii. Dr. Kuldip Singh, Professor, Guru Nanak Dev University, Amritsar
iii. Dr. Jagrup Singh Sekhon, Guru Nanak Dev University, Amritsar
iv. Dr. Baljit Singh Mann, Jammu University, Jammu
v. Dr. Nisha Garg, Kurukshetra University, Kurukshetra
vi. Dr. Dalbir Kaur, Punjabi University, Patiala
vii. Mr. Dilbagh Singh, Indian Police Service
viii. Mr. Mukwinder Singh Chinna, Indian Police Service
ix. Mr. Chaman Lal, Indian Railways Service
x. Ms. Harveen Kaur, District & Session Judge, Punjab

44. Give details of student enrichment programmes (special Lectures /workshops/(Seminar) involving external experts.

Through Guest lecturers/Workshops/Seminars conducted by the department.

1. Ambassdor V. Sibal IFS, Former Foreign Secretary (Retd.) delivered lecture on "Indo-Pakistan Relations" under the distinguished lecture series on *Indian Foreign Policy*, sponsored by the Public Diplomacy Division, Ministry of External Affairs, Government of India, October 22, 2010.
2. Dr. Alice Radnoti, Ex-Director, Hungarian Cultural Centre, Budapest, Hungary was visiting fellow in the department from January 11 to April 1, 2010. Her visit was sponsored by the Indian Council for Cultural Relations.
3. Dr. Hari Sharma, Political and Foreign Affairs Advisor to the President of Nepal, delivered lecture to the faculty and the students of the department on "Social and Political Roots of Maoists and Implications of their Politics for India and South Asian Region" September 8, 2010.
4. Dr Alok Bansal, Executive Director, National Maritime Foundation, New Delhi delivered lecture on "Contemporary Developments in Pakistan and its implications for India", October 1, 2010.
5. Prof. Shale A. Horowitz of Political Science, University of Wisconsin-Milwaukee (USA) was visiting fellow in the department from October 25 to October 31, 2010.

Workshops

1. Organised workshop on "Research Methodology" to conduct World Value Survey Study in Punjab in collaboration with Centre for the Study of Developing Societies, Delhi, January 31, 2012.
2. Organised workshop on "Research Methodology" to conduct Post-Poll Study in Punjab in collaboration with centre for the Study of Developing Societies, Delhi, January 31, 2012.
3. Organised workshop on "Research Methodology" to conduct State of Nation Survey in Punjab in collaboration with Centre for the Study of Developing Societies, Delhi, July-23-24, 2011.

4. Organised workshop on "Research Methodology" to conduct National Elections Study 2009 in Punjab in collaboration with Centre for the Study of Developing Societies, Delhi, May 8-9, 2009.
5. Organised workshop on "Research Methodology" to conduct State of Nation Survey in Punjab in collaboration with Centre for the Study of Developing Societies, Delhi, January, 23-24, 2009.
6. Organised workshop on "Research Methodology" to conduct State of Nation Survey in Punjab in collaboration with Centre for the Study of Developing Societies, Delhi, January 22-23, 2008.

45. List the teaching methods adopted by the faculty for different programmes.

Traditional /Overhead Projectors /Multimedia /Presentations and Field Work.

46. How does the Department ensure that programme objectives are constantly met and learning outcomes are monitored?

Through regular meetings of the faculty and students and the Mid-Term and Semester Examination, results of the students.

47. Highlight the participation of students and faculty in extension activities.

i. Such programmes are organized by Academic Staff College of the University where college and University teachers are required to attend orientation and refresher courses as per UGC requirements. Teachers deliver lectures at orientation courses and refresher courses organized for college and University teachers and attend seminars at national and international levels.
ii. Interaction with the Political personalities and social workers
iii. Faculty members deliver lectures at AIS Centre for preparing students for various competitive examinations
iv. Interdisciplinary Courses of Students Choice.
v. Students are made to attend seminars organized in the department and lectures delivered by the scholars from outside.
vi. Dissertations are part of requirements for the award of M.Phil. Degree. Fieldwork is essential part of a number of Ph.D. topics chosen.
vii. The students are encouraged to do part of their term papers by visiting/volunteering at orphanages, old age homes and other such places so that it brings about sensitization.
viii. Masters students are encouraged to apply for national/international fellowships to pursue higher education.

48. Give details of "beyond syllabus scholarly activities" of the department.

i. Through the seminars, discussions and Special lectures, Workshops, resource persons and regular exchange with outside faculty, publication of articles and acquisition of new reading material in the form of books, journals and through internet. Students are made to

attend seminars organized in the department and lectures delivered by the scholars from outside and students are to make the the presentation on the different topic. After the classes are over, the faculty members remain in the department to make themselves available for counselling of students for various purposes.

ii. Interaction with political parties on current issues and debates with social workers

iii. International teams from two US universities have visited the department to interact with the students.

iv. Ph.D. students from University of California, Berkeley visited and taught a class at the department

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details: None

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

i. The Faculty members provide students coaching/guidance after the classes to motivate them for studies and preparing them for higher studies, competitive examinations and the Syllabi are updated accordingly.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths

i. The Department has been publishing annual research journal, *Punjab Journal of Politics,* regularly. Its publication started in 1977 and goes to the credit of the Editors and Editorial Boards that its publication has always been on time. The overall perspectives of the journal are interdisciplinary with special focus on three main thrust areas, State politics with special reference to Punjab, India polity and international politics. Its publication is being funded by a grant of Rs. 20,000 from ICSSR. The Journal carries articles by internationally known scholars. It caters to the academic needs of the researchers, teachers and students. Articles published in the Journal are abstracted in International Political Science Abstracts (Paris) and ABC: CLIO USA.

ii. Research activities on regular scale.

iii. Infrastructure for research and teaching

iv. Infrastructure for field work

v. Student Strength.

vi. The diverse areas of specialization of the faculty.

Weaknesses

i Faculty Strength. Leading to low Teachers- Students ratio.

ii. Infrastructure for differently-abled students due to which physically challenged students feel discouraged to join the university.

Opportunities

i. Teaching/Practical aids.

ii. Student's feedback
iii. Special Provisions for SCs and STs in admission/Scholarship
iv. Empowering and providing security to women students.

Challenges

i. To get recognition of the department at the international level
ii. To make department competent in terms of providing assistance to policy makers.

52. Future plans of the department.

i. Imparting quality education and attaining higher standards of research
ii. Enhancing employability and making academic programmes socially relevant.
iii. Moving progressively to next level of UGC/SAP
iv. Undertake research on new and latest aspects of International Politics, Indian Polity and State politics
v. Providing healthy environment to students for personality development through discussions and interactive programmes.
vi. Preparing students to compete at national and international level in academics and inculcating knowledge for entrepreneurship.

The Department plans to focus research on the following areas: Post-Soviet Central Asia, Contemporary Punjab, Crisis areas of Indian Polity and the following projects were approved for purpose of field work

1. "Borders within Borders The Queer Saga of the Indo-Pak Border in Punjab" (Prof. J.S.Sekhon & Dr. Harpreet Mangat)
2. "Electoral Politics in Punjab: A Study of 2014 Parliamentary Elections" (Prof. J.S.Sekon & Dr. Harpreet Kaur Mangat)
3. "Role and working of the Peasant Movements in Punjab since 1991" (Dr. R.S.Sandhu)
4. "State of Human Rights in Punjab: An empirical explanation (Dr.Satnam Singh Deol)
5 Proposal of an Interdisciplinary Major Research Project, "Living at the Cutting Edge: Political Sociology of the People living in the Border Belt of Punjab," has been submitted to the UGC recently (2014-2017)to make an empirical study of various aspects of the life of the people living in fourteen percent of the total area in the state.

1. **Name of the Department**: Psychology
2. **Year of establishment:** 1970
3. **Is the Department part of a School/Faculty of the University?**
   Yes
4. **Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.):** P.G., Ph.D. and P.G. Diploma in Mental Health Counselling
5. **Interdisciplinary programmes and departments involved:**
   The department offers two papers: 1. Psychological Processes, and 2. Stress as Interdisciplinary Courses for Graduate and Post Graduate students from other departments of the university.
   The department offers 5 papers at the Doctoral level as Interdisciplinary papers. Students from different departments opt for these.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**
   The P.G. Diploma in Mental Health Counselling is a two semesters plus 4 months internship Program. For the internship the department has collaboration with Dr Bhatia's Psychiatric Hospital. Students do the four months internship after the completion of two semesters.
7. **Details of programmes discontinued, if any, with reasons**: None
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments**:
   The department offers its expertise to the students of P.G. and Doctoral Programmes of the newly opened Education Department in the university.
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	-	1+2
Associate Professors	3	2	1
Asst. Professors	4	3	1

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualifi-cation	Designat-ion	Specialization	No. of Years of Experience	No. of Ph.D./M.Phil. students guided for the last 4 years Awarded Pursuing
Dr.. Suninder Tung	Ph.D.	Professor	Psychology of Adolescence	25 years	Guided- 05 Pursuing -06
Dr. Navdeep Singh Tung	Ph.D.	Professor	Intelligence and Creativity	28 years	Guided- 04 Pursuing 05
Dr. Rajinder Kaur	Ph.D.	Professor	Industrial organizational Psychology	25 years	Guided -02 Pursuing-04
Dr. Sunita Gupta	Ph.D.	Professor	Experimental and Physiology Psychology	23 years	Guided -01, Pursuing- 04
Dr. Davinder Johal	Ph.D.	Reader	Clinical & Social Psychology	22 years	Pursuing 04
Dr. Rupan Dhillon	Ph.D.	Assistant Professor	Adolescent psychology and Counselling Psychology	8 years	Pursuing 04

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors: Prof. Daya Singh Sandhu from the University of Louisville, Louisville, USA visited our Department during his Post Doctoral Work as a Fulbright researcher from Jan., 2010 to June, 2010.

13. **Percentage of classes taken by temporary faculty – programme-wise information:** 33.3%

14. **Programme-wise Student Teacher Ratio**: 58:8 (including the contractual teachers)

15. **Number of academic support staff (technical) and administrative staff:**
(i) Sanctioned: 04
(ii) Filled: 02
(iii)Actual: 04

16. **Research thrust areas as recognized by major funding agencies**: Organizational Behaviour, Intelligence, Creativity, Health Psychology.

17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.:** None
18. **Inter-institutional collaborative projects and associated grants received**
    a) National collaboration b) International collaboration: None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:** None
20. **Research facility /centre with**
    - **State recognition:** None
    - **National recognition:** None
    - **International recognition:** None
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications**: **Articles in National and International Journals:** 40
23. **Details of patents and income generated:** NA
24. **Areas of consultancy and income generated:** NA
25. **Faculty selected nationally / internationally to visit other laboratories / Institutions /industries in India and abroad:** None
26. **Faculty serving in**
    a)National committees b) International committees c) Editorial Boards d) any other (please specify)
    1. Prof. Navdeep Singh Tung, Nominated as the Vice Chairperson of the Academic Council in the Community Psychology Association of India.
    2. Dr. Rajinder Kaur, Member of the Editorial Board of International Journal of Psyhological Studies, Published by Canadian Centre of Science and Education w. e. f. May 2009.
    3. Dr. Suninder Tung, Member of the Editorial Board of the Indian Journal of Psychology and Education (IJPE), Rohtak. (2012)
    4. Dr. Suninder Tung, Member, International Advisory Committee of the International Counselling Interest under the American Mental Health Counsellors Association.(2013)
    5. Prof. Sunita Gupta, member, Advisory Board, Journal of Psycho Social Research, Since 2007.

    In addition, the faculty is in the various committees of UGC, UPSC, other state commissions, selection committees of different universities, and board of studies of different universities.
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).**
    Dr. Navdeep Singh Tung
    1. Delivered lecture on 'Research Methodology in Social Sciences' at Punjabi University Patiala on 20th Feb., 2009.

2. Resource person in ICSSR sponsored workshop on 'Parenting Styles and Adolescents' at HMV College, Jalandhar, March, 2012.
3. Delivered a lecture on 'Learning Theories: A Behaviorist Approach' in the Refresher Course in Education at Academic Staff College, GNDU on 15th June-5th July, 2012
4. Delivered a lecture on 'Searching for Causality in Social Sciences' in the Refresher Course in Education at Academic Staff College, GNDU on 15th June-5th July, 2012
5. Delivered a lecture on 'Stress and its Management' at the Principals Conference at University Holiday Home' Dalhousie, on 22nd -24th Oct., 2012.

Dr. Suninder Tung

1. Delivered a lecture on "Identity Issues in Adolescents" in the Refresher Course in Psychology at Government College, Rohtak. (June-2008).
2. Delivered a lecture on 'Management of Stress' in the NSS Programme at GNDU College, Verka 22nd March, 2012.
3. Delivered lecture on 'Role of Teachers in Motivating school children' at Khalsa College Public School, Amritsar, August, 2013.

Dr. Rajinder Kaur

1. Delivered lecture on 'Communication Skills and Leadership Effectiveness' at Punjab Technical University, Jalandhar on 9th Jan., 2010.
2. Delivered lecture on 'Entrepreneurial Competencies of Success' in Women Entrepreneurship Development Program (WEDP) at NITCON on 28th Oct., 2010.
3. Delivered lecture on 'Time: A Valuable Resource at Enhancing Human Potential: Bio Psychosocial Perspectives', Department of Psychology, Punjab University, Chandigarh on 15-17th Nov., 2010.
4. Delivered lecture on 'Use of Sampling Techniques in Survey Research' at School of Social Science, Academic Staff College, GNDU, Amritsar on 17th June, 2010
5. Delivered lecture on 'The Role of Theory in Research' at School of Social Science, Academic Staff College, GNDU, Amritsar on 22nd June, 2010
6. Delivered lecture on 'Theory Building in Psychological Research' at Department of Psychology, University of Jammu, Jammu on 22nd Sep., 2010.
7. Delivered lecture on 'Communication Skills' in the Refresher Course in Social Sciences at Academic Staff College, GNDU, Amritsar on 15th Nov., 2011
8. Delivered lecture on 'Brainstorming and Creativity' in Refresher Course in Social Sciences at Academic Staff College, GND University, Amritsar on 16th Nov., 2011

9. Delivered lecture on 'Qualities and Traits of Successful Entrepreneurs - A Psychological Perspective' at NITCON Entrepreneurship Development Programme, NITCON Centre Amritsar on 13th Dec., 2011

Dr. Rupan Dhillon

1. General Orientation Course-86 at Academic Staff College, GNDU, Amritsar 10th June, 2011 to 7th July, 2011.
2. Refresher Course in Social Sciences at Academic Staff College, GNDU, Amritsar on 9th -29th Nov., 2011.

28. Student projects

• Percentage of students who have done in-house projects including inter- departmental projects: As a part of curriculum till May, 2011 project work was mandatory. Post graduate students had to submit a project before the final exam of the Second year.

• Percentage of students doing projects in collaboration with other universities /industry /institute: None

29. Awards /recognitions received at the national and international level by

• Faculty:

• Doctoral /post doctoral fellows:

(i) Ms. Neeti Bawa, awarded Doctoral Fellowship by the Bureau of Police Research and Development (2008)

(ii) Rajeev Gandhi National Research Fellowship awarded to Mr. Balbinder Singh (2009).

• Students:

(i) Young Scientist Award given to Dr. Shabnam at the Indian Science Congress (2011).

(ii) Received Best Paper Presentation Award in a National Seminar on "Indigenous techniques in Psychotherapy" held at Haridwar, 2011.

30. Seminars/Conferences/Workshops organized and the source of funding (National /International) with details of outstanding participants, if any: None

31. Code of ethics for research followed by the departments: APA Code of Conduct

32. Student profile programme-wise:

Name of the Programme	Applications received	Selected Male Female	Pass percentage Male Female
Year-2008			
M. A.	44	01 - 28	100 -- 100
M. Phil	13	00 - 06	-- -- 100
Year-2009			
M. A.	69	01 - 29	100 -- 96.
M. Phil	08	None	--

Year-2010 M. A. M. Phil P.G.. Dip. Mental Health Counselling Pre Ph. D.	 58 05 08 12	 02 - 38 None 00 - 08 00 - 12	 50 -- 100 -- 100 100
Year-2011 M. A. (Hons.) P.G. Dip. Mental Health Counselling M. Phil Psychology Pre Ph. D. in Psychology	 64 04 04 16	 08 - 32 None None 00 - 07	 100 - 96 -- -- 100%
Year-2012 M. A. P.G. Dip. Mental Health Counseelling Pre Ph. D.	 68 10 04	 03 - 26 00 - 07 00 01	 -- 10%
Year-2013 M. A. (Hons.) P G Dip. Mental Health Counselling Pre Ph. D.	 55 13 15	 01 - 27 00 - 08 01 - 03	 Result Awaited

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Year-2008 M. A. M. Phil.	 17 05	 09 01	 02 --	 -- --
Year-2009 M. A. M. Phil.	 25 --	 05 --	 -- --	 -- --
Year-2010 M. A. M. Phil. P.G.. Dip. Mental Health Counselling Pre Ph. D.	 20 -- 07	 06 -- 01	 10 -- --	 -- -- --

Year-2011 M. A. (Hons.) P.G. Dip. Mental Health Counselling M. Phil. Pre Ph. D.	 21 06 --	 04 01 --	 15 -- --	 -- -- --
Year-2012 M. A. P.G. Dip. Mental Health Counselling Pre Ph. D.	 15 05 00	 03 01 00	 12 01 01	 -- -- --
Year-2013 M. A. (Hons.) P G Dip. Mental Health Counselling Pre Ph. D.	 23 06 01	 01 00 03	 04 02 00	 -- -- --

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.: UGC NET: Six

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	--
P.G. to M.Phil.	05
P.G. to Ph.D.	21
Ph.D. to Post-Doctoral	--
Employed • Campus selection • Other than campus recruitment	1
Entrepreneurs	--

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	80
from other universities within the State	0
from universities from other States	20
from universities outside the country	0

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: None

38. Present details of departmental infrastructural facilities with regard to

a) Library = 1

b) **Internet facilities for staff and students:** Every teacher has been provided with computer and internet facilities (Total 10).

c) **Total number of class rooms** = 03

d) **Class rooms with ICT facility** = 01

e) **Students' laboratories** = 01

f) **Research laboratories** = 01

Department has full-fledged laboratory for students of all programmes and the laboratory is well equipped with psychological tests and equipments.

39. **List of doctoral, post-doctoral students and Research Associates**

a) **From the host institution/university** =13

b) **From other institutions/universities** =10

40. **Number of post graduate students getting financial assistance from the university**.

Two students every year

41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.**

None

42. **Does the department obtain feedback from?**

a. **Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?**

Every year Board of Control works on the syllabi and if required addition or modifications in the syllabi are undertaken.

b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**

No formal procedures but informally feedback is received and optimally utilized.

c. **alumni and employers on the programmes offered and how does the department utilize the feedback?**

The information is taken and the department makes an effort to utilize the informal feedback.

43. **List the distinguished alumni of the department (maximum 10)**

Apart from the below mentioned names, the alumni of the department are well placed and serving on teaching positions in the universities, colleges of Punjab and other states.

1. Dr. H.L. Kaila, Department of Psychology, SNDT University, Mumbai.
2. Dr. L.S. Minhas, Professor, Department of Psychology, Panjab University, Chandigarh.
3. Mr. N.P. Singh, Joint Director, Defence Institute of Psychological Research, DRDO, New Delhi.
4. Mr. Vijay Gauba, Joint Secretary, Cabinet Secretariat, New Delhi.

5. Dr. Paramjit Singh, Assistant Clinical Professor, Department of Family Medicine (MDCL 3308), 1280, Main Street, Hamilton, Ontario.
6. Dr. Vipin Devgan, Counsellor, University of Massachusetts, Boston.USA.
7. Dr. Gurdarshanjot Kaur, Settlement Counsellor, Peel District School Board, Mississauga, Ontario, Canada.
8. Dr. Rashmi Piplani, Principal, DAV Public School, Jalandhar.
9. Dr. Navjot Chahal, Clinical Psychologist, New Zealand
10. Dr. Ranjeet Powar, Deputy Director, Food and Civil Supplies Department, Government of Punjab.

44. Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.

Any external expert visiting the department for examination purposes gives an academic lecture to the students and the faculty

45. List the teaching methods adopted by the faculty for different programmes.

- Lectures
- Presentations
- Discussions
- Tutorials

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Continuous evaluation of the students and regular B.O.C. meetings are held to monitor the progress.

47. Highlight the participation of students and faculty in extension activities.

Diploma students go in for the internship at the Psychiatric centre and they provide their services whenever and wherever required.

48. Give details of "beyond syllabus scholarly activities" of the department.

Participation of students in group discussions at the time of Ph.D. Viva – Voce examinations. Presentations are made by students on general topics of their choice and students participate through group discussions.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details.

None

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The thrust areas of the department are applied in nature like Counselling psychology, Organizational Behaviour, Health psychology, Clinical psychology and Psychology of adolescence.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.Strengths:

1. Good and resourceful faculty

2. Good reputation
3. Good laboratory facilities for research and practical training.
4. Participatory decision making within the department
5. Students approaching the department for admission from other states.

Weaknesses:

1. Shortage of faculty and dependence on part time/ contractual teachers.
2. Unable to provide hostel facility to all students.
3. Inadequate financial support.
4. Streamlining of the file work is inadequate with the administration.
5. Due to the total internal evaluation system exposure of the students to external experts has stopped.

Opportunities:

1. Exploring various sources of funding other than the UGC.
2. Participatory decision making is required at the university level.
3. Establishing need based, training linked programmes with industry, hospitals, schools, de addiction centres.
4. Quality assurance of course and making it at par with the best.

Challenges:

1. No addition in the regular faculty strength.
2. Due to unnecessary burden of exams several times in a year, the students and teachers are using up more time for exams. Thereby reducing the thoroughness of the student's knowledge.
3. To attract good students and to compete with the good academic institutions, adequate funds for infrastructure facilities are not available.
4. The problem faced by the researchers at the administration / auditor level in getting the files cleared is very discouraging for the researchers.
5. Timely information pertaining to various funding possibilities is not circulated, which is discouraging.

52. Future plans of the department.

1. Adding more value to the student's experience in research and application of psychology in emerging applied areas in such manner to bring credit to the whole of the university.
2. Striving to recruit more faculty having specialization in the new emerging areas of psychology.
3. Aiming to actively expand further specialized expertise and produce distinguished research.
4. Encouraging and maintaining a high level of personal and professional integrity.

1. **Name of the Department:** School of Social Sciences
2. **Year of establishment:** 2003
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered:** U.G, P.G., Ph.D.
5. **Interdisciplinary programmes and departments involved:** None
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons**
   MBA Social Entrepreneurship (No Admissions)
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments**
   Yes (Interdisciplinary courses)
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	--	--	--
Associate Professors	01	--	--
Asst. Professors	04	03	03
Teachers on Contract	05	05	05

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./M.Phil. students guided for the last 4 years
Dr. Rajesh Kumar	Ph. D.	Asst. Professor	Political Science	17	04
G.S.Bajwa	Pursuing Ph.D.	-do-	Sociology	10	None
Dr.Anjali Mehra	Ph.D.	-do-	Economics	16	04
Dr.Jesna. Jayaachandran	Ph.D.	-do-	Sociology	02	None
Dr.Seozy Bhatia	Ph.D.	-do-	Economics	02	None

Ms.Urvashi Bali	M.A., Pursuing Ph.D.	-do-	Economics	02	None
Mr. Mohit Mehra	M.A., NET	-do-	History	03	None
Mr. Himmatbir Singh	M.A., Pursuing Ph.D.	-do-	Sociology	01	None
Mr. Ajit Pal	M.Phil., Pursuing Ph.D.	-do-	Political Science	3 Months	None

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None
13. **Percentage of classes taken by temporary faculty – programme-wise information:** 65%
14. **Programme-wise Student Teacher Ratio:** 17:4
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:**
    Senior Assistant/Clerk: 01 Peon: 01
16. **Research thrust areas as recognized by major funding agencies:**
    Socio-Economic Problems of Border Area
17. **Number of faculty with ongoing projects from:**
    a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.
    (Dr. Rajesh Kumar/U.G.C-1.5 Lac)
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration** -None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.** -None
20. **Research facility / centre with** -None
    - **State recognition**
    - **National recognition**
    - **International recognition**
21. **Special research laboratories sponsored by / created by industry or corporate bodies**
    None
22. **Publications:**
    * **Number of papers published in peer reviewed journals (national /International)**: 16
    * **Monographs:** None
    * **Chapters in Books:** 3

* **Edited Books**: None
* **Books with ISBN with details of publishers**:

23. Details of patents and income generated -None

24. Areas of consultancy and income generated -None

25. Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad -None

26. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

-None

27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).**

Teachers participate in GOC/ Refresher Course

28. Student projects

- **Percentage of students who have done in-house projects including inter- departmental projects**: M.A. Students (100%).
- **Percentage of students doing projects in collaboration with other universities /Industry / institute**: None

29. Awards / recognitions received at the national and international level by

- **Faculty** -None
- **Doctoral / post doctoral fellows** -None
- **Students** -None

30. Seminars/Conferences/Workshops organized and the source of funding (National/International) with details of outstanding participants, if any.

i. The School organized UGC Sponsored Two days national workshop on "Future of Social Entrepreneurship in India", on 24-25 March 2011.

ii. Two days national seminar on "Education Scenario in Punjab: Challenges & Prospects", 2010, March 4-5.

iii. UGC sponsored National Seminar on "Socio-Economic Development of Border Areas: Challenges and Prospects", September7-8, 2012.

31. Code of ethics for research followed by the departments

University Norms Followed

32. Student profile programme-wise:

Name of the Programme	Applica-tions received	Selected Male	Selected Female	Pass percentage Male	Pass percentage Female
B.A. (Hons.) 2013-14 Sem.I	524	67	33	Pursuing the Course	
M.A.(Hons.)	13	Not Qualified			
B.A. (Hons.) 2012-13 Sem.I	480	60	40	Pursuing the Course	
M.A.(Hons.)	28	16	12	B.A.(Hons.) Sem III	

Bachelor of .Social Science (H.S.) Sem-VI 2011-12	60	28 22	45 47 (Out of 18+20=38 students)
PhD	08 (UGC-NET)	08	Pursuing the Course

32. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.A (Hons.) Social Sci.	50 (from PSE Borad)	50 (from CBSE/Other Board)	0	0
M.A. (Hons.) Social Sci.	60	40	0	0

34. How many students have cleared Civil Services and Defence services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

UPSC: 4
PPSC: 5
UGC-NET: 2
Combined Defence Services (CDS): 2

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	60
P.G. to M.Phil.	01
P.G. to Ph.D.	02
Ph.D. to Post-Doctoral	None
Employed • Campus selection • Other than campus recruitment	 10 --
Entrepreneurs	01

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	62.5
from other universities within the State	12.5
from universities from other States	25
from universities outside the country	--

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None
38. **Present details of departmental infrastructural facilities with regard to**

a) Library: Fully equipped with rich collection of books & journals along with an independent reading room.

b) Internet facilities: for staff and students

Faculty members & research fellows have internet enabled PC'S/Printers in their rooms apart from Computer lab.

c) Total number of class rooms: 07

d) Class rooms with ICT facility: IT enabled for the students.

e) Students' Laboratories: 01 Computer Lab (18 Computers) Internet enabled with original software's.

f) Research laboratories: NA

39. **List of doctoral, post-doctoral students and Research Associates**

a) From the host institution/university

1. Ms. Harvinder Kaur 2. Mr. Rajeev Singh 3. Mr. Harjinder Singh 4. Ms. Meetu
2. Ms. Urvashi Bali 2. Richika Nanada 3. Tejinder Singh 4. Manpreet Kataria
3. Mr. Sunone Kumar (Post Doctral Fellow)

b)from other institutions/universities: None

40. **Number of post graduate students getting financial assistance from the University:** 01
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology**.

To upgrade B.A. programme to M.A. level.

42. **Does the department obtain feedback from?**

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes, through periodic meetings

b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes, Annually from Outgoing Class

c. alumni and employers on the programmes offered and how does the department utilize the feedback? (Department is working hard to develop such linkages.)

43. **List the distinguished alumni of the department (maximum 10)**

1. Daljit Kaur –Allied Services
2. Jatin Chopra-IRS(Rly's)
3. Barjinder Singh-IPS
4. Rukmani Riar- IAS
5. Amit Bamby –PCS

6. Manpreet Kaur – PCS (Judicial)
7. Supnandeep Kaur- PCS (Exec.)
8. Rajmandeep Kaur - PCS (Exec.)
9. Amuldeep Kaur- IRS (Revenue)
10. Amarbir Singh & Sukhbir Singh- Defence.

44. Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.

1. Ms. Jaspreet Kaur, Fulbright Scholar 'How to get Full Bright Scholarship'.
2. Ms. Pooja Kohli, Executive Director, Stock Exchange, Ludhiana.
3. Dr. Anone Kumar Sharma, Director (RBI), for accessing Indian Economic Data.
4. "Vanessa Azzeroli", University of Padua Italy, for exchange of Ideas of 'Punjabi Migrants'.
5. Prof. Shinder Puerwal, Professor of Political Science, Kwantren Polytechnic University, Surrey Campus, BC, Canada, for Taliban Peace Process in Afghanistan.
6. Prof. K.N.Nair, Former Director ,Centre For Development Studies, Cochin Kerala for Indian Economy-Retrospect and Prospects.
7. Annual Status of Education Report (ASER), 2012 for the survey of the District Amritsar.

45. List the teaching methods adopted by the faculty for different programmes.

Chalk Board/White Board and IT Methods.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Through Minor-I, II Group Discussions/Term Paper Presentation/Quiz, Major tests.

47. Highlight the participation of students and faculty in extension activities.

Conduct of Survey for CSDS/ASER

48. Give details of "beyond syllabus scholarly activities" of the department.

Students are encouraged to participate in CSDS/ASER survey annually. Students have won Overall Trophy in sports several times and won trophies in University level Youth festivals. Tours for students to Shimla, Manali and Dalhousie are organised annually.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details: No

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The Department has succeeded in generating a lot of interest towards Social Sciences subjects for the students staying in and around the region. Given the huge response to B.A. (Hons.) programme and record achievements of students like Rukmani Riar who stood 2nd in UPSC 2012

examination, the department raised the intake of students to 100 from 50 since 2011-12 every year. Some of the best students of the region join this course. Students have excelled at All India Level Exams by reaching up to JNU, New Delhi, DU, Delhi, Jamia Milia Islamia, New Delhi, TISS, Mumbai including IIM, New Delhi for pursuing Masters Programme.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Parameter	S(Strength)	W (Weakness)	O (Opportunity)	T (Threat)
Faculty Strength	Teaching Programmes	Only three regular teachers are there, whereas five more teachers are needed.	Department would be in position to offer more specialisations to the student. Given the support another Section can be started.	Department to a large extent would remain dependent on guest faculty and can't be sustained on long term basis.
Student Strength	Students from diverse backgrounds from North West region of the country.	Quality of students is good. However, there remains a scope for further improvement.	A large number of good students can be prepared for pursuing their higher education/ research.	Course needs restructuring so that more students need to be retained.
Teaching Practices/aids	Department has Computer lab and original software like SPSS.	Need to install MMP inside Classrooms.	A live and interactive Session for Students can be provided. Scope for more Extension lectures is there.	Teachers need to adapt themselves all new technologies so as to generate more interest on part of students.

System of Examination /evaluation	Choice Based Credit System	Occasionally leading to delays because of guest faculty.	Student has ample opportunity to improve their performance.	More orientation/ training for adopting CGPA system needed.
Students' Evaluation of Teachers/feedback	Department is following this practice.	Need to carry out this exercise in a Centralised manner. Students' need to be trained further.	Need to practice it in more objective manner. Assessment need to be shared with teacher instead of using for other purposes.	Job Insecurity affects the performance of teacher concerned.
Research	Graduating students participate in Surveys/Research related works.	Lack of faculty hampers offering of P.G. Course as well as research activities.	Multi disciplinary nature of the Department can be further strengthened and it can be turned into an excellent research centre.	The Course need to be structured meeting the needs of Academic as well as industries. The P.G. Programme should be linked/integrated with U.G. Programme.

52. Future plans of the Department.

Bachelor in Social Sciences (Honours School) an upgraded, integrated and interdisciplinary course focusing on Political Science, History, Economics, and Sociology as Majors, and Computer Application, English, Punjabi and General Studies as compulsory Minor subjects. Masters Programme shall be consolidated and strengthened integrating with B.A.(H.S.) programme.

1. **Name of the Department:** Sociology
2. **Year of establishment:** 1976
3. **Is the Department part of a School/Faculty of the University?:** Yes
4. **Names of programmes offered:** P.G., M.Phil., Ph.D.
5. **Interdisciplinary programmes and departments involved:**
   No. of Programmes: 2
   No. of Departments involved: 22
6. **Courses in collaboration with other universities, industries, foreign institutions, etc. :** None
7. **Details of programmes discontinued, if any, with reasons:** None.
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:** Yes
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	4	3	3
Associate Professors	3	-	-
Lecturer	2	1	1
Temporary Asst. Professors	1	1	1

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designa-tion	Specialization	No. of Years of Expe-rience	No. of Ph.D./M.Phil. students guided for the last 4 years/ Under guidance at present
Paramjit Singh Judge	M.A., M.Phil., Ph.D.	Professor	Social Exclusion Development	30	Done: M.Phil.: 3, Ph.D.: 3 Doing: M.Phil.: 3, Ph.D.: 10
Jasmeet Sandhu	M.A., M.Phil., Ph.D.	Professor	Sociology of Population and Family Studies	33	Done: M. Phil: 1 Doing: M.Phil.: 2, Ph.D.: 8
Gurpreet Bal	M.A., M.Phil., Ph.D.	Professor	Economic Sociology, Gender and Diaspora Studies	25	Done: M.Phil.:5, Ph.D.: 2 Doing: M.Phil.:3, Ph.D.: 8

Neena Rosey Kahlon	M.A., M.Phil., Ph.D.	Assistant Professor	Sociology of Health	7	Done: M.Phil. – 3 Doing: M.Phil.: 2, Ph.D.: 5
Manmohan Singh Gill	B.Sc., M.Sc., Ph.D.	Professor Retired (2013)	Rural Sociology Environment and Society	27	Done: Ph.D.: 4, M.Phil.: 6 Doing: M.Phil.: 2, Ph.D.: 4
R. S. Sandhu	M.A. , MCRP, Ph.D.	Professor Retired (2010)	Sociology of Urban Development, Social Problems	30	Done: M.Phil.: 2 Ph.D.: 3 Doing: Ph.D.: 1
Balwinder Arora	M.A. , Ph.D.	Retired (2011)	Gender Issues, Organisational Behaviour	22	Done: M.Phil.: 2, Ph.D.: 1

12. List of Senior Visiting Fellows, adjunct faculty, emeritus professors

1. Prof. Gyanendra Pandey, Prof. in Social History and Social Anthropology, Emory University, Atlanta, U.S.A. visited the Department and delivered a lecture on 'Subaltern Studies' on 21.1.2008.
2. Prof. B.S. Bolaria, Prof. University of Victoria, British Columbia, Canada visited the Department on 29.1.08.
3. Prof. Satish Sharma, University of Las Vegas visited the Department on 5.3.2008.
4. Prof. Doris Jacobsh, University of Waterloo, Canada, visited the Department and delivered lecture on 8.4.2008.
5. Dr. Anwary Afroza, Associate Prof., Department of Sociology and Corrections, Minnesota State University, Mankato visited the department on April 15, 2008.
6. Prof. Keshav C. Kaistha., Retd. Professor, Panjab University, Chandigarh.
7. Prof. R.N. Sharma, Tata Institute of Social Sciences, Post Box 8313, Sion Trombay Road Deoinar, Mumbai .
8. Dr. Ashok Kaul, Professor, Deptt. of Sociology, Banaras Hindu University, Varanasi
9. B.K. Nagla, Retd. Professor, Deptt. of Sociology, M.D. University, Rohtak, Haryana
10. Mohim Anjum, Retd. Prof., Dept. of Sociology, Jamia Millia Islamia University, Delhi.

13 Percentage of classes taken by temporary faculty – programme-wise Information: P.G.: 10%

14. Programme-wise Student Teacher Ratio

Class	Teacher	Student	Ratio
M.A. (Hons.)-1st sem.	5	23	23:5
M.A. (Hons) – 3rd sem .	4	9	9:4
M.Phil.	4	8	8:4
Ph.D.	3	7	7:3

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:

Post	Sanctioned	Filled
Steno	1	1
Peon	1	1
Prof. Assistant (Library)	1	1

16. Research thrust areas as recognized by major funding agencies Under UGC SAP Scheme DRS-II:

Contemporary Social Issues Concerning:

1. Social Structure and Governance.
2. Population and Health.
3. Gender and Environment.

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

a):

S. No.	Project Title	Funding Agency
1.	Development of Other Backward Classes(OBCs) in Rural Punjab: Issues for Governance	UGC-SAP-DRS-II
2.	Effectiveness of ICDS Programme: A Study of Rural Areas of Punjab.	UGC-SAP-DRS-II
3.	Dynamics of Caste & Land in Agrarian Society of Punjab.	UGC Major Project (8 Lac Approx.)
4.	State of Cities in Punjab: A Case Study of Ludhiana, Jalandhar and Patiala".	UGC (New Delhi) (7 lakh approx.)
5.	Urban Development in Punjab Challenges and Strategies	Punjab Governance Reforms Commission, Govt. of Punjab.
6.	Participation and Performance in Sports: A Sociological Study of Sports Person of GNDU.	UGC, New Delhi. (3 lakh)

b): None

18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration**
    None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.**
    1. UGC-SAP – 12 Lac aprox.
    2. ICCSR – Guru Nanak Journal of Sociology: 20000/- per year
20. **Research facility/centre with**
    - State recognition : N.A.
    - National recognition : SAP (DRS-II)
    - International recognition : N.A.
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** N.A.
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national /International):** 18
    - **Monographs**: None
    - **Chapters in Books**: 15
    - **Edited Books**: 5
    - **Books Authored Books:** 7
23. **Details of patents and income generated:** NA
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad**
    1. Prof. R. S. Sandhu, visiting Professor, Panjab University, Chandigarh, and M.D. University, Rohtak.
    2. Prof. Paramjit Singh Judge, visiting Professor, University of Pune, Pune; Mumbai University, Mumbai; Delhi School of Economics, Delhi University; and Centre for the Study of Social Systems, Jawaharlal Nehru University, Delhi.
26. **Faculty serving in**
    a) National committees
    1. Prof. Paramjit Singh Judge was member of UGC committee.
    2. Prof. R. S. Sandhu, Member, Managing Committee, Indian Sociological Society.
    3. Prof. Paramjit Singh Judge, Treasurer and Member, Managing Committee, Indian Sociological Society.

    b) International committees N.A.

    c) Editorial Boards
    1. Prof. Paramjit Singh Judge, Member of Editorial Board of Sociological Bulletin 2009-10, and Guru Nanak Journal of Sociology.
    2. Prof. Jasmeet Sandhu, Member of Editorial Board, Guru Nanak Journal of Sociology.
    3. Prof. Gurpreet Bal, Member of Editorial Board, Guru Nanak Journal of Sociology.

4. Prof. M. S. Gill, Member of Editorial Board, Guru Nanak Journal of Sociology.
5. Dr. Neena Rosey Kahlon, Member of Editorial Board, Guru Nanak Journal of Sociology.

d) any other (please specify)

1. Prof. Paramjit Singh Judge, Member, Advisory Committee, Centre for the Study of Social Exclusion and Inclusive Policy, Banaras Hindu University, Varanasi.
2. Prof. Paramjit Singh Judge, Member Advisory Committee, Centre for the Study of Social Exclusion and Inclusive Policy, Veer Narmad South Gujarat University, Surat.
3. Prof. Paramjit Singh Judge, member Advisory Committee, Special Assistance Programme, M.D. University, Rohtak
4. Prof. Jasmeet Sandhu. Member of Board of Studies in Sociology, Kurukshetra University, Kurukshetra.
5. Prof. Gurpreet Bal was Member of Board of Studies in Sociology, Punjabi University, Patiala.

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

Prof. M. S. Gill organised refresher course on "ID Course on Research Methodology" on 20-9-2012 to 10-10-2012

28. Student projects

• Percentage of students who have done in-house projects including inter- departmental projects: 100%

• Percentage of students doing projects in collaboration with other universities /Industry / institute: None

29. Awards / recognitions received at the national and international level by

• Faculty:

1. Prof. Gurpreet Bal was awarded Faculty Fellowship under Indo-Hungarian Educational Exchange Programme 2011-12.
2. Prof. Paramjit Singh Judge was offered and he has joined as Dr. B. R. Ambedkar National Fellow of Indian Council of Social Science Research, New Delhi. (2013)
3. Prof Gurpreet Bal has been nominated on the first Court of Central University of Punjab for three years

• Doctoral / post doctoral fellows : None

• Students : None

30. Seminars/ Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.

1. Organized a Seminar on "Globalizing Inequalities, Population Dynamics and Sustainability" held on 6-7 March 2008 in the Department of Sociology, GNDU, Amritsar. Outstanding Participants: G.S. Bhalla (JNU, New Delhi), Pritpal Singh (IIT, New

Delhi), S.L. Sharma (P.U. Chandigarh), B.K. Nagla (M.D. University, Rohtak)

2. One Day UGC Workshop was organized on 25.2.2008 to "Reformulation of Graduation Level Syllabi in Sociology". Outstanding Participants: S. L. Sharma (P.U. Chandigarh), Prof. J.K. Panda and Prof. S.K. Sharma.
3. Organized a National Seminar on "Good Governance and Development" held on March 7-8, 2009 in the Department of Sociology, GNDU, Amritsar. Outstanding Participants: Parmod Mahajan (Chairman, Governance Reforms Commission, Govt. of Punjab, R.N. Sharma (TISS, Mumbai), M.L. Chotani (Chief Planner India), Surjit Singh (Chief Town Planning, Haryana).
4. Organized a National Seminar on the theme "Urban Development in India: Challenges for Good Governance" held on 28-29 October, 2010 in the Department of Sociology, GNDU, Amritsar under the Special Assistance Programme of the UGC, DRS-II. Outstanding Participants: R.N. Sharma (TISS, Mumbai), Vivek Kumar (Mumbai Uni.), Subramaniam Chandran (V.M. Uni., Salem), S. K. Sharma (H.P.U. Shimla).
5. Organised 15th Conference of North West Indian Sociological Association on November 17–18, 2011. Prof. K Gopal Iyer (Panjab Unversity, Chandigarh)
6. Organised a Seminar on "Making Social Sciences Matter: Identifying Alternative Strategies for Popularizing Social Sciences in Universities" on 26-27 March, 2012.
7. Organised a Seminar on "Dissent, Protest and Governance: Mapping the Symbolic Universe of Social Movements and the Liberal State in Contemporary India" on 16-17 November, 2012 under the SAP (DRS-II) of UGC. Outstanding Participants: Sudhir Chandra (Surat), Gopal Guru (JNU, New Delhi), N. Jayaram (TISS, Mumbai), B. K. Nagla (MDU Rohtak).

31. Code of ethics for research followed by the departments

All the research students at M.Phil. and Ph.D. levels are given lectures on Research Ethics and Plagiarism.

32. Student profile programme-wise:

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
M.A. Hons.	36	5	18	100	100
M.Phil.	19	0	08	100	100
Ph.D. (Soc.)	21	1	06	100	100

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M.A. – 1st sem	92	4	4	0
M.A. - 3rd Sem	100	0	0	0
M.Phil.	25	0	75	0
Ph.D.	57	0	43	0

34. How many students have cleared Civil Services and Defence services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise. UGC NET: 24

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	Not Applicable
P.G. to M.Phil.	12
P.G. to Ph.D.	57
Ph.D. to Post-Doctoral	0
Employed • Campus selection • Other than campus recruitment	8 students
Entrepreneurs	1 student

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	17
from other universities within the State	83
from universities from other States	0
from universities outside the country	0

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: None

38. Present details of departmental infrastructural facilities with regard to

a) Library : 5675 books
b) Internet facilities for staff and students : Yes
c) Total number of class rooms : 3
d) Class rooms with ICT facility : None
e) Students' laboratories : Computer Lab
f) Research laboratories : N.A.

39. List of doctoral, post-doctoral students and Research Associates a) from the host institution/university: None

b) from other institutions/universities: None

40. Number of post graduate students getting financial assistance from the university.

Year	Financial Assistant	Fee Concession
2008-09	2	2
2009-10	2	2
2010-11	6	---
2011-12	6	3
2012-13	3	4

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology. N.A.

42. Does the department obtain feedback from?

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
Yes. Regular meetings of Board of Studies are held and syllabi are revised**.**

b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
Yes. To revise the syllabi.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback? No

43. List the distinguished alumni of the department (maximum 10)

1. Harnek Singh: Retired professor, Punjabi Agriculture University, Ludhiana.
2. Balwinder Arora: Retired as Professor, Dept. of Sociology, Guru Nanak Dev University, Amritsar
3. Balwinder Singh: Head, Guru Ramdas School of Planning, Guru Nanak Dev University, Amritsar
4. Satinder Singh: Deputy Labour Commissioner, Ministry of Labour Welfare, Govt. Of India.
5. Samson Masih: Distt. Coordinator, Youth Welfare, Jalandhar.
6. Gudeep Rishima: Registrar, Vivekanand Institute of Engineering, Jaipur.
7. Jaspal Singh: Govt. of Punjab, Chandigarh (PCS)
8. Rajesh Kalia: Deputy Registrar, Guru Nanak Dev University, Amritsar
9. Kawaljit Kaur : Child Development Project Officer.
10. Baljinder Kaur :Judge, Mukerian.

44. Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.

1. Special Lectures : As at serial no. 12.
2. Workshops/Seminar : As at serial no. 30.
3. Field visits to various parts of the country for which there is special

allocation in the budget. (Rs. 20000/- per year.)

45. **List the teaching methods adopted by the faculty for different programmes.**
    Besides, lectures, discussions and student presentation, practical training of credit 1 in each semester in research is being given to all the students. They jointly work on a problem, collect data, analyse and write a report.
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
    Through regular exams and practical training.
47. **Highlight the participation of students and faculty in extension activities.** None
48. **Give details of "beyond syllabus scholarly activities" of the department.**
    1. Deliver lectures at various forums such as clubs, youth programmes to raise awareness about social issues and social problems.
    2. Participants in live T.V. Shows focusing on social problems, social change and social policy.
    3. Write in news papers etc on various issues especially in vernacular language for general awareness.
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details.:** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
    1. Faculty is involved in research on social issues of contemporary relevance such as: backward classes, drug addiction, female foeticide, health, problems of women, elderly and children etc.
    2. UGC has awarded the department Special Assistance Program DRS – I from 2004-2009 on "Quality of life", and DRS II on Contemporary Social Issues Concerning: Social Structure and Governance, Population and Health, and Gender and Environment. (2009-14)
    3. The Department is bringing out "Guru Nanak Journal of Sociology" since 1980 uninterruptedly. Its 34th volume is under print.
    4. Organizes seminars to provide forum for discussion among scholars in other universities.

51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**
    a) Strength:
    - The Department has got UGC, Special Assistance Program (DRS II).
    - It is publishing a Research Journal i.e. Guru Nanak Journal of Sociology since 1980.
    - We are carrying out research in all the areas of contemporary Social relevance.
    - Practical/Field training being given all students.

- Deliver public lectures, participate in live TV shows and write in vernacular language.

b) Weakness

- Faculty strength is very low. There are only 4 permanent teachers. We are Unable to offer any optional papers.
- Student strength at Post graduation level is less.
- Face problems at the level of administration.
- Sociology is not a school subject.
- Unable to use grants due to late availabilities of funds.

c) Opportunity

- Faculty can be strengthened and vacant posts can be filled.
- Numbers of Students at Post-Graduate level can be increased.
- Teaching and Research can be improved.
- We are getting research students from various parts of India.
- Not able to update class rooms with ICT facility.

d) Challenges

- May lose SAP and funding due to inadequate faculty.
- No intake of young teachers at Lecturer level. The entire existing faculty will retire in another 6-7 years.
- Not able to utilise grants fully due to delay in getting grants.
- Maintenance of electronic equipments.
- Non availability of books and reading material in Hindi and Punjabi.

52. **Future plans of the department.** The Department plans to improve the student's strength. All the faculty members are playing active role to raise awareness about Sociology and its related careers. Efforts are also being made to make Sociology useful for problem solving by taking social issues for research such as Drug Addiction, Female Foeticide, Violence, Health Issues, Entrepreneurship, rural Development and problems of Elderly etc.

1. **Name of the Department:** Centre for the Study of Social Exclusion and Inclusive Policy
2. **Year of Establishment**: 2007
3. **Is the Department part of a School/Faculty of the university?** No
4. **Names of Programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt. etc.):** None
5. **Interdisciplinary Programmes and Departments involved:** None
6. **Courses in Collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of Programmes discontinued, if any, with reasons:** None
8. **Examination System: Annual/Semester/Trimester/Choice Based Credit System:** None
9. **Participation of the department in the courses offered by other departments:** The faculty members have concurrently been teaching in the various departments of the University such as in All India Service Centre (AIS), Department of Sociology and Department of Punjabi Studies. At present only one of the faculty members is teaching a Masters Level course in Department of Sociology.
10. **Number of Teaching posts sanctioned, Filled and actual Professors/ Associate Professors/Asst. Professors/others)**

Designations	Sanctioned		Filled		Actual (including CAS & MPS)
	2007	2013	2007	2013	
Professor / Coordinator	1	1	1	1	1
Associate Professors	2		0	0	
Asst. Professors/ Lecturer-cum Assistant Director	3	3	3	3	3
Others: Research Assistant Research Associate	2 2	2 1	1 0	1 0	1 0

11. **Faculty profile with name, qualification, designation, area of specialization, Experience and research under guidance**

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. student guided for last 4 years
Faculty Upto 2012:					
Harpreet Kaur	Ph.D.	Lecturer-cum Assistant Director	Borderlands and Punjab Politics	5	None

Rachana Sharma	Pursuing Ph.D.	Lecturer-cum Assistant Director	Entrepreneurship, Globalization and Caste Studies	1.5	None
Manjit Kaur	Ph.D.	Research Associate	Sikh Identity and Punjab Politics	5	None
Bhupinder Thakur	Pursuing Ph.D.	Research Assistant	Punjab Politics	5	None
Rajwinder Singh	M.Phil.	Research Assistant	Punjab Politics	3	None
Faculty 2013:					
Gurpreet Bal	Ph.D.	Coordinator	Entrepre-neurship, Gender Studies	28	None
Rachana Sharma	Ph.D.	Lecturer-cum Assistant Director	Entrepre-neurship and weaker sections	3	None
Manjot Kaur	Ph.D.	Lecturer-cum Assistant Director	Partition Studies	8	None
Sabina Singh	M.A., M.Phil., Pursuing Ph.D.	Lecturer-cum Assistant Director	Anthropology and Public Health	½	None
Bhupinder Thakur	M.A., M.Phil., Pursuing Ph.D.	Research Assistant	Punjab Politics	6	None

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None
13. **Percentage of classes taken by temporary faculty- programme wise information:** NA
14. **Programme-wise Student Teacher Ratio:** NA
15. **Number of academic support staff (technical) and administrative staff: Sanctioned, filled and actual:** Academic Support Staff: One (sanctioned and filled)
16. **Research thrust areas as recognized by major funding agencies:** Inequality, Discrimination, Exclusion and Inclusion

17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise:** NA
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** NA
19. **Departmental Projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**: NA
20. **Research facility/Centre:**
    - **State recognition**: No
    - **National recognition**: No
    - **International recognition**: No

    The Centre has been established under the XIth plan of UGC and so entire funding is from the UGC.
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** NA
22. **Publications*:**
    - **Number of papers published in peer reviewed journals: National:** 2**, International:** 4**, Regional**: 5 **Total:** 11
    - **Monographs: Working Papers**: 5
    - **Research Reports**: 2
    - **Chapters in Books:** 3
    - **Edited Books:** 01 Judge, Paramjit (2014) *Mapping Social Exclusion in India: Caste, Religion and Borderlands,* Delhi: Cambridge University Press. ISBN: 9781107056091
    - **Books with ISBN with details of publishers: -**
        1. Judge, Paramjit (2011), Changing Dalits: Explorations Across Time : Rawat
23. **Details of patents and income generated**: NA
24. **Areas of consultancy and income generated**: NA
25. **Faculty selected nationally/internationally to visit other laboratories /Institutions/industries in India and abroad:** One of the faculty member visited University of Frazer Valley, BC, Canada.
26. **Faculty serving in a) National committees b) International committees c) Editorial Boards d) any other (please specify):** None
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs):**
    One General Orientation Course- Attended by Dr Manjot and Dr Rachana
    Three Methodology Workshops- Attended by Dr Rachana and Bhupinder Thankur
28. **Student projects**
    - **Percentage of students who have done in-house projects including inter- departmental projects:** NA
    - **Percentage of students doing projects in collaboration with other universities /Industry / institute:** NA

29. Awards / recognitions received at the national and international level by

- **Faculty:** None
- **Doctoral/Post Doctoral fellows**: NA
- **Students:** NA

30. Seminars/Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any:

1. National Seminar on 'Development, Disparities and Patterns of Social Exclusion in India', 8-9 November, 2010.

31. Code of ethics for research followed by the departments-

The centre serves to disseminate knowledge and review knowledge through active engagement in research. For this, it adopts an interdisciplinary approach to investigate as well as analyse the forms and nuances of exclusion and the excluded. The centre is committed to the principle of objectivity, originality and responsible documentation in accordance with accepted technical standards of research. The centre also promotes the spirit and sense of equality, integrity and inclusiveness through its work thereby balancing risks against the benefits.

32. Student profile programme-wise: NA

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female

33. Diversity of students: NA

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise: NA

35. Student progression: NA

Student progression	Percentage against enrolled
U.G. to P.G.	
P.G. to M.Phil.	
P.G. to Ph.D.	
Ph.D. to Post-Doctoral	
Employed • Campus selection • Other than campus recruitment	
Entrepreneurs	

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	3
from other universities within the State	1
from universities from other States	1
from universities outside the country	-

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the Assessment period: Three

38. Present details of departmental infrastructural facilities with regard to

a) Library- One (Merged with Library of Department of Sociology)

b) Internet facilities for staff and students- All Faculty members have PCs and Internet

c) Total number of class rooms: NA

d) Class rooms with ICT facility: NA

e) Students laboratories: NA

f) Research laboratories: NA

39. List of doctoral, post-doctoral students and Research Associates: a) from the host institution/university b) from other institutions/universities: NA

40. Number of post graduate students getting financial assistance from the university: NA

41. Was any need assessment exercise undertaken before the evelopment of new programme(s)? If so, highlight the methodology: NA

42. Does the department obtain feedback from:

a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?** NA

b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback**? NA

c. **alumni and employers on the programmes offered and how does the department utilize the feedback?** NA

43. List the distinguished alumni of the department (maximum 10): NA

44. Give details of student enrichment programmes (special lectures/ workshops /seminar) involving external experts: NA

45. List the teaching methods adopted by the faculty for different programmes: NA

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

The centre contributes in the dissemination of knowledge through its research activities and also by putting it into practice through corridor working. The centre promotes healthy peer-working environment. The research work is peer-reviewed and authentic suggestions are given. Yearly progress of the faculty is seen. Along with this, the faculty is

committed to work in various thrust areas and also participates in the various academic activities as well as contributes to community building by participating in various extension services. The department has distinction of hosting a wide array of scholars from India and abroad.

47. **Highlight the participation of students and faculty in extension activities:**
The faculty members have been participating in various community development services. As a part of action research, Dr Harpreet Kaur, Dr. Manjit Kaur and Dr. Rachana Sharma participated in World Bank Project on 'Drinking Water and Sanitation in Rural Punjab'. The faculty delivered lectures in various villages in Amritsar as well as attended meetings organized by District Programme Management Committee. The faculty is also teaching Masters and Bachelors level courses in Department of Sociology and Department of Punjabi Studies.

48. **Give details of "beyond syllabus scholarly activities" of the department:**
Participation of members in social activities with civil society organizations.
Dr Rachana Sharma has been appointed as one of the committee members for 'Anti-Sexual Harassment wing' at Government Medical College, Amritsar and has been working with local NGOs. Dr Manjot is working as volunteer with Mainstream Rehabilitation Society for Disables.

49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details.** NA

50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied:**
The centre through its research work has contributed in investigating certain socially relevant issues in the rural as well as urban Punjab, especially issues of border areas which had since long been under cover. In addition, three significant areas; religion, caste and politics were explored and touched upon to contour the static's, dynamics and conflict in Punjabi society.

51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department:**
Strengths:
    1. Independent and Interdisciplinary Research Centre of Social Sciences
    2. Strongly committed to regular publications and projects
    3. Autonomy in research
    4. Good peer-environment
    5. Empirical Work centre for contemporary policy review

Weaknesses:
    1. Financial dependence of the Centre upon UGC grants,
    2. No collaboration with other research institutes
    3. No supporting funds to the centre
    4. Appointment of staff on contract basis

5. Delay in grants by UGC and release by University hinders work

Opportunities:

1. One of the main research centre in Punjab
2. New research students gain practical knowledge of research when they join as field investigators.
3. The centre can function well if certain interaction or collaboration takes place with other research institutions
4. The centre offers immense opportunities to explore key areas of social relevance, which could help in making societies more inclusive and just.

Challenges:

1. Financial status of the centre is not clear for the future.
2. Sustenance of the centre.
3. Not favourable attitude of university.
4. Job security of staff is not clear.
5. UGC wants state governments to adopt these centres but state universities are not willing to do so without the support of the state government.

52. Future plans of the Department:

In the current programme, different projects have been taken up on the contemporary areas of relevance focusing more upon the urban social environment. An endeavour will also be made to work in collaboration with some institutions or agencies so that the research can contribute to both theory and praxis. In this direction the centre is in talk and engagement with other institutes. It is also proposed that in the coming years, the centre will introduce some interdisciplinary courses on exclusion and inclusion for students of various departments. Along with this, the faculty will work dynamically in the various areas and establish rapport with other social sciences departments. Some of the main themes taken up for the current round includes: work on partition memories, Market in Amritsar city, Health in Urban Amritsar city along with other related issues on social policy.

Details of Research Done (2008-2013)

Research Reports

1. Paramjit S. Judge: 'Study of Exclusion in the Rural Punjab', Guru Nanak Dev University Press, Amritsar, 2010
2 Harpreet Kaur: 'Study of Exclusion in the Border Belt of Punjab', Guru Nanak Dev University Press, Amritsar, 2010

Working Papers

1 Rachana Sharma: Social Exclusion of Dalits in an Urban Space, Guru Nanak Dev University Press, Amritsar, 2010

2 Paramjit S. Judge and Manjit Kaur: Politics of Sikh Identity: Understanding Religious Exclusion, Guru Nanak Dev University Press, Amritsar, 2010

3 Harpreet Kaur: Baptism by fire, Survival by Grit: Life in the Borderbelt of Punjab, Guru Nanak Dev University Press, Amritsar, 2010
4 Paramjit S. Judge: Murder of a Saint and Dalit Protest: Politics of Construction of Exclusive Identities, Guru Nanak Dev University Press, Amritsar, 2010
5 Paramjit S. Judge: Between Exclusion and Exclusivity: Dalits in Contemporary India, Guru Nanak Dev University Press, Amritsar, 2010

NAMDHARI GURU RAM SINGH CHAIR

The Namdhari Guru Ram Singh Chair was established in 2001. The Chair was started with the objective to undertake studies on the contributions of Namdhari Sikhs to the national movement, the promotion of Punjabi language, literature, sports and devotional classical music etc. It also proposes to collect the archival sources pertaining to the Namdhari Sikhs under the colonial rule, generate new demographic and ethnographic information and study the extant beliefs and practices of the Namdhari Sikhs of the Punjab and Diaspora since the inception of the Kuka movement in late 19th century. In this context, the Chair has executed several projects and has also produced books and articles. The Chair has also been organising special lectures, symposia and seminars for developing new perspectives on the past and the present of the Namdhari Sikhs. Besides, for disseminating latest information about the Namdhari Sikhs, the Chairman has been contributing research papers to the forums of professional historians periodically and delivering popular lectures in the colleges. Professor Joginder Singh occupies the Chair.

1. Publications from 2008

(i) Books Authored: 04

(ii) Chapters in Books: 07

(iii) Research Articles: 06

(iv) Major UGC Project : 01-02-2011 to 31-01-2013.

Contemporary Sikh Sants and Babas of the Punjab: A case study of the Neeldhari Sant Khalsa and Nanaksar Sects.

(v) Participation in Seminars and Conferences:

Prof. Joginder Singh

- *Uprising of 1857 and Kuka Movement: An Analysis of Their Links,* 1857: Revisited, three-day Conference, Department of History, Kurukshetra University, Kurukshetra January 16-18, 2008.
- In commemoration of 150 years of "Kuka Andolan", delivered lectures to the faculty and students of DAV College, Amritsar and Guru Nanak College, Moga on 31st October, 2007 and 22nd January, 2008 respectively.
- *The Sikh Historiography of 20th Century Punjab: Some of its Problematic Concepts,* "Guru, Granth and Panth: Situating Sikh Movement in South-Asian Context", Department of Sri Guru Tegh Bahadur Khalsa College, University of Delhi from February 4-5, 2008.
- *A Note on the Social Background of the Namdhari Sikhs of Punjab*, "Key Note Address" Seminar (one-day) on "150 years of Namdhari Movement: A Recontemplation to Commemorate", Department of Punjab Historical Studies, Punjabi University, Patiala on May 7, 2008.
- *Demographic Changes during Pre and Post Colonial Periods: A Study of Fracturing Pluralistic Society and Polity in Punjab,* one-day

Seminar on "Exploring Historical Perspective on Pluralistic Society and Polity in Punjab", DAV College, Abohar, October 25, 2008

- Inaugural Comments on *Kuka Movement: History, Literature and Cultural Perspectives,* Panjab University Chandigarh, November 25, 2008.
- Inaugural address**,** National Seminar on '*The Heritage of Kuka Movement',* Guru Gobind Singh Chair, Kurukshetra University, Kurukshetra on 18th February, 2009.

* A Note on the Transformation in the Namdhari Ideology in early 20th century, 41st Session of Punjab History Conference, Punjabi University, Patiala, March 14-16, 2009, pp. 282-289.

(v) Supervision of Ph.D. Thesis

Babusha Maingi *The Namdhari Sikhs of Punjab (1947-2001)*, Guru Nanak Dev University, Amritsar (2013).

(vi) International/National Seminars/ Lectures organized by the Chair

"Namdhari Lehar, GNDU Amritsar, on September 17, 2008.

National Seminar on Reflections on Ghadar Movement, Guru Nanak Dev University, Amritsar, November 14-15, 2013.

1. **Name of the Department:** Commerce and Business Management
2. **Year of establishment**: 1980
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.):**P.G.: Four Courses, Ph.D.
5. **Interdisciplinary programmes and departments involved**: CSE & ECE
6. **Courses in collaboration with other universities, industries, foreign institutions, etc**.: None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:** One interdisciplinary & one compulsory subject of ECE taught
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	2	--	4
Associate Professors	3	--	7
Asst. Professors	13	7	7

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr. Raghbir Singh	Ph.D.	Professor (Re-employed)	Marketing Management	38 years	Ph.D.- 5
Dr. Fulbag Singh	Ph.D.	Professor	Corporate Finance	34 years	Ph.D.- 4
Dr. G.S. Bhalla	Ph.D.	Professor	Taxation and Finance	32 years	Ph.D.- 1

Dr. A.S. Sidhu	Ph.D.	Professor	International Business & Human Resource Mgt.	26 years	Ph.D.- 1
Dr. Bikramjit Singh Hundal	Ph.D.	Associate Professor	Marketing Management	28 years	Ph.D.- 3
Dr. Balwinder Singh	Ph.D.	Associate Professor	Accounting & Finance	23 years	Ph.D.- 7
Dr. Lakhwinder Singh	Ph.D.	Associate Professor	Human Resource Management	22 years	Ph.D.- 3
Dr. Bikramjit Singh Mann	Ph.D.	Associate Professor	Marketing Management & Strategic Management	17 years	Ph.D.- 3
Dr. Jaspal Singh	Ph.D.	Associate Professor	Finance	18 years	Ph.D.- 3
Dr. Mandeep Kaur	Ph.D.	Associate Professor	Marketing & Finance	18 years	Ph.D.-2
Dr. Sangeeta Arora	Ph.D.	Associate Professor	Banking and Finance		Ph.D.- 2
Dr. Sumninder Kaur Bawa	Ph.D.	Assistant Professor	Finance	13 years	Ph.D.- 2
Dr. Jasveen Kaur	Ph.D.	Assistant Professor	Services Marketing Strategy	18 years	---
Mr. Vikram	MBA	Assistant Professor	Marketing Management	12 years	---
Dr. Harsandeep Kaur	Ph.D.	Assistant Professor	Marketing Management	6 years	---
Dr. Pavleen Kaur	Ph.D.	Assistant Professor	Marketing Management	13 years	---
Dr. Gurpreet Randhawa	Ph.D.	Assistant Professor	Human Resource Management	12 years	---
Dr. Aparna Bhatia	Ph.D.	Assistant Professor	Finance	13 years	---
Ms. Rekha Handa	MBA	Assistant Professor (Contractual)	---	---	---
Dr. Reema Sharma	Ph.D.	-do-	---	---	---

Mr. Gunnvant Singh Saini	MBA	-do-	---	---	---
Ms. Harsimran Kaur	MBA	-do-	---	---	---
Dr. Saurabh Grover	Ph.D.	-do-	---	---	---
Ms. Supreet Kaur	MBA	-do-	---	---	---
Ms. Divya Mahajan	MBA (FS)	-do-	---	---	---

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** One
13. **Percentage of classes taken by temporary faculty – programme-wise information PG:** 29%
14. **Programme-wise Student Teacher Ratio** 10:1 (approx)
15. **Number of academic support staff (technical) and administrative staff:** sanctioned, filled and actual Sanctioned - 11; actual & filled - 0
16. **Research thrust areas as recognized by major funding agencies**: None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise**: None
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**: None
20. **Research facility / centre with**:
    - **State recognition**- Nil
    - **National recognition**- Nil
    - **International recognition**- Nil
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** NA
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national/International):** 215
    - **Monographs** Nil
    - **Chapters in Books:** 3
    - **Edited Books:** Nil
    - **Books Authored:** 3
23. **Details of patents and income generated:** NA
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally /internationally to visit other laboratories /Institutions/industries in India and abroad:** None

26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify): None
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs)**: Yes
28. **Student projects**
    • Percentage of students who have done in-house projects including inter- departmental projects: ZERO
    • Percentage of students doing projects in collaboration with other universities/Industry/institute: 62.5%
29. **Awards / recognitions received at the national and international level by**
    • Faculty: None
    • Doctoral / post doctoral fellows: None
    • Students: None
30. **Seminars/Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any**.: None
31. **Code of ethics for research followed by the departments**
32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
P.G. MBA (Sem 1)	15	3	9	continuing	
P.G. MBA (Sem III)	22	11	9	100 (continuing)	100
P.G. MBA (Passed Out)	28	11	16	100	100

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
P.G. (MBA)	91.6	8.33	NIL	NIL
P.G. (MBA)	89.4	10.53	NIL	NIL

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise**.: 50
35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	NIL
P.G. to M.Phil.	NIL
P.G. to Ph.D.	11

Ph.D. to Post-Doctoral	NIL
Employed • Campus selection • Other than campus recruitment	 5 7
Entrepreneurs	2

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	66.7%
from other universities within the State	33.3%
from universities from other States	-
from universities outside the country	-

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: None

38. Present details of departmental infrastructural facilities with regard to

a) Library: Yes

b) Internet facilities for staff and students: Yes

c) Total number of class rooms: 3

d) Class rooms with ICT facility: None

e) Students' laboratories: 1

f) Research laboratories: NA

39. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university: 50

b) from other institutions/universities: NA

40. Number of post graduate students getting financial assistance from the university: 5

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:. No

42. Does the department obtain feedback from?

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? Yes

b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? Yes

c. alumni and employers on the programmes offered and how does the department utilize the feedback?

43. List the distinguished alumni of the department (maximum 10)

44. Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts: None

45. List the teaching methods adopted by the faculty for different programmes. Lectures, case studies, assignements, seminars projects, presentations

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored**? Minors, quiz, assignmnents, major exams
47. **Highlight the participation of students and faculty in extension activities**. NSS outreach activities, campus events
48. **Give details of "beyond syllabus scholarly activities" of the department.** Case Studies, Presentations
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details**. - No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied**. None
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

    STRENGTHS:
    1. Merit position in GNDU
    2. Continuous Evaluation of students
    3. Infrastructure
    4. Experienced faculty
    5. Provision of fee concessions & scholarships

    WEAKNESSES:
    1. Lack of Regular faculty / Senior Faculty & Visiting Faculty
    2. Lack of Publications & Research work
    3. Less field visits & workshops
    4. Developmental stage of resource pool Library
    5. Less co-curricular activities and limited participation by students

    OPPORTUNITIES:
    1. Tapping of local colleges for quality students
    2. Infrastructure of research available
    3. Adding IT specialisation in co-ordination with CSE
    4. Conducting workshops in-house and in surrounding campuses

    CHALLENGES:
    1. Administrative staff constraint
    2. Creating brand presence
    3. Generating placements for students upon course completion
    4. Construction additional floor in progress

1. **Name of the Department:** Punjab School of Economics
2. **Year of establishment:** 1974
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered:**
   (a) B.Sc. (H.S.) in Economics
   (b) M.Sc. (H.S.) in Economics
   (c) Master of Business Economics (Hons.)
   (d) Ph.D.
5. **Interdisciplinary programmes and departments involved:**
   Interdisciplinary papers (ID) at U.G./P.G./Ph.D. levels
6. **Courses in collaboration with other universities, industries, foreign institutions, etc:** None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:** None
10. **Number of teaching posts sanctioned, filled and actual (Professors /Associate Professors/Asst. Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	3	-	7
Associate Professors	5	2	3
Asst. Professors	11	11	3

* on contract

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designa-tion	Specialization	Years of Experi-ence	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr. Paramjeet K. Dhindsa	Ph.D.	Professor	Agriculture Economics, Indian Economic Problems	34	-
Dr. Parminder Singh	Ph.D.	Professor	MicroEconomics, Development & Planning, Industrial Economics, Comparative Economics	33	04 (Ph.D.)

Dr. Vikram Chadha	Ph.D.	Professor	Industrial economics (economics of Innovation & New Technology, Labour Economics, Transfer of Technology	36	02 (Ph.D.)
Dr. Sharanjit S. Dhillon	Ph.D.	Professor	Macro-Economics, Economics of Development, Operation Research, Human Resource Development	29	02 (Ph.D.)
Dr. Paramjit Nanda	Ph.D.	Professor	International Economics, Money & Banking, Indian Economy	32	02 (Ph.D.)
Dr. Kuldip Kaur	Ph.D.	Professor	Microeconomics, Industrial Economics, Advertising & Sales Management	27	02 (Ph.D.)
Dr. Neena	Ph.D.	Associate Professor	Development Economics, Industrial Labour Economics and Industrial Relations, Mathematics for Economists, Operations Research	25	03 (Ph.D.)
Dr. Inderpal Kaur	Ph.D.	Associate Professor	Industrial Economics, Environment Economics, Consumer Behaviour & Marketing Management, Business Policy	24	01 (Ph.D.)
Dr. Sunil Kumar (On leave)	Ph.D.	Associate Professor		12	-
Dr. Baljit Kaur	Ph.D.	Assistant Professor	Public Finance, Quantitative Economics, Macroeconomics	09	-

Dr. Swati Mehta	Ph.D.	Assistant Professor	Economics of Technology & Innovation, International Technology Spillovers, Development Economics	08	-
Dr. Amarjit S. Sethi (Re-employed)	Ph.D.	Professor	Quantitative Economics, Econometrics, Theoretical and Applied Statistics; Applied Mathematical Techniques, Operations Research	38	01 (Ph.D.)

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors**
    1. Prof. J.R. Gupta, Department of Economics, Punjabi University, Patiala.
    2. Prof. Joginder Singh, Department of Economics, P.A.U., Ludhiana.
13. **Percentage of classes taken by temporary faculty – programme-wise information**: 10%
14. **Programme-wise Student Teacher Ratio:** 30: 1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:** Technical (2), Administrative (3), Fourth class (3)
16. **Research thrust areas as recognized by major funding agencies**
    Under Special Assistance Programme (SAP) of University Grants Commission, the research thrust area "Employment Generation in Punjab and Physical Infrastructure in Punjab" on which the data bank will be generated.
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.**
    - University Grants Commission, 'Unit Cost, Financing and Quality of Higher Education (General) in Punjab, Rs.6,14,800/- (Dr. Satish Verma)
    - University Grants Commission, 'Relevance of Technology Parks in the Process of Industrialization of Punjab Economy:Problems and Prospects', Rs.6,93,000/- (Dr. Vikram Chadha)
    - Punjab Govt., 'Farmers and Agricultural Labourers' Suicides due to indebtedness in Punjab – Survey of Amritsar, Gurdaspur, Tarn Taran, Jalandhar, Kapurthala, S.B.S. Nagar, Ferozepur', Rs.34.17 lakhs (Dr. Sharanjit Singh Dhillon, Dr. Gian Kaur)

18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.;** total grants received. Funded By UGC, Punjab Govt., ICSSR.
20. **Research facility / centre with**
    - **State recognition:** Yes
    - **National recognition:** No
    - **International recognition:** No
21. **Special research laboratories sponsored by / created by industry or corporate bodies**
    World Bank Depository Library established in the Department.
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national/International)**: 11
    - **Monographs:** Nil
    - **Chapters in Books**: 159
    - **Edited Books:** Nil
    - **Books with ISBN with details of publishers**: 01
23. **Details of patents and income generated:** NA
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad**
    Dr. Sunil Kumar, Associate Professor selected in SAARC University, New Delhi.
26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify)
    - Dr. Paramjeet K. Dhindsa: Member, NAAC Committee
    - Dr. Parminder Singh: Member, Board of Studies, Department of Economics, H.P. University, Shimla and Member, Board of Studies, B.D. Arya Girls College, Jalandhar Cantt.
    - Dr. Sharanjit S. Dhillon: Member, Board of Studies, Deptt. of Economics Ch. Devi Lal University, Sirsa, and Member, Advisory Board (VARTA), Allahabad University, Allahabad.
27. **Faculty recharging strategies (UGC, ASC, Refresher/orientation programs, workshops, training programs and similar programs).**
    Prof. Sharanjit Singh Dhillon organised interdisciplinary Refresher Course in 2009
28. **Student projects**
    - **Percentage of students who have done in-house projects including inter- departmental projects:** M.Sc. 100% (2009), M.B.E. 100% (2009), M.Phil. 100% (2009)

- **Percentage of students doing projects in collaboration with other universities/Industry/institute:** None

29. **Awards / recognitions received at the national and international level by**
    - **Faculty:** None
    - **Doctoral / post doctoral fellows:** None
    - **Students:** None
30. **Seminars/Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any.**
    1) UGC sponsored National Seminar 'Social and Physical Infrastructure in Punjab : Status and Implications for Development' on February 14-15, 2009 under Special Assistance Programme (SAP).
    2) 69th Annual Conference of the Indian Society of Agricultural Economics on December 17-19, 2009.
    3) UGC sponsored National Seminar on 'Employment Generation: Issues and Policies' on March 19-20, 2010 under Special Assistance Programme (SAP).
    4) UGC sponsored National Seminar on 'Infrastructure and Employment Generation in Punjab: Perspectives and Challenges' on March 24, 2011 under Special Assistance Programme (SAP), of University Grants Commission.
    5) UGC sponsored National Seminar on 'Issues Facing the Regional Economy in India : Perspectives and Challenges' on September 21-22, 2012 under Special Assistance Programme (SAP).
    6) National Workshop on 'Time Series Analysis and Forecasting Techniques' on August 13-14, 2011 on self-financing basis.
31. **Code of ethics for research followed by the departments:** All ethical practices as per GNDU/UGC rules are being followed.
32. **Student profile programme-wise:**

Name of the Programme	Applica-tions received	Selected		Pass percentage	
		Male	Female	Male	Female
B.Sc. (H.S.) in Economics	57	20	13	95%	95%
M.Sc. (H.S.) in Economics	83	3	27	100%	100%
M.B.E. (Hons.)	83	4	35	100%	100%
Ph.D.	-	02	08	100%	100%

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other univ. within the State	% of students from univ. outside the State	% of students from other countries
B.Sc. (H.S.) in Economics	60% CBSE/ICSE 40% of PSEB	70% (GNDU) 28% (other univ.)	2%	0%
M.Sc. (H.S.) in Economics	78%	20%	2%	0%
M.B.E. (Hons.)	78%	20%	2%	0%
Ph.D.				0%

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise: National Eligibility Test (NET) - 25 and Indian Economic Services (IES) - 4.

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	50-60%
P.G. to M.Phil.	NA
P.G. to Ph.D.	20%
Ph.D. to Post-Doctoral	NA
Employed • Campus selection • Other than campus recruitment	20%
Entrepreneurs	10%

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	90%
from other universities within the State	10%
from universities from other States	0
from universities outside the country	0

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: All faculty members are already Ph.D.

38. Present details of departmental infrastructural facilities with regard to

a) Library:

6400 + 250 Books (Deptt. Library)
8200 Books (World Bank Depository Library)

In addition, M.B.E./M.Sc./M.Phil. Thesis/Project Reports 800 (approximately)

Indian Journal of Quantitative Economics exchanged with national/international journals : 25

PSE Economic Analyst exchanged with national and international journals: 04

The Departmental Library is facilitated with the newspapers viz. The Economic Times, The Financial Express and The Financial World and Employment News.

b) Internet facilities for staff and students : Available

c) Total number of class rooms **:** Nine (09)

d) Class rooms with ICT facility **:** One (01)

e) Students' laboratories **:** Two (Computer Labs)

f) Research laboratories **:** Not applicable

39. **List of doctoral, post-doctoral students and Research Associates a) from the host institution/university b) from other institutions/ universities:** Total Doctoral Students: 43
40. **Number of post graduate students getting financial assistance from the university.** 20%
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.** Not Applicable
42. **Does the department obtain feedback from?**

    a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? Through regular meetings of the faculty.

    b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? Through interaction among faculty.

    c. alumni and employers on the programmes offered and how does the department utilize the feedback? Initiating the process.
43. **List the distinguished alumni of the department (maximum 10)**
    1. B.S. Ghuman, Professor, Panjab University, Chandigarh.
    2. Guljeet Arora, Principal, Ambedkar College, Delhi University.
    3. Surjit Singh, Director, Institute of Development Studies, Jaipur.
    4. Manoj Sharma, Professor, Business Administration, Panjab University, Chandigarh.
    5. Harbhupinder S.Nanda, IAS, Labour Commissioner, Govt. of Punjab, Chandigarh.
    6. Navtej Singh Suri, Indian Foreign Services (Diplomat)
    7. Sunita Handa Khurana, Joint Secretary, National Commission for Women, New Delhi.
    8. Sanjit Dhami, Associate Professor, Leicester University, U.K.
    9. Rajinder Kumar, IES, Deputy Director, Ministry of Commerce, Govt. of India.

10. Neha, UPSC

44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.** Through Guest Lectures/Workshops/Seminars
45. **List the teaching methods adopted by the faculty for different programmes.**
    Traditional/Overhead Projectors/Multimedia.
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
    Through regular meetings of the faculty.
47. **Highlight the participation of students and faculty in extension activities.**
    Industrial visit
    Educational Tours
    Summer Training Project for M.B.E. (Hons.) Students
48. **Give details of "beyond syllabus scholarly activities" of the department.**
    Extension Lectures, Seminars and Workshops.
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details.:** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
    Preparing candidates for UGC and other competitive examinations. The syllabi are updated accordingly.
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**
    Strenghts
    System of examination/evaluation.
    Research
    Infrastructure for research and teaching.
    Infrastructure for practical training.
    Student strength.
    Weaknesses
    Faculty strength.
    Infrastructure for differently-abled students
    Mode of interaction with administration/various branches.
    Opportunities
    Teaching/practical aids.
    Students' evaluation of teachers/feedback.
    Special provisions for SCs and STs in admission/scholarship.
    Empowering and providing security to women students.
    Challenges
    To get recognition of the School at the international level.
    To make school competent in terms of providing assistance to policy-makers.

52. Future plans of the department.

(i) Imparting quality education and attaining higher education standards in Research.

(ii) Enhancing employability and making academic programmes socially relevant.

(iii) Improving research ambience and providing extension activities.

(iv) Moving progressively to next level of UGC/SAP

(v) Undertaking research on different aspects of Indian Economy in general and Punjab Economy in particular.

(vi) Providing healthy environment to students for personality development through discussions and interactive programmes.

(vii) Preparing students to compete at national and international level in academics and inculcating knowledge for entrepreneurship.

1. **Name of the Department:** Computer Science & Engineering
2. **Year of establishment**: 1988
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt. etc.)**
   ***Ph.D. Programme**:
   Ph.D. Programme in Computer Science & Engineering
   ***PG Programme:**
   M.Tech. (CSE), M.Tech. (SS)
   M.C.A. (TYC), M.C.A. (SS)
   ***Integrated Programme:**
   M.C.A. (FYIC)
   ***UG Programme:**
   B.Tech (CSE), B.Tech (CE)
5. **Interdisciplinary programmes and departments involved:**
   02 Inter-disciplinary programmes offered in even semester: CSL001 (Computer Fundamentals), and CSL002 (Compiler Programming)
   02 Inter-disciplinary programmes offered in odd semester: CSL051 (Operating System), and CSL052 (Internet Application)
   List of Departments where students of the department are enroled for ID courses
   Guru Nanak Studies, Foreign Languages, History, Sociology, Mathematics, Applied Chemical Sciences & Technology, Laws, Sanskrit, Music, and Architecture
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System: Annual/Semester/Trimester/Choice Based Credit System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:**
   Students of Computer Science department opted ID courses from following departments:
   - **Political Science**
   - **Social Science**
   - **Guru Nanak Studies**
   - **Foreign Languages**
   - **History**
   - **Sociology**
   - **Mathematics**
   - **Applied Chemical Sciences & Technology**

- **Laws**
- **Sanskrit**
- **Music**
- **Architecture**

10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	02	02	03
Associate Professors	03	01	02
Asst. Professors	14	11	11
Others	--	--	--

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance:**

Name	Qualifi-cation	Designation	Specialization	Teaching Exp (in years)	No. of Ph.D./M.Phil. students guided for the last 4 years
Dr. Hardeep Singh	Ph.D.	Professor	Software Engineering	26	Ph. D. = 05 M.Tech. = 28
Dr. K. S. Kahlon	Ph. D.	Professor	Parallel Processing	22	Ph. D. = 04 M.Tech. = 28
Dr. Gurvinder Singh	Ph. D.	Professor & Head	Parallel Processing, Computer Networks	17	Ph. D. = 03 M.Tech. = 28
Dr. Rajinder Singh Virk	Ph. D.	Associate Professor	Distributed Databases	17	M.Tech. = 26
Dr. Sandeep Sharma	Ph. D.	Associate Professor	Parallel Processing	17	M.Tech. = 12
Jaswinder Singh	M.C.A	Assistant Professor	Wireless Networks	19	M.Tech. = 28
Dr. Parminder Kaur	Ph. D.	Assistant Professor	Software Engineering	20	M.Tech. = 28
Dr. Kuljit Kaur	Ph. D.	Assistant Professor	Software Engineering	16	M.Tech. = 26
Amit Chhabra	M.Tech.	Assistant Professor	Parallel Computing	11	M.Tech. = 28
Anil Kumar	M.Tech.	Assistant Professor	Parallel Computing	11	M.Tech. = 28

Sandeep Waraich	M.C.A.	Assistant Professor	Software Engineering	07	M.Tech. = 28
Prabhpreet Kaur	M.Tech.	Assistant Professor	Digital Image Processing	02	M.Tech. = 18
Ravreet Kaur	M.Tech.	Assistant Professor	Computer Networks	02	M.Tech. = 18
Ramandeep Kaur	M.Tech.	Assistant Professor	Computer Networks	02	M.Tech. = 18
Kiranbir Kaur	M.Tech.	Assistant Professor	Computer Networks	05	---
Kamaljeet Kaur	M.Tech.	Assistant Professor	Cloud Computing	02	M.Tech. = 06

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors:

- Prof. (Dr.) Avtar Singh, Dept of Electrical & Computer Engineering, San Jose University, U.S.A.

13. Percentage of classes taken by temporary faculty – programme-wise information:

S. No.	Programme Name	Number of Temporary Faculty	Total Number of subjects	% of classes
1.	B.Tech (CSE) – 1st year	4	8	50%
2.	B.Tech (CSE) – 2nd year	6	7	85%
3.	B.Tech (CSE) – 3rd year	4	5	80%
4.	B.Tech (CSE) – 4th year	4	5	80%
5.	B.Tech (CE) – 1st year	5	8	62%
6.	B.Tech (CE) – 2nd year	6	7	85%
7.	M.C.A. (TYC) – 1st year	3	5	60%
8.	M.C.A. (TYC) – 2nd year	3	5	60%
9.	M.C.A. (TYC) – 3rd year	0	3	0%
10.	M.C.A. (SS) – 1st year	1	4	25%
11.	M.C.A. (SS) – 2nd year	2	2	50%
12.	M.C.A. (SS) – 3rd year	2	1	66%
13.	M.C.A. (FYIC) – 1st year	6	8	75%
14.	M.C.A. (FYIC) – 2nd year	5	6	83%
15.	M.C.A. (FYIC) – 3rd year	3	4	75%
16.	M.C.A. (FYIC) – 4th year	3	4	75%
17.	M.Tech. (CSE) – 1st year	1	4	25%
18.	M.Tech. (CSE) – 2nd year	1	2	50%
19.	M.Tech. (SS)– 1st year	1	4	25%
20.	M.Tech. (SS) – 2nd year	1	2	50%

14. Programme-wise Student Teacher Ratio

S. No.	Programme Name	Total Number of Students	Total Number of Teachers	Student Teacher Ratio
1.	B.Tech (CSE) – 1st year	147	8	18:1
2.	B.Tech (CSE) – 2nd year	142	7	20:1
3.	B.Tech (CSE) – 3rd year	113	5	23:1
4.	B.Tech (CSE) – 4th year	113	5	23:1
5.	B.Tech (CE) – 1st year	52	8	7:1
6.	B.Tech (CE) – 2nd year	54	7	8:1
7.	M.C.A. (TYC) – 1st year	58	5	12:1
8.	M.C.A. (TYC) – 2nd year	56	5	11:1
9.	M.C.A. (TYC) – 3rd year	53	3	17:1
10.	M.C.A. (SS) – 1st year	20	4	5:1
11.	M.C.A. (SS) – 2nd year	16	4	4:1
12.	M.C.A. (SS) – 3rd year	16	4	4:1
13.	M.C.A. (FYIC) – 1st year	120	8	15:1
14.	M.C.A. (FYIC) – 2nd year	103	6	17:1
15.	M.C.A. (FYIC) – 3rd year	102	4	25:1
16.	M.C.A. (FYIC) – 4th year	111	4	28:1
17.	M.Tech. (CSE) – 1st year	43	4	11:1
18.	M.Tech. (CSE) – 2nd year	43	2	22:1
19.	M.Tech. (SS)– 1st year	44	4	11:1
20.	M.Tech. (SS) – 2nd year	46	2	23:1

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Post	Sanctioned	Filled	Actual
Academic support staff (technical)	10	04	04
Administrative staff	16	13	13

16. Research thrust areas as recognized by major funding agencies: Software Engineering, Parallel Computing, Computer Networks

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

Dr. Kuljit Kaur, ongoing project from national agency UGC worth Rs. 9, 35, 800/-

18. Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration: None

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

- 01 (Rs. 9,35,800/-)

20. Research facility/centre with

- **State recognition:** None
- **National recognition:** None
- **International recognition:** None

21. Special research laboratories sponsored by / created by industry or corporate bodies : None

22. Publications:

- **Number of papers published in peer reviewed journals (national/International)**: 91
- **Monographs:** None
- **Chapters in Books**: Nil
- **Edited Books**: Nil
- **Books with ISBN with details of publishers:** Nil
- **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCO host, etc.):** None
- **Citation Index – range /average:**
- **Impact Factor – range /average:** 0.306 to 2.31

23. Details of patents and income generated: None

24. Areas of consultancy and income generated: None

25. Faculty selected nationally/ internationally to visit other laboratories / Institutions /industries in India and abroad

Dr. Hardeep Singh (Subject Expert in National Board of Accreditation and UGC committees)

Dr. K.S. Kahlon (Subject Expert in National Board of Accreditation and UGC committees)

26. Faculty serving in

a) **National committees b) International committees c) Editorial Boards d) any other (please specify)**

1) Dr. Hardeep Singh
   - Expert Member, National Board of Accreditation (NBA)
   - Elected Fellow of British Computer Society
   - Best Teacher Award by Rotract International, 2010
   - Member, ACM
   - Life Member, Computer Society of India
   - Life Member, Punjab Science Congress
   - Global Member, Internet Society (INSOC)
   - Member, International Association of Engineering
   - Best Teacher Award by Indian Society For Technical Education (ISTE), 2013
2) Dr. K.S.Kahlon
   - Expert Member, National Board of Accreditation (NBA)
3) Dr. Gurvinder Singh
   - Member Board of Reviewer, Malaysian Journal of Computer

Science (MJCS) published by University of Malaya.

- Member Board of Reviewer, International Journal of Engineering & Technology(IJEIT) , IISN 0975-5292
- Member Board of Studies (U.G./P.G.), Department of Computer Science & Engineering, HPTU, Hamirpur.

4) Dr. Parminder Kaur

- Life Member, Computer Society of India
- Life Member, Punjab Science Congress
- Editorial Review Committee Member, The International Arab Journal of Information Technology (IAJIT), Zarqa University, Jordan

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

Dr. Gurvinder Singh

1. Coordinator for Refresher Course in Computer Sc/Electronics/IT from 11/11/08 to 01/12/08 at Academic staff College, GNDU, Amritsar.
2. Organised TEQIP-II Workshop for the Regional Universitiesand Engineering college delegates for the working Knowledge of PMSS Software for Procurement, Academics and eFMR 27th May-1st June 2013.

Dr. R.S.Virk

1. Co-ordinator of Workshop for Senior Teaching Faculty on "The methodology of organizing a Refresher Course", Academic Staff College, GNDU Amritsar 5-6 October, 2012.
2. Co-ordinator of a Refresher Course in Computer Science, Electronics and Information Technology, Academic Staff College, GNDU Amritsar, 27 November to 17 December, 2012

Dr. Sandeep Sharma

1. Co-ordinator of One-Week Workshop on Latest Trends in Computer Science Dec. 5-10, 2011.

Dr. Parminder Kaur

1. Coordinator, Refresher Course in Computer Science, 21st Dec 2011-10th Jan 2012.
2. Coordinator, A Short Term Course in Computer Science, 3rd Jan 2013 - 5th Jan 2013

Dr. Kuljit Kaur

1. Coordinator, Refresher Course in Information Technology, 23 Feb. 2012-14 March 2012.

28. Student projects

• Percentage of students who have done in-house projects including inter- departmental projects: 20

• Percentage of students doing projects in collaboration with other universities / Industry /institute: 20

29. **Awards /recognitions received at the national and international level by**

Faculty

1) Dr. Hardeep Singh
   - Elected fellow of British Computer Society
   - Best Teacher Award by Rotract International, 2010
2) Dr. Gurvinder Singh
   - Attended as Session Chair 23rd IASTED International Conference on Modelling and Simulation (MS 2012), Banff, Alberta, Canada, July 3-5, 2012.

• **Doctoral /post doctoral fellows** -None-

• **Students** -None-

30. **Seminars/Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any.** –None-

31. **Code of ethics for research followed by the departments**

The research undertaken in the department is carried out ethically in the sense that the results are reported without bias and are shared with various research groups in an open manner. A due care is taken that IPR violation does not take place. It is always encouraged that the research is published in the responsible journals in order to promote research not the personal agendas.

32. **Student profile programme-wise: Session 2012-13**

Name of the Programme	Applications received	Selected Male	Selected Female	Pass percentage Male	Pass percentage Female
B.Tech (CSE)	On the basis of JEE Merit	135	155	96	97
B.Tech (CE)	University Entrance Test (980)	25	35	95	95
M.Tech. (SS)	University Entrance Test (380)	20	27	98	99
M.Tech. (CSE)	University Entrance Test (380)	22	25	98	99
M.C.A. (TYC)	State Level Entrance Test	28	32	97	98
M.C.A. (FYIC)	University Entrance Test (400)	50	70	96	97
M.C.A. (SS)	University Entrance Test (180)	02	18	95	96

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.Tech (CSE)	N.A. (U.G.)	N.A.	N.A.	2%
B.Tech (CE)	N.A. (U.G.)	N.A.	N.A.	---
M.Tech. (SS)	30	70	0	0
M.Tech. (CSE)	30	70	0	0
M.C.A. (TYC)	55	45	0	0
M.C.A. (FYIC)	N.A.	N.A.	N.A.	1
M.C.A. (SS)	60	40	0	0%

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

UGC NET: 55

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G. B.Tech to M.Tech.	20
P.G. to M.Phil.	-----
P.G. to Ph.D.	5
Ph.D. to Post-Doctoral	-----
Employed • Campus selection • Other than campus recruitment	 80 05
Entrepreneurs	5

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	90
from other universities within the State	10
from universities from other States	None
from universities outside the country	None

37. Number of faculty who were awarded Ph.D. during the assessment period: 04

38. Present details of departmental infrastructural facilities with regard to

a) Library:

- Books 3100,
- Print Journals: 10 and
- Computer Magazines: 06

b) Internet facilities for staff and students:

- 01 Gbps Leased Line through BSNL
- 40 Mbps Internet Leased Line from HFCL Infotel Ltd.
- 36 departments having approximately 1000 machines hooked up through Fibre Optic based campus wide network.
- Authentication Based 24 hour internet connectivity using Cyberoam 1000i UTM appliance.
- Wi-Fi facility available in all hostels connected with campus wide Network.

c) Total number of class rooms: 18
d) Class rooms with ICT facility: 08
e) Students' laboratories: 05
f) Research laboratories: 01

39. List of doctoral students

a) From the host institution/university

- Mr. Jaswinder Singh, Mr. A. Kumar, Chetan Marwaha, Sandeep Waraich, Sunny Sharma, Amritpal Singh, Kamaljit Kaur, Kawaljit Kaur, Jaspreet Bedi, Ravreet Kaur, Sandeep Sood, Harpreet Singh, Nisha Ratti, Daljit Kaur, Inderdeep Kaur, Harjot Kaur, Bhavneet Kaur, Sheetal Kalra

b) From other institutions/universities:

- Mr. Palwinder Singh, Mr. Manik Sharma, Sukhpuneet Kaur, Lakhwinder Kaur

List of post-doctoral students

a) From the host institution/university: None
b) From other institutions/universities: None

List of Research Associates

a) From the host institution/university: Mr. Munish Saini
b) From other institutions/universities: None

40. Number of post graduate students getting financial assistance from the university.--None--

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology. --No--

42. Does the department obtain feedback from?

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

The department takes suggestion from Board of Control (B.O.C.) involving departmental faculty and Board of Studies (B.O.S.) involving faculty from affiliated colleges for designing and updating curriculum.

b. **Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**
Mid-semester and End-semester feedback is taken from students on staff, curriculum and teaching-learning-evaluation.

c. **Alumni and employers on the programmes offered and how does the department utilize the feedback?**
The department obtains feedback from alumni and employers on the programme offered and to update curriculum.

43. List the distinguished alumni of the department (maximum 10)

- Mr. Rajeev Salwan, GM, IT, NTPC
- Mr. Gopal Sharma, Senior Consultant, TCS
- Mr. Sukhjinder Singh, Executive, City Corporation, Calgary, Canada.
- Dr. Lakhwinder Kaur, Professor, Dept. Of Comp. Sc., Punjabi University, Patiala.
- Dr. Indu Chhabra, Associate Professor, Dept of Comp. Applications, Punjab University, Chandigarh.
- Dr. Gurvinder Singh, Prof. & Head, Dept of Computer Science & Engg. Guru Nanak Dev University, Amritsar

44. Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.
Dr. R. Lemuel Lasher, Vice President, CSC from Virginia has delivered Seminar on topic "Innovation, the Consumerization of IT and the Next Generation of Digital Game Changers" on December 09-11, 2011

45. List the teaching methods adopted by the faculty for different programmes.
White Board & Marker, Multimedia Presentations and OHP based Presentations.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?
The Placement record of the students is an indicator that programme objectives are achieved and interaction with the companies visiting for placement helps in monitoring the learning outcomes and it is carried out to ensure that curriculum is as per the requirement of industry.

47. Highlight the participation of students and faculty in extension activities.

- Linux workshop was conducted in collaboration with Technical Student Society of the Department under the student development program.
- Robotics workshop was conducted by Technical Student Society of the Department.

48. Give details of "beyond syllabus scholarly activities" of the department.

- Department's Technical Student Society (TSS) organises technical fest (TechFest) almost every year.

- Departmental students actively participate in the inter-departmental sports and cultural activities.
- Departmental students are also involved in planting trees in the campus.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details. No

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The Department is carrying out the research in Distributed computing, Software Engineering and Optimized Database Design. This whole effort is in the direction of designing algorithms for the improvement of computing concepts and ultimately this knowledge can be used for better design of computing machines.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

- Credit Based Evaluation System for students to meet the international standards.
- Faculty rooms and student labs are equipped with latest computers with printer and internet connectivity.
- The department is having well structured hierarchy with the Board of control and Board of studies.
- IBM software excellence lab for students to learn new technologies and software tools.
- QIP programmes for faculty to pursue Ph.D. that include study leave and other financial benefits.
- Excellent placements of the students in various multinational companies like TCS, Amdocs, CSC, Accenture etc.

Weaknesses:

- All class rooms have to be equipped with latest audio video aids to give best teaching practice to students.
- The department has an urgent need to subscribe other engineering and technology research journal other than provided by Science Direct.
- Department needs an urgent requirement to setup its own mail server and storage server to keep the academic records of the students.
- More funds for faculty to join and conduct faculty developments programs.
- Urgent need to setup research labs for postgraduate students and for faculty.

Opportunities:

- Research exposure needs to be strengthened by attending International Symposium and Organizing International and National level conferences and seminars.

- Major projects need to be undertaken funded by National or International level agencies.

Challenges:

- Major challenges include setting up of research laboratories in the field of Engineering Sciences.
- Another challenge is to procure research based multi user simulators for meeting the research scholars software based demands.

52. Future plans of the department.

- The department intends to assure the academic and technological leadership through consistent research endeavours which shall not only enrich the quality of the faculty but shall also help to produce the industry leaders in the times to come.
- To setup research labs in the field of Parallel Computing, Software Engineering, Data Mining and Computer Networks.
- To start research based specialization at P.G. level programme from 2014-15.

1. **Name of the Department:** Electronics Technology
2. **Year of Establishment:** 1983
3. **Is the deptt. Part of school/faculty of the university:** Yes, Faculty of Engineering & Technology
4. **Name of Program Offered:** B.Tech (ECE), B.Tech (ECSE), (ECE specialization in Communication System), Ph.D.
5. **Interdisciplinary Programmes & Departments Involved:**

Sr. No.	Program Name	Department
1.	Applied Ethics	Guru Nanak Studies Deptt.
2.	Basic Concepts of Law-1	Law Deptt.
3.	Basic Fundamentals and Practical Training in Music	Music Deptt.
4.	Elements of Human Settlement	Guru Ram Das School of Planning Deptt.
5.	Entrepreneurship Development and Project Management	Commerce and Business Management
6.	Freedom Struggle in Punjab (AD 1850-1947)	History Deptt.
7.	Fundamentals of Management	Commerce and Business Management
8.	General Chemistry	Chemistry Deptt.
9.	Indian Government and Politics	Political Science Deptt.
10.	Numerical Methods	Mathematics Deptt.
11.	Psychological Processes	Psychology Deptt.
12.	RashtrakaviMaakhanlalChaturvedi	Hindi Deptt.
13.	Computer Programming(P.G. level)	CSE Deptt.
14.	Indian National Movement (AD 1857 - 1947) (P.G. level)	History Deptt.

6. **Course in collaboration with other Universities, Industries, Foreign Institutions etc.:** NA
7. **Detail of Programs discontinued , if any, with reasons:**None
8. **Examination System:** Credit based Semester System
9. **Participation of the department in the courses offered by other departments:**
   1. Computer Science and Engineering
   2. Food Science & Technology
10. **No. of Teaching posts:**

Post	Sanctioned	Filled	Actual
Professor	02	01	5
Associate Professor	03	03	--

Assistant Professor	11	11	11
Assistant Professor (On Contract)	-	14	14

11. Faculty Profile:

a) Teaching

Sr. No.	Name	Qualification		Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Tech. Students Guided In Last 4 Years
		Course	University				
1	Dr. Derick Engles	Ph.D.	GNDU Amritsar	Professor	Nano Technology	32	14
2	Dr. Jasvir Singh	Ph.D.	GNDU Amritsar	Professor	Signal Processing in Wireless Comm.	28	03
3	Dr. Sukhleen Bindra Narang	Ph.D.	GNDU Amritsar	Professor	Microwave Materials	30	17
4	Dr. Maninder Lal Singh	Ph.D.	GNDU Amritsar	Professor and HOD	Optical communica-tion	22	29
5	Dr. R.S. Sawhney	Ph.D.	GNDU Amritsar	Assistant Professor	Nano Technology	16	20
6	Dr. Shalini Bahel	Ph.D.	GNDU Amritsar	Assistant Professor	Microwave Materials	10	08
7	Er. Dhanjit Singh	B.Tech.	GNDU Amritsar	Assistant Professor	VLSI Designing & micro-electronics	10	-
8	Er. Ravinder Kumar	M.Tech.	PTU Jalandhar	Assistant Professor	Digital design and nano-materials	10	09
9	Er. Hardeep Kaur	M.Tech.	PTU Jalandhar	Assistant Professor	Wireless communica-tion	06	09
10	Er. Gurpreet Singh	M.Tech.	GNDU Amritsar	Assistant Professor	Optical communica-tion	03	01

11	Er. Rupandeep Kaur	M.Tech.	GNDU Amritsar	Assistant Professor	Communication System and nanotechnology	03	-
12	Er. ShivinderDevra	M.Tech.	Punjabi University Patiala	Assistant Professor	Optical & DSP	02	-
13	Er. Sukhdeepkaur	M.Tech.	GNDU Amritsar	Assistant Professor	Communication system and nanotechnology	02	-
14	Er. Pawandeep kaur	M.Tech.	P.U. Chandigarh	Assistant Professor	Microelectronics	03	-
15	Er. Jasdeep Kaur	M.Tech.	NIT Jalandhar	Assistant Professor	Embedded system and wireless communication	04	-
16	Er. Rajan Vohra	M.Tech.	GNDU Amritsar	Assistant Professor	Communication system and data communication	03	-
17	Er. Sehajpal Kaur	M.Tech.	GNDU Amritsar	Assistant Professor	Optical Communication	03	-
18	Er. Gurpinder Kaur	M.Tech.	GNDU Amritsar	Assistant Professor	Material science	03	-
19	Er. Saloni	M.Tech.	P.U. Chandigarh	Assistant Professor	Instrumentation and DSP	02	-
20	Er. Amandeep Singh	M.Tech.	SLIET Longowal	Assistant Professor	Image Processing	04	-
21	Er. Rupinder Kaur	M.Tech.	GNDU Amritsar	Assistant Professor	Microwave antennas	01	-
22	Er. Maninder Singh	M.Tech.	GNDU Amritsar	Assistant Professor	Optical fiber communication	01	-

23	Er. Ranjeet Singh	M.Tech.	GNDU Amritsar	Assistant Professor	Communication System and nano technology	01	-
24	Er. Gurmeet Kaur	M.Tech.	Thapar University, Patiala	Assistant Professor	Wireless communication	04	-
25	Er. Varun Sood	M.Tech.	ACET, Amritsar	Assistant Professor	Optical & wireless Comm. System	03	-
26	Er. Inderpreet Singh	M.Tech.	GNDU, Amritsar	Assistant Professor	Communication System	01	-
27	Er. Navdeep Kaur	M.Tech.	GNDU Amritsar	Assistant Professor	Wireless communication	01	-
28	Er. Amanpreet Kaur	M.Tech.	Thapar University Patiala	Assistant Professor	Instrumentation	01	-
29	Er. Gurminder Kaur	M.Tech.	P.U. Chandigarh	Assistant Professor	Intrumentation and signal processing	01	-

12. **List of Senior Visiting Fellows/ Adjunct faculty/ Emeritus Professors:**
Dr. Avtar Singh, Prof. of Electrical Engg. San Jose State University, USA.
13. **Percentage of Classes taken by temporary faculty (Program Wise):**
B.Tech – 45%
14. **Program Wise Student Teacher Ratio:**
a) Academics Year 2009-10: 317:13=25:1
b) Academic Year 2010-11: 409:13=32:1
c) Academic Year 2011-12: 527:20=27:1
d) Academic Year 2012-13: 610:28=22:1
e) Academic Year 2013-14: 703:29=25:1
15. **No. of Academic/Support Staff (Technical and Administrative Staff):**

S.No.	Post	Sanctioned/Filled
1	Lab Superintendent	1
2	Instructor	1
3	Technician	1
4	Junior Technician	1
5	Stenographer	1
6	Clerk cum Junior Data Entry Operator	1
7	Peon	1

8	Helper	1
9	Workshop Attendant	1

16. **Research Thrust areas as recognized by major funding agencies:**
    1. Synthesis and characterization of Microwave Materials
    2. Nano/Molecular Devices
    3. Optical Communication Systems
    4. Optical component Designing & Simulation
    5. Wireless Communication Systems
17. **No. of faculty with ongoing projects from national/international funding agencies and total grants received:**
    a) Dr Derick Engles , "Simulation of charge transport in nano device", CSIR project for duration of 2 yrs with grant of about Rs 4,00,000/- (completed in Dec. 2012)
    b) Dr M. L. Singh, "Development of Numerical Methods for Accurate Evaluation of SRS and FWM Effects in Fiber optic Communication Systems for computer Simulations" UGC funded Project for duration of 2 yrs with grant of about Rs 56,000/- (Completed in May 2008)
18. **Inter institutional collaborative projects and associated grants received:**
    a) National collaboration: None
    b) International Collaboration: None
19. **Departmental Projects funded by DST/FIST; UGC/SAP/CAS, DPE, DBT, ICSSR, AICTE etc.; Total Grants received:**None
20. **Research Facility/ Centre with State recognition/ National/ International recognition:**None
21. **Special Research laboratories sponsored by/created by Industry or Corporate Bodies:**None
22. **Publications:**
    - **Number of papers published in peer reviewed journals(national /International)**: 94
    - **Monographs**: Nil
    - **Chapters in Books**: Nil
    - **Edited Books**: Nil
    - **Books with ISBNwithdetails of publishers**: Nil
    - **Numberlisted in International Database (For e.g.Web of Science, Scopus, Humanities International Complete, Dare Database-International SocialSciencesDirectory,EBSCOhost,etc.):** 63
    - **Citation Index**–0-48:
    - **Impact Factor–range=0.242-2.072/average**=0.83
    - **h-index**:

Sr. No.	Name	h-index
1	Dr. Derick Engles	02
2	Dr.SukhleenBindraNarang	09

3	Dr.ManinderLal Singh	07
4	Dr. R.S. Sawhney	02
5	Dr.ShaliniBahel	04
6	Er. Hardeep Kaur	02

23. **Details of Patents and Income Generated:**None
24. **Areas of Consultancy and Income Generated:**None
25. **Faculty selected nationally/internationally to visit other laboratories/ institutions/ industries in India and abroad:**None
26. **Faculty Serving in:** Nil
    a) **National committees**
    b) **International committees**
    c) **Editorial Boards:**
27. **Faculty Recharging strategies:**

Various programs/ strategies adopted/availed by department include:

a) Refresher Courses
b) Orientation Programs
c) Workshops
d) Faculty Development Program

Following faculty members have attended different programs for the above mentioned purpose:

1. Dr. Derick Engels

a. Participated in 2nd workshop on familiarization of Nano – materials and devices at IIT, Bombay in December 2009.
b. Participated in 4th workshop on familiarization of Nano – materials and devices at IIT, Bombay in December 2010.

2. Dr. Sukhleen Bindra Narang

a. Participated in one week workshop on orientation program for, "Woman Administrators in Higher Education", at National University for Educational Planning and administration, New Delhi August 2011.

3. Dr. Shalini Bahel

a. Participated in 2 week workshop on "Introduction to Research Methodology", conducted by IIT, Bombay from 25 June to 04 July, 2012.
b. Attended refresher course in Computer Science, Electronics, Information technology conducted by ACS, GNDU, Amritsar from 22nd Oct. to 11th Nov. 2013.

4. Er. Ravinder Singh Sawhney

a. Attended UGC Sponsored Special Winter School organized by Academic Staff College, Guru Nanak Dev University, Amritsar from 23 Dec, 2008 to 12 Jan, 2009.
b. Attended 7th INUP Familiarization Workshop on Nanofabrication Technologies held at IIT, Bombay, from 4 June to 5 June, 2012.

c. Attended 9th International Workshop on Nanomedical Sensing 2012 held at IIT Bombay, from 6 June to 8 June, 2012.

5. Er. Ravinder Kumar

a. Attended a Short term course on Nano-material: characterization and application at NITTTR, Chandigarh from 20 Oct to 24 Oct, 2008.

b. Participated in a national level workshop on latest development in networking technologiess at ACET, Amritsar from 10 June to 11 June, 2010.

c. Attended General Orientation Course organized by Academic Staff College, GNDU, Amritsar form 18 Feb to 17 March, 2011.

d. Attended 7th INUP Familiarization Workshop on Nanofabrication Technologies held at IIT, Bombay, from 4 June to 8 June, 2012.

6. Er. Hardeep Kaur

a. Attended a 4 week General Orientation Course organized by academic staff college, GNDU, Amritsar from 17 Feb to 15 March, 2012.

b. Attended a 3 week Refresher Course organized by academic staff college, GNDU, Amritsar from 27 Nov to 17 Dec, 2012.

7. Er. Gurpreet Singh

a. Attended summer faculty research program at IIT, Delhi from 25 May to 6 July, 2012.

b. Er. Gurpreet Singh attended General Orientation Course 93 conducted by ACS, GNDU, Amritsar from 11 Nov 2013- 7 Jan 2014.

8. Rupandeep Kaur

- Attended General Orientation Course 93 conducted by ACS, GNDU, Amritsar from 11 Nov 2013- 7 Jan 2014.

28. Student Projects:

Students have done various projects with: CSE Deptt., IIT Bombay, CSIO, TBRL, INA Bearings PUNE. Other than this every student at graduation level has to complete an industrial training of six months in which 90% of students work on various projects offered to them by the various industries/institutions.

29. Awards/ Recognitions at National & International Level by:

a) Faculty:

1. Best Paper Award: a) R.S. Sawhany and Ravinder Kumar at ICANMEET 2013, Singapore.

b) Students:

1. Sanyukta Sharma, Participated in International Exchange of Cultures at Russia.
2. Lalit Arora won 2nd prize in paper presentation entitled "Fog display and its application" at Govt. college of Engg. JAMMU.

30. Seminars/ Conferences workshops organized and the source of funding: None

31. Code of Ethics for research followed by departments:

The code of Ethics followed by the department for the research includes:

a) Research topic justification (Timely carried out)
b) Research/Literature Survey (Exhaustive literature survey from reputed international / national journals is carried out)
c) Methodology and Planning (For proper understanding and resource utilization)
d) Analysis for Plagiarism Checking (Ensuring the originality of research work)

32. Student Profile: 85% from Punjab and 15% from outside Punjab

Sr. No.	Name of Programme	2009-10		2010-11		2011-12		2012-13		2013-14	
		Male	Fe male	Male	Fe male	Male	Fe male	Male	Fe male	Male	Fe male
1	B.Tech (ECE)	86	33	96	25	117	41	125	41	116	45
2	B.Tech (ECSE)	22	07	39	21	42	16	46	14	33	11
3	M.Tech. (Communication System)	12	08	14	16	14	16	20	10	10	20
4	Ph.D.	00	00	03	03	03	00	00	01	04	04

33. Diversity of Students: For 2013-14 batch

Sr. No.	Name of the Programme	Percentage of Students from same university	Percentage of Students from other universities within the state	Percentage of Students from universities outside the state	Percentage of Student from Other Countries
1.	M.Tech.	20	76.6	3.4	00
2.	Ph.D.	87.5	12.5	00	00

34. How many students have cleared civil services and defence services examinations, NET, SET, GATE and other competitive examinations? Give Details Category wise

Test Name	No. of Students in B.Tech	No. Of Students in M.Tech.	No. of Students in Ph.D.
GATE		05	03
NET	--	--	07
PCS	--	01	--

35. Student Progression:

Sr. no.	Student Progression	Academic Year 2012-13	Academic Year 2013-14	Percentage against enrolled
1.	U.G. to P.G.	05	06	18
2.	P.G. to M.Phil.	-	-	-
3.	P.G. to Ph.D.	01	07	88.9
4.	Ph.D. to Post Doctoral	-	-	-
5.	Employed • Campus Selection • Other than Campus Recruitment	In last 4 Years: • Percentage of On Campus Placements: 85-90% • Percentage of Off Campus Placements: 10-15%		
6.	Entrepreneurs			

36. Diversity of Staff

Department	Percentage of faculty from Same university	Percentage of faculty from other universities within state	Percentage of faculty from universities outside the state	Percentage of faculty from other countries
Electronics Technology, GNDU Amritsar	47	47	6	0%

37. No. of Faculty who were awarded M.Phil., Ph.D., D. Science and D. Litt. During the assessment Period: 01 (Ph.D. degree awarded to-Dr.Shalini Bahel)

38. Present details of Deptt. Infrastructural Facilities with regard to:

a) **Library:** 5979 Books
b) **Internet Facilities for staff and students:** Wi-Fi Utility
c) **Total no. of Classrooms:** 09+03+01
d) **Classrooms with ICT facility:** 04+03+01
e) **Students Laboratories:** 14
f) **Research Laboratories:** 03

39. The list of doctoral, post doctoral students and research associates:

a) **From the host institutions**: 12

S.No.	Name of Student	Supervisor
1.	Er. Amit Arora	Dr Sukhleen Bindra
2	Er. Rupandeep Kaur	Dr Dr.Sukhleen Bindra
3	Er. Sukhdeepkaur	Dr Dr.Sukhleen Bindra

4	Er. Gurpreet Singh	Dr. M. L. Singh
5	Er. Rajandeep Singh	Dr. M. L. Singh
6	Er. Jaipreet Kaur	Dr. M. L. Singh
7	Ms. Mani Arora	Dr Dr.Derick Engles
8	Er. R.S. Sawhney	Dr Dr.Derick Engles
9	ErShevanduPrashar	Dr Dr.Derick Engles
10	Er. Rupanpreet Kaur	DrDr. Derick Engles
11	Er. Milanpreet Kaur	Dr Dr.Derick Engles
12	Er. Manav Sandhu	Dr Dr.Derick Engles

b) **From other institutions**: 9

Sr. No.	Name of Student	Supervisor
1	Er. MaltiPuri	Dr. Sukhleen Bindra and Dr.Shalini Bahel
2	Er. Pawandeepkaur	DrDr. Sukhleen Bindra and Dr.Shalini Bahel
3	Er. Balwinder Singh	Dr Dr.Sukhleen Bindra
4	Er. Balwant Raj	Dr Dr.Sukhleen Bindra
5	Er. Hardeep Kaur	Dr. M. L. Singh
6	Er. ShivinderDevra	Dr. M. L. Singh
7	Er.Maninder Singh	Dr. M. L. Singh
8	Er.MonikaVerma	Dr. M. L. Singh
9	Er. Ravinder Kumar	Dr. Derick Engles

40. No. of post graduate students getting financial assistance from the university:

1. M.Tech. 1st Year: 01
2. M.Tech. 2nd year: 03

41. Was any need assessment exercise undertaken before the development of new programs? If so highlight the methodology?

- Before starting any new program exhaustive survey regarding the requirements of manpower in the desired field is carried out.
- Curriculum of the program is designed keeping in mind the latest technological trends.

42. Does the deptt. Obtain feedback from:

a) Faculty on curriculum as well as teaching learning evaluation? If yes how does the deptt. utilize the feedback --

Yes, the department collects feedback from the faculty for the development in the infrastructure/labs/class rooms/ syllabus etc. and the feedback is utilized to carry out following actions:

- New/inter departmental/research oriented subjects are introduced
- Time to time the syllabus for various courses is updated.

- New research labs are developed to cater the needs of latest development in the field of Electronic and Communication.

b) Students on staff, curriculum as well as teaching learning evaluation? If yes how does the deptt. Utilize the feedback --

Yes, the department and placement cell collect feedback from the students and the feedback is utilized to carry out following actions:

- New/inter departmental/research oriented subjects are introduced as per the interest of students.
- Expert lectures etc. are organized for the students to equip them with the latest advances in the field of Electronic and Communication.

c) Alumni and employers on the programs offered and how does the deptt. Utilize the feedback

Yes, the department and placement cell collect feedback from the alumni, industry and employers for the development in the infrastructure/labs/class rooms/ syllabus etc. and the feedback is utilized to carry out following actions:

- Necessary action for the betterment of the teaching/learning process is being taken depending upon feedback obtained.
- Expert lectures etc. are organized for faculty/staff and students for the quality improvement of the teaching and learning process.

43. List the distinguished Alumni of the department.

The alumni of the department are well settled in society and some of them are:

1. Deepak Sharma, Network Services Expert Engineer at Orange Business Services, USA.
2. Harish Chander, General Manager, Ericsson Gurgaon, India.
3. Abhishek Koundal, Component Design Engineer Intel, USA.
4. Aman Saini, Project Manager, Alberta First Responders Radio Communication Systems, Edmonton, Canada.
5. Jaskaran Singh Bajwa, Lt. Colonel, Corps of Signal Indian Army.
6. Rupinder Thind, Wireless Access Network Planner, Rogers Communication, Ontario, Canada.
7. Channpreet Singh, Solution Architect, Tech Mahindra, Belgium.
8. Swati Chopra, Assistant Commissioner Customs, Indian Revenue Services, India.
9. Narinderpal, R&D Engineer, IBM Bangalore.
10. Rupinder Bhatti, SP Punjab Police, India.

44. Give details of student enrichment programs involving external experts.

1. Seminar is conducted by professionals from career launcher, Amritsar.
2. An event on, "Ethical Hacking workshop", conducted on 3-4th April by Mr. SarthakKumari form LNR Chandigarh.

45. List the teaching methods adopted by the faculty for different programs.

a) Class room teaching
b) Seminars
c) Term papers (for P.G. students)
d) Industrial Visits
e) Presentations (Poster/Paper)

46. How does the department ensure that the program objectives are constantly met and learning outcomes are monitored?

a) By obtaining feedback from students/faculty/staff/industry/ employers.
b) By regularly examining the performance of students/ research fellows.
c) By maintaining placement records and trying to get 100% placements.
d) By calculation of overall impact factor of research papers published by department.

47. Highlight the participation of students and faculty in extension activities.

1. Winners of Athletic champion trophy 2008.
2. Department won championship in : Football 2009-10
3. Winners of Chess championship 2010-11 , Kabbadi championship 2010-11, Handball championship 2010-11, Carom championship 2010-11.
4. JASHAN 2010: department won prizes in various events.
5. Students bagged 2nd prize in: HOCKEY & KABBADI.
6. In Quiz event, "Battle of Brains", Students got 1st Prizes.
7. Seminar is conducted by professionals from career launcher, Amritsar.
8. An event on, "Ethical Hacking workshop", conducted on 3-4th April by Mr. SarthakKumari form LNR Chandigarh.
9. Tech fest "ENLIVENVA -10" Inception of an ERA is conducted by students.
10. JASHAN 2011: Department won 2nd Position.
11. Winners of Tennis tournament 2011- 12 and Chess championship 2011-12
12. Various group discussions and mock placement tests are conducted.
13. JASHAN 2012: Department won 4th Position.
14. Department won championship in : Hockey 2012-13 and Cricket 2012-13
15. JASHAN 2013: Department is 1st runner up and won 1st prize in literary events. The only department having maximum prizes about 16 in number.
16. Students also conducted football event at university level.

48. **State whether the program/ department in accredited/graded by other agencies? If yes, give details. :**None
49. **Give details of "beyond syllabus scholarly activities" of the department.**
    Students are encouraged to participate and present papers in conferences / workshops/ competitions organized by other institutes.
50. **Briefly highlight the contribution of the department in generating new knowledge, basic and applied.**
    a) Arrangement of Inter Departmental Courses for knowledge basic and applied subjects.
    b) Organizing an International conference on "Emerging trends in Electronics and Communication Technology" Dec 2013.
51. **Detail five major strengths, weaknesses, opportunities and challenges (SWOC) of the department.**
    Strengths:
    a) Well Established Labs and Class rooms.
    b) Highly qualified faculty and experienced staff.
    c) Above 90% campus placements.
    d) Appreciable teaching learning environment.
    e) Remarkable teacher student relation.
    f) Well established departmental library.
    Weaknesses:
    a) Low student to teacher ratio.
    b) Lack of expert lectures for students.
    Opportunities:
    a) Exposure of new technologies /arrivals in industry.
    b) Good platform for emerging engineers.
    c) Better education/ quality improvement opportunities.
    Challenges:
    a) To get 100% placements.
    b) Improvement in student teacher ratio.
    c) Arrangement of national/ international conferences.
    d) Improvement in overall research impact factor of faculty and research fellows.
52. **Future plans of the department.**
    The department of Electronics Technology will strive to act as an international podium for the development and transfer of technical competence in academics through formal and non-formal education, entrepreneurship and research to meet the changing need of the society.

1. **Name of the Department**: Guru Nanak Studies
2. **Year of establishment**: 1971
3. **Is the Department part of a School/Faculty of the University?**: Yes
4. **Names of programmes offered**:
   PG Courses: M.A.Hons. Religious Studies & M.A.Hons. Philosophy M.Phil. (Religious Studies & Philosophy), Ph.D.
5. **Interdisciplinary programmes and departments involved**—
   Four I D Courses and fifteen departments involved.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc**.: None
7. **Details of programmes discontinued, if any, with reasons**: None
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments**: None
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	2	1	1
Associate Professors	3	0	1
Asst. Professors	4	2	2
Others	0	0	0
Asst. Professors (Contract Based)	0	0	3

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance:**

Name	Qualification	Designa-tion	Specializa-tion	No. of Years of Experi-ence	No. of Ph.D./M.Phil. students guided for the last 4 years
Prof. Balwant Singh Dhillon (Rtd.June2010& Re-employed upto June 2011)	M.A. (History, Religious Studies), Ph.D.	Professor	Sikh Religion, History and Sikh Studies	26	**Ph.D.** Completed-3 Registered-5 **M.Phil.** Completed-2

Prof. Jaswinder Kaur Dhillon (Rtd. June 2007&Re-employed upto 2009)*	M.A.Philosophy, Ph.D.	Professor	Sikh Philosophy & Religion	28	**Ph.D.** Completed-3 Registered-1 **M.Phil.** Completed-5
Prof. Raijasbir Singh (Rtd.June 2008& Re-employed upto 2010	M.A. (Punjabi, History, Russian)Ph. D M.A(Philosophy&Eng.) Ph.D.	Professor	Literature & Sikh History, Indian Philosophy, Sikh Philosophy& Comparative Religion	29	**Ph.D.** Completed-3 Registered-1 **M.Phil.** Completed-5
Prof. Shashi Bala	M.A.(English & Philosophy), Ph.D.	Professor & Head Dean, Faculty of Humanities & Religious Studies	Sikh Relgion, Sikh Philosophy& Comparative Religion	26	**Ph.D.** Completed-3 Registered-8 **M.Phil.** Completed-5
Dr. Gursharanjit Singh	M.A. (Religious Studies), M.Phil. (Religious Studies), Ph.D.	Associate Professor	Sikh Studies	13	**Ph.D.** Completed-1 Registered-0 **M.Phil.** Completed-2
Dr. Manvinder Singh	M.A. (Punjabi, Religious Studies), M.Phil. (Religious Studies), Ph.D.	Assistant Professor	Sikh Literature & Sikh Religion	6	**Ph.D.** Completed-0 Registered-6 **M.Phil.** Completed-6
Dr. Bharatbeer Kaur	M.A. (Punjabi, Religious Studies), Ph.D.	Assistant Professor	Sikh Literature &Sikh Religion	3	**Ph.D.** Completed-0 Registered-3 **M.Phil.**=1

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors-

- Prof. Harpal Singh Pannu, Head, Department of Religious Studies, Punjabi University, Patiala, visited the Department from 15 March to 26 March, 2010. (Under SAP)
- Prof. N. Muthu Mohan, Chairperson, Dept of Guru Nanak Studies, Madurai Kamraj University, Madurai visited the Department from1 Nov. to 12 Nov, 2010. (Under SAP)
- Dr. Harpal Singh Pannu, Head, Dept of Religious Studies, Punjabi University, Patiala, visited the Department from 31 January, 2012 to 6 February, 2012. (Under SAP)
- Prof. Jaspal Kaur Kaang, Chairperson, Dept of Guru Nanak Studies, Panjab University, Chandigarh, visited the Department from 23 February, 2012 to 29 February, 2012.
- Prof. Rajinder Kaur Rohi, 10 January to 25 January, 2011.
- Prof. Davinder Singh (Rtd. Prof. from the University of Jammu) visited the Department from 28 Feb. to 15 March, 2011.
- Prof. N. Muthu Mohan, Chairperson, Department of Guru Nanak Studies, Madurai Kamraj University, Madurai visited the department from1 Nov. to 12 Nov, 2010. (Under SAP)
- Dr. Mtharu from England visited the Department on 28 March, 2008.
- Dr. Mahinder Singh, Bhai Vir Singh Sahit Academy, New Delhi, visited the department and delivered Lecture on11 April, 2008.
- Prof. Gurinder Singh Maan, University of Santa Barbara, California along with a group of Students and Research Fellows visited the Department and delivered Lecture on 4 August, 2009.
- Dr. Harinder, Director, Sikh Research Institute, Texas, America, delivered Lecture on 'Sikh Studies Inspiration and Trends' on 3 March, 2010.

12. Percentage of classes taken by temporary faculty – programme-wise information

Anu Kandhari 2011-2012 (5 hours per week)

Dr. Pawam Kumar 2011-2012 (16 hours per week)

14. Programme-wise Student Teacher Ratio: 1: 17.85

15. Number of academic support staff (technical) and administrative staff:

Year	Support Staff	Sanctioned	Filled	Actual
2008-2009	Stenographer/A.S.O	1	1	1
	Sr.Assistant	1	1	1
	Steno-Typist	1	1	1
	Daftri	1	1	1
	Peon	1	1	1

2009-2010	Stenographer/A.S.O Steno-Typist Daftri Peon	1 1 1 1	1 1 1 1	1 1 1 1
2010-2011	Stenographer/A.S.O Sr.Assistant Steno-Typist Daftri Peon	1 1 1 1	1 1 1 1 1	1 1 1 1
2011-2012	Stenographer/A.S.O Sr.Assistant Steno-Typist Daftri Peon	1 1 1 1 1	1 0 0 0 1	1 0 0 0 1
2012-2013	Stenographer/A.S.O Sr.Assistant Steno-Typist Daftri Peon	1 1 1 1 1	1 0 0 0 1	1 0 0 0 1

16. Research thrust areas as recognized by major funding agencies:

The Department is teaching cum research department. It has the following main thrust areas of research:

To make provision for study and research on the life and teachings of Guru Nanak Dev ji and their cultural and religious impact in the context of Indian and World Civilizations.

Within the over-all purview of the relevant provision in the University Act, the Department of Guru Nanak Studies was expected to extend its area of activity so as to achieve the obligation of the Act:

i) To conduct and guide research on the lives and works of Sri Guru Nanak Dev ji and other Sikh Gurus as well as Bhagats and Saints.
ii) To conduct projects on the philosophy, history and literature of Sikhism.
iii) To prepare authentic texts, editing, annotations of the original source material on the life and works of the Gurus and Bhagats.
iv) To publish source books, anthologies and monographs on the life of the Gurus and the Bhagats and eminent scholars and authoritative interpreters of Sikhism.
v) To undertake field work on the travels of Guru Nanak Dev ji and other Gurus in India and adjoining regions and find out its impact on Indian and World Civilization.
vi) To make arrangements for the dissemination of the results of research through arranging seminars, conferences, symposia, workshops and lectures by eminent scholars in Comparative Religion.

17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.-**

Individual Projects Completed under SAP (2008-2012)

I. Rajasthani Sources on Banda Singh Bahadur : By Prof. Balwant Singh
II. Freedom and Derminisim: the Sikh Perspective: By Prof. Shashi Bala
III. Interfaith Understanding and Sikhism: Prof. Shashi Bala
IV. Analysis of Philosophical Concepts in Guru Granth Sahib by Prof. Shashi Bala
V. Glossary of Guru Ravi Das Bani by Prof. Jaswinder Kaur Dhillon
VI. Gurbilas Patshahi Daswin (Sukha Singh) : Editing and Textual Analysis – Dr. Manvinder Singh
VII. Study of Sources of Ghadar Movement : By Prof. Rai Jasbir Singh

Joint Projects Completed under SAP (2008-2012)

I. Authors/Contributors of Sri Guru Granth Sahib (Joint work)
II. Bibliography of Sikhism (Joint Work)
III. Index of Major Research Journals (English & Panjabi) (Joint Work)
IV. Guru Nanak Dev: Life and Philosophy (Prof. Rai Jasbir Singh & Prof. Shashi Bala)

U.G.C grant for other projects

- Project "A History and Literary Study of Source Books on Sikh Religion" submitted by Retired Professor Rai Jasbir Singh was sanctioned grant Rs. 2, 47,900/- by UGC in 2011.
- UGC grant for Rs. 6,00,000/- was sanctioned to Dr. Gursharanjit Singh for the project 'Dictionary of World Religions'.
- U.G.C grant sanctioned Rs. 60 Lacs for DRS-II but not released yet.

Future Proposed Research Plan (2013-2018)-under DRS-II

1. Thematic Glossary of Sri Guru Granth Sahib
2. Bibliography on Sikhism (Descriptive)
3. Religious Atlas of Indian Religions
4. Major Exegetical Sikh Traditions
5. Subject-wise Bibliography on Sikhism
6. Applied Ethics
7. Documentation and Annotation of Gurdwara Reform Movement (1920-25)

18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration-** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:**

U.G.C-SAP---Rs. 25,23,309/-
U.G.C Grant-Rs. 3,75,000/-

20. **Research facility /centre with**
    - **State recognition:**
    - **National recognition:** Yes
    - **International recognition:**
21. **Special research laboratories sponsored by/created by industry or corporate bodies**: None
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national /International):** 04
    - **Monographs: -**
    - **Chapters in Books**: 42
    - **Edited Books/Journals**: 01
    - **Books with ISBN with details of publishers**: 05
23. **Details of patents and income generated**: None
24. **Areas of consultancy and income generated**: None
25. **Faculty selected nationally / internationally to visit other laboratories / Institutions /industries in India and abroad:**
    Prof. Balwant Singh Dhillon---India
    Prof. J.K.Dhillon----India
    Prof. Raijasbir Singh-India
    Prof. Shashi Bala----India
    Dr. Gursharanjit Singh-India
26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify)-

Prof. Shashi Bala

a) **National committees**
- Coordinator, DRS-I SAP (Since Jan.2010 & DRS-II)
- Life Member of All India Oriental Congress.
- Member of Research Group of Sri Guru Granth Sahib, Bhai Vir Singh Sadan, New Delhi.
- Member of Advisory Committee, The Sikh Review, Kolkata.

b) **Editorial Boards**
- Editor, Journal of Sikh Studies (2006 to 2008; 2012 till date)
- Editor, Perspectives on Guru Granth Sahib (2008)
- Editor, Dharam Adhiyan Patrika (2012)

c) **any other**
- Dean, Faculty of Humanities and Religious Studies (from 1.7.2008 to 30.6.2010; 1.7.2010 to 30.6.2012; 1.7.2012 to 30.6.2014.
- Member of Syndicate (from 1.7.2009 to 30.6.2010)
- Member of Senate (from 1.7.2008 to 30.6.2010)
- Head, Department of Guru Nanak Studies (Jan.2006 to Dec.2008; Jan 2012 till date

Prof.Balwant Singh Dhillon

a) **National committees**

- Co-ordinator DRS-I (SAP) (2007 to Dec. 2009)
- Director, Guru Nanak Studies Center(established under the X plan of UGC),GNDU,Amritsar.

b) **Editorial Boards**

- Editor, Journal of Sikh Studies (2003 to 2005)
- Editor, Perspectives on Guru Granth Sahib (2004-05)

c) **any other**

- Dean, Faculty of Humanaties and Religious Studies (July 2006 to June 2008)
- Member, Guru Nanak Dev University Syndicate.(July 2007 to June 2008)
- Member, Guru Nanak Dev University Senate.(2006 to 2008)
- Head, Deptt.of Guru Nanak Studies, (Nov.2002 to Dec.2005)

Dr.Gursharanjit Singh

a) Editorial Boards

- Editor Journal of Sikh Studies (2009 to 2011)

b) any other

- Head, Deptt.of Guru Nanak Studies, (2009 to Dec.2011)

Dr.Manvinder Singh

a) Editorial Boards

- Member, Editorial Board , Journal of Sikh Studies (2009 till date)
- Member, Editorial Board, Dharma Adhiyan Patrika(2012 till date)

b) any other

- Member of Board of Control (July 2009 to June 2014)
- Subject Expert (Religious Studies) in Board of Studies (July 2009 to June 2010)

Dr. Bharatbeer Kaur Sandhu

a) Editorial Boards

- Member of Editorial Board , Journal of Sikh Studies (2012 till date)
- Member, Editorial Board, Dharma Adhiyan Patrika (2012 till date)
- Member of Board of Control (1.7.12 to 30.6.14)

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).- None

28. Student projects

• Percentage of students who have done in-house projects including inter- departmental projects---None

• Percentage of students doing projects in collaboration with other universities /Industry /institute --S.G.P.C Approx. 10%

29. Awards /recognitions received at the national and international level by

• Faculty

- Dr. Balwant Singh Dhillon

- Honoured by S.G.P.C. for outstanding Research on Guru Granth Sahib
- Honoured by Parliament of Canada for Contribution to the Sikh Studies
- Honoured by Governor of California, USA, for Research on Sikh Studies.

• **Doctoral /post doctoral fellows**

- 5 Student (S.Mehar Singh Rawel Award)

30. Seminars/ Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any.-

International Conferences -2 (in collaboration with other organizations)

- ❑ International Conference on "Uniqueness of Guru Nanak's Philosophy" in Collaboration with Institute for Understanding Sikhism, Canada, 23-25 February 2011
- ❑ International Conference on "Interfaith Leadership Training Workshop", in collaboration with Elijah Interfaith Institute Jerusalem and Guru Nanak Nishkam Sevak Jatha, UK, 27 Nov., to 3 Dec., 2010.

National Seminars organized under SAP (UGC)

- ❑ Subaltern Revival Movements in World Religions, 13-14 March, 2012.
- ❑ Status and Role of Women in World Religions,10-11 March, 2011
- ❑ Global Concerns and the World Religions, 25-26, March, 2010
- ❑ Mystical Experience and the World Religions, 29-30 Jan., 2009.
- ❑ Ethical Concerns of the World Religions, 22-23 Feb., 2008

Seminars organized with University Funding

- ❑ Applied Ethics: Emerging Issues and Response of World Religions, 26-27 Sep. 2012. (U.G.C Sponsored, assisted by University)
- ❑ Guru Nanak's Travels and Interfaith Dialogue, 22-23 Nov 2012.
- ❑ Sources of Guru Period: Life and Personality of Guru Nanak', 22.23, Nov.2011
- ❑ Contribution of Guru Nanak's Bani to Global Spiritualism, 22-23 Nov, 2010.
- ❑ Guru Nanak Dev and Origin of Gurdwara Institution, 22-23 Nov, 2009.
- ❑ Relevance of Guru Nanak Dev's Teachings in the Modern Context, 22-23 Nov., 2008

Seminars organized in collaboration with other organizations

- ❑ Bhai Kahan Singh Nabha's Contribution to Sikh Religious Studies, March 24-25, 2011
- ❑ Guru Nanak's Contribution to Modernity', 29 March, 2011.
- ❑ Baba Deep Singh: Life and Contribution, 29-30 Jan., 2009.

The participants from different universities of India were invited to participate in these seminars. The International conferences were

organized in collaboration with Institute for Understanding Sikhism, Canada and Elijah Interfaith Institute Jerusalem and Guru Nanak Nishkam Sevak Jatha, UK and many foreign delegates also participated in these conferences.

31. **Code of ethics for research followed by the departments**:
    - Approval of Topics and Synopsis by R.D.C./B.O.C.
    - Presentation of Summary of thesis in the Faculty before submission of thesis.
    - Public Viva-voce

32. **Student profile programme-wise**:

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
2008-2009					
M.A.Religious Studies Sem.I	10	3	2	100%	100%
M.A.Religious Studies Sem.III					
M.A.Philosophy	0	2	4	100%	100%
M.Phil. Religious Studies	08	0	0	0	0
M.Phil. Philosophy	05	2	5	100%	100%
		0	5	0	100%
2009-2010					
M.A.Religious Studies Sem.I	0	0	0	0	0
M.A.Religious Studies Sem.III	05	2	3	100	100
M.A.Philosophy	0	0	0	0	0
M.Phil. Religious Studies	06	2	2	100	100
M.Phil. Philosophy	0	0	0	0	0
2010-2011					
M.A. Religious Studies Sem.I	10	5	2	100	100
M.A.Religious Studies Sem.III	0	0	0	0	0
M.A. Philosophy	0	0	0	0	0
M.Phil. Religious Studies	10	5	3	100	100
M.Phil. Philosophy	0	0	0	0	0
Pre.PhD	6	1	5	100	100
2011-2012					
M.A.Religious Studies Sem.I	06	4	2	100	100
M.A.Religious Studies Sem.III	07	5	2	100	100
M.A.Philosophy	0	0	0	0	0
M.Phil.Religious Studies	0	0	0	0	0
M.Phil.Philosophy	0	0	0	0	0
Pre.PhD	07	1	6	100	100

2012-2013					
M.A.Religious Studies Sem.I	18	14	4	100	100
M.A.Religious Studies Sem.III	06	4	2	100	100
M.A.Philosophy	13	1	12	100	100
M.Phil.Religious Studies	0	0	0	0	0
M.Phil.Philosophy	0	0	0	0	0
Pre.PhD	08	6	2	100	100

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
2008-2009 M.A.Religious Studies Sem.I M.A.Religious Studies Sem.III M.A.Philosophy M.Phil.Religious Studies M.Phil.Philosophy	98	1	1	0
2009-2010 M.A.Religious Studies Sem.I M.A.Religious Studies Sem.III M.A.Philosophy M.Phil.Religious Studies M.Phil.Philosophy Pre.PhD	98	0	1	1
2010-2011 M.A.Religious Studies Sem.I M.A.Religious Studies Sem.III M.A.Philosophy M.Phil.Religious Studies M.Phil.Philosophy Pre.PhD	98	1	1	0

2011-2012 M.A.Religious Studies Sem.I M.A.Religious Studies Sem.III M.A.Philosophy M.Phil.Religious Studies M.Phil.Philosophy Pre.PhD	98	1	1	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise. (2008-2012):** 22
UGC—NET (Religious Studies/ Philosophy)

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	N.A
P.G. to M.Phil.	47.61
P.G. to Ph.D.	58.33
Ph.D. to Post-Doctoral	NA
Employed • Campus selection • Other than campus recruitment	 33.33 66.66
Entrepreneurs	None

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	100
from other universities within the State	0
from universities from other States	0
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period.** – None
38. **Present details of departmental infrastructural facilities with regard to**
a) Library ---No separate Library
b) Internet facilities for staff and students -- Yes
c) Total number of class room: 4
d) Class rooms with ICT Facility : None
e) Students' laboratories: NA
f) Research laboratories-NA

39. List of doctoral, post-doctoral students and Research Associates
a) from the host institution/university
b) from other institutions/universities—

A. List of Doctoral Students from Host University

1. S. Inderjit Singh: (2009)
2. Mrs. Gurdev Kaur (2009)
3. Mrs. Kawaljeet Kaur (2010)
4. Mrs. Jaswinder Kaur (2012)
5. Mrs. Kusam Lata (2011)
6. Mrs. Nirmaljeet Kaur (2011)
7. S. Ajmer Singh (2013)

B. List of Doctoral Students from other Universities

1. S. Yogeshwar Singh (2008)
2. Shri Pawan Kumar (2008)
3. S. Gurcharan Singh Mahuy (2008)
4. Mrs. Narinder Kaur (2010)
5. S. Gagandeep Singh (2012)

40. Number of post graduate students getting financial assistance from the university: 2 per year

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Feedback from Faculty members and meetings of Board of Control

42. Does the department obtain feedback from?

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?-
Yes, by introducing changes in the curriculum
b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? Yes
c. alumni and employers on the programmes offered and how does the department utilize the feedback? No.

43. List the distinguished alumni of the department (maximum 10)-

1. Dr. Vipan Kumar, Associate Professor, D.A.V. College, Amritsar.
2. Dr. Pawan Kumar, Assistant Professor, Department of Guru Nanak Studies, Guru Nanak Dev University, Amritsar.
3. Dr. Yogeshwar Singh, Principal, Sikh Missionary College, Sultanpurlodhi, Kapurthala.
4. Miss. Pratibha, Assistant Professor, Hindu College, Amritsar.
5. Mrs. Mamta Rani, Assistant Professor, St. Soldier College, Jalandhar.
6. Mrs. Niti Chandok, Assistant Professor, Hindu Kanya College, Kapurthala.
7. Mrs. Nirmaljeet Kaur, Assistant Professor, Guru Nanak College, Muktasar.

8. S. Sukhwinder Singh, Assistant Professor, Sri Guru Angad Dev College, Khadur Sahib,Tarn Taran.
9. Mrs. Anu Kandhari, Assistant Professor, Department of Guru Nanak Studies, Guru Nanak Dev University, Amritsar.
10. Dr. Kusam Dogra, Assistant Professor, Arya College, Pathankot.
11. Mrs. Myuri Verma, Assistant Professor, Govt. College, Amritsar.

44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.—**

Lectures Organized

1. Miss Sygufta Tahira Nusrat from Qudian delivered Lecture on *Status of women in Islam* on Nov.4, 2011
2. Principal S. Iqubal Singh Memorial Lecture on *Indian Education System and Sri Guru Nanak Dev '* was delivered by Prof. Devinder Singh on 5th Oct, 2011.
3. Principal S. Iqbal Singh Memorial Lecture on 'Sikh Panth: Modern Challenges and Solutions' was delivered by Prof. Jodh Singh, Editor in Chief, Encyclopedia of Sikhism on 18 Feb., 2010 .
4. Principal S. Iqbal Singh Memorial Lecture on Guru Gobind Singh and His Mission', was deliveredby Prof. Madanjit Kaur, Retd. Prof. Dept. of Guru Nanak Studies, 24 March, 2009.
5. Dr. Mahinder Singh, Bhai Vir Singh Sahit Academy, New Delhi, visited the Department and delivered a Lecture on Sikh Historical Sources on 11 April, 2008.

Lectures by Foreign Scholars

1. Prof. Gurinder Singh Maan, University of Santa Barbara, California along with a group of students and researchers visited the Department on August 4, 2009 and delivered a lecture. The delegates also interacted with faculty members and students.
2. Prof. Dr. Nikky Guninder Kaur delivered a lecture on 'Symbiosis of Bani and Bana In the Five Symblols of the Khalsa' on 19 July, 2011.
3. Dr. Harinder Singh, Director, Sikh Research Institute, Texas, America, delivered a Lecture on 'Sikh Studies Inspiration and Trends' on 3 March, 2010.

Lectures Organised in Collaboration with Indian Council of Philosophical Research

1. Applied Ethics by Prof. J.K. Dhillon, Department of Guru Nanak Studies, G.N.D.U, 22-01-2010.
2. Environmental Awareness by Mr. Chirag a renowned N.G.O. and Environmentalist, 22-01-2010.

World Philosophy Day Organized

1. The World Philosophy Day was celebrated in collaboration with Indian Council of Philosophical Research, New Delhi on 26 Nov., 2010.

2. Prof. Geeta Manaktala, Department of Philosophy, Panjab University Chandigarh was invited to deliver Lecture on *Future of Philosophy in Modern World*.
3. Lecturers and students of Philosophy from various Colleges participated.
4. Nominal Award was given to first three students in the Essay Competition Contest.

45. List the teaching methods adopted by the faculty for different programmes.

Lectures, Assignments and presentation by the students in the class.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Participation of students in the Research Forum and in the seminars.

47. Highlight the participation of students and faculty in extension activities.

Faculty members and students present their papers in the seminars organised by the other universities also.

48. Give details of "beyond syllabus scholarly activities" of the department.

Students attend and participate in workshops/conferences/ seminars organised by other departments of the university also.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details: No

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The department has offered ID Courses on Applied Ethics and Guru Nanak's philosophy.

Annual seminars and conferences have been arranged from time to time to disseminate the practical philosophy of Gurus as well as on the current issues emerging at the Global level.

Field–work has been done by the Faculty and students from time to time.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths

1. The department got sanctioned Rs. 60 Lacs as U.G.C-SAP grant for DRS-II after review of last five years work.
2. Statutory and interdisciplinary department offering teaching courses in M.A.(Hons), Religious Studies, M.A.(Hons) Philosophy, M.Phil. (Religious Studies & Philosophy), Pre-Ph.D. and guiding research students for doctrate degree.
3. The Department also offers four value oriented Interdisciplinary courses for students of other departments and getting good response admitting 450 students from about fifteen departments.

4. The department is publishing two referred journals anuually on the themes relating to different perspectives of Sikh Studies and Sri Guru Granth Sahib and other religions.
5. Seminars/ Conferences/ Lectures (National & International) are organized by the department to disseminate the message of Guru Nanak and to find solutions to the current emerging issues at the global level.

Weaknesses

1. Lack of Specialized and regular teaching faculty.
2. No sufficient rooms and infrastructure for classes.
3. Lack of administrative staff (no data entry operator).
4. No separate library
5. No adequate space and research facilities available.

Opportunities

1. Scope for Advanced Centre for Comparative studies and interfaith understanding.
2. Value oriented courses at P.G. level could have been offered.
3. Programs to nurture the Sikh values/ Tradition/ Cultural heritage could be initiated.
4. Research programmes need to be introduced in collaboration with the foreign universities.
5. Students can help to promote Religious Tourism and national integration by participating in the value-oriented programs.

Challenges

1. Lack of specialized teaching faculty is threat to good academic research.
2. Continuation of UGC (SAP) programme may suffer due to shortage of faculty.
3. Student's strength (affected due to non availability of these subjects in many colleges).
4. Lack of efficient administrative staff causes delay in efficient functioning of the department.
5. Public expectations from such type of departments is a great challenge.

52. Future plans of the department.

1. To disseminate the teachings of Guru Nanak Dev ji and to promote research in the context of World religions and relevance in the present times, the department will organize national and International Seminars/Conferences/Lectures/Workshops and will invite Visiting Fellows.
2. The thematic glossary of the Holy Scripture Sri Guru Granth Sahib will be compiled in Five Volumes.
3. Interfaith understanding is the modern trend of thought all over the world in the present age of globalization. The department of Guru Nanak Studies has initiated this move by introducing all major

religions in the curriculum at P.G.Level. A Religious Atlas will be prepared. Scholars/ expertise of different religious traditions will be invited as resource persons for lectures/seminars/workshops etc.

4. A critical evaluation of the different versions of Exegetical traditions of Sikh Scripture is needed to meet with the scientific temper of the changing times and to understand the eternal message in modern idiom.
5. A research project on Applied Ethics will be initiated along with empirical studies concerning evaluation of the social implications of scientific and technological changes; policy making matters in professional ethics and professional codes and responsibilities.
6. The department of Guru Nanak Studies will plan to promote interfaith research and to establish Advanced Center for Comparative Studies at national and International level.

1. **Name of the Department:** Centre on Studies in Sri Guru Granth Sahib
2. **Year of establishment:** April, 2011
3. **Is the Department Part of a School/Faculty of the University?** Yes
4. **Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.):** None
5. **Interdisciplinary programmes and departments involved:** None
6. **Courses in Collaboration with other Universities, Industries, foreign institutions, etc.:**None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System: Annual/Semester/Trimester/Choice Based Credit System:** None
9. **Participation of the department in the courses offered by other departments:** None
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Director	1	1	1
Professor	6	2	2
Associate Professor	None	None	-
Asst. Professors	None	None	-
Others	18 Project Fellows	13	13

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designation	Specialization	No. of Years Experience
Prof. B.S.Dhillon	M.A., Ph.D.	Director	Sikh Studies	35 Years
Prof. Gulzar Singh	M.A., Ph.D.	Professor	Sikh Literature	35 Years
Prof. N. Muthumohan	M.A., Ph.D.	Professor	Sikh Philosophy	30 years

12. **List of Senior Visiting Fellows, adjunct Faculty, Emeritus Professors**
    i. Prof. Jagbir Singh, University of Delhi, Delhi.
    ii. Prof. Dharam Singh, Punjabi University, Patiala.
    iii. Prof. J.K.Dhillon, Guru Nanak Dev University, Amritsar.
    iv. Dr. Gurnam Singh Sanghera, Burnby, B.C. Canada.
    v. Dr. Gurcharan Singh Bal, Ottawa, Canada.
    vi. Bhai Baldeep Singh (Renowned Musician), New Delhi.
    vii. S.Gurbir Singh (Renowned Author) Chandigarh.
    viii. Singh Sahib Giani Joginder Singh, Oriental Scholar, Amritsar.

13. **Percentage of classes taken by temporary faculty–programme-wise information:** Not Applicable
14. **Programme-wise Student Teacher Ratio:** NA
15. **Number of academic support staff (technical) Sanction Filled. Administrative Staff: sanctioned, filled and actual**

Sr.no	Post Name	Sanction	Filled	Unfilled
1	Accompanist (Harmonium, Tabla, Sitar etc.	4	-	4
2	Curator	1	-	1
3	Programm Assistant	1		1
4	Jr. Technician (Computer)	1		1
5	Asst. Librarian	1		1
6	Prof Assistant	1		1
7	Jr. Library Attdt cu peon	1		1
8	Superintendent	1		1
9	Stenographer	2	1(PA)	1
10	Clerk Cum JDEO	2	1(Sen. Assit.)	1
11	PMO-Cum Restorer-cum-Daftri	1	1	None
12	Peon	2	1	1

16. **Research thrust areas as recognized by major funding agencies: :** Studies on Sri Guru Granth Sahib
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.:** None
18. **Inter-institutional collaborative projects and associated grants received** None
    a) National collaboration
    b) International collaboration
19. **Departmental Projects funded by DST-FIST; Funded by UGC: UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:** All Projects are part of the funding provided by the UGC
20. **Research facility/Centre with**
    - **State recognition:** None
    - **National recognition:** None
    - **International recognition:** None
21. **Special research Laboratories sponsored by/created by Industry or corporate bodies:** None

22. Publications:

- **Number of Papers Published in peer reviewed Journals (National/International)**
- **Monographs**
  Prof. Balwant Singh Dhillon: 1
  Prof. Gulzar Singh Kang: 1
- **Chapters in Books**
  Prof. Gulzar Singh Kang: 1
- **Edited Books**
  Prof. Gulzar Singh Kang: 3
- **Books with ISBN with details of publishers**
  Prof. Balwant Singh Dhillon: 2
  Prof. Gulzar Singh Kang: 1

23. Details of patents and income generated: None

24. Areas of consultancy and income generated: (SGPC, Amritsar) Rs. 5,00,000/-

25. Faculty selected Nationally/Internationally to visit other laboratories/ Institutions/Industries in India and abroad

26. Faculty serving in

a)	**National committees**	**:**	3
b)	**International committees**	**:**	1
c)	**Editorial Boards**	**:**	3
d)	**any other (please specify)**	**:**	

27. Faculty recharging strategies (UGC, ASC, Refresher/Orientation Programs, Workshops, Training programs and similar programs).: 2

28. Student projects

- **Percentage of students who have done in-house Projects including Inter- departmental projects:** NA
- **Percentage of students doing projects in Collaboration with other Universities /Industry/Institute:** None

29. Awards/recognitions received at the national and international level by

•	**Faculty**	**:**	3
•	**Doctoral / post doctoral fellows**	**:**	None
•	**Students**	**:**	None

30. Seminars **:**

Conferences
Workshops
Lectures
Symposium
Organized and the source of funding **:** UGC
National
International
(with details of outstanding participants, if any)

31. **Code of ethics for research followed by the Department:** UGC/University Norms
32. **Student profile programme-wise:** NA
33. **Diversity of students:** NA
34. **How many Students have cleared Civil Services and Defence Services examinations:** NA
35. **Student Progression:** NA
36. **Diversity of staff**

% of faculty who are graduates	
of the same university	None
from other universities within the State	66.66
from universities from other States	33.33
from universities outside the country	None

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None
38. **Present details of departmental Infrastructure facilities with regards:** Building of the Centre under construction
    a) **Library**
    b) **Internet facilities for staff and students**
    c) **Total number of class rooms**
    d) **Class Rooms with ICT facility**
    e) **Students' laboratories**
    f) **Research laboratories**
39. **List of doctoral, post-doctoral students and Research Associates:** None
    a) from the host Institution/University
    b) from other Institutions/Universities
40. **Number of post graduate students getting financial assistance from the university.:** None
41. **Was any need assessment exercise undertaken before the development of new programme(s)?:** N.A.
    If so, highlight the methodology.
42. **Does the department obtain feedback from? :**N.A.
    a. **Faculty on curriculum as well as teaching-learning-evaluation?**
    b. **If yes, how does the department utilize the feedback?**
    c. **Students on staff, curriculum and**
    d. **Teaching-learning-evaluation and how does**
    e. **Tthe department utilize the feedback?**
    f. **Alumni and employers on the programmes offered and how does the department utilize the feedback?**
43. **List the distinguished alumni of the department (maximum 10):**NA
44. **Give details of student enrichment programmes :** NA
    (Special Lectures/Workshops /Seminar) Involving external experts
45. **List the teaching methods adopted by the faculty for different programmes.** NA

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
    a) Expert opinion of outside Scholars
47. **Highlight the participation of students and faculty in extension activities:** Paper Presentation By Faculty and Project Fellows in Research Forum called, Manthan
48. **Give details of "beyond syllabus scholarly activities" of the department.** None
49. **State whether the programme/department is accredited/Graded by other agencies? If yes, give details.** None
50. **Briefly highlight the contributions of the department in generating new knowledge,basic or applied.**
    Since its inception the Centre is working on some research projects which deal with research tools such as Exegesis, Glossaries, Dictionaries, Catalogues, Bibliographies, Critical Texts of Original Sources, Recording of Oral Sikh Tradition and 1947 Partition related stories, etc. All these projects will go to a long way in facilitating research on various aspects of the Sikh Scripture and Sikh Studies. Besides many of the lesser known texts, subjects, documents will be introduced through these studies.
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**
    Strengths:
    i. Dedicated, experienced and qualified Faculty including Research Fellows who are well versed in inter-disciplinary methods.
    ii. Healthy and congenial environment wherein researchers work in a team spirit for academic excellence.
    iii. When fully established the Centre will have best infra-structure for research on the Sikh Studies in the form of library, museum, auditorium etc.
    iv. No duplicity or over-lapping in doing studies.
    Weaknesses:
    i. Some Faculty positions are vacant for want of availability of qualified, experienced and competent scholars.
52. **Future plans of the department.**
    I. Construction of Web-site show-casing the academic agenda, activities and achievements of the Centre.
    II. Making of documentaries on heritage, environment and other social issues.
    III. Training and development of skills in manuscriptology and pre-modern Punjabi.
    IV. Hosting of Workshops/Courses for foreign based research students who are doing Sikh Studies. It will provide them proper orientation in Sikh religion, history and literature.

1. **Name of the Department:** English
2. **Year of establishment:** 1970
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered:** M.A., M.Phil. and Ph.D.
5. **Interdisciplinary programmes and departments involved:**
   List of Inter-disciplinary courses offered by the Department:
   UG:
   ENL001-Introduction to Stories and One-Act Plays
   ENL026-Introduction to American Literature
   PG:
   ENL051-Introduction to Literature in English
   ENL076-Appreciation of Poetry
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:** Yes, English Compulsory and Communicative English
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate, Professors/Asst. Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	02	0	3
Associate Professors	03	0	2
Asst. Professors	08	7	2

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance:**

Name	Qualifi-cation	Designation	Specialization	No. of years of experi-ence	No. of Ph.D. / M.Phil. students guided for the last 4 years.
Dr. Sukhdev Singh	Ph.D.	Professor and Head	Linguistics, Stylistics and ELT	30	Ph.D. 4 M.Phil. 06
Dr. Harbir Singh Manku	Ph.D.	Associate Professor	Postcolonial Theory; American Literature	30	M.Phil. 05

Dr. Yubee Gill	Ph.D.	Associate Professor	British and Indian Fiction; Narratology; Critical Theory	19	Ph.D. 5 M.Phil. 9
Mr. Manbir Singh Bhullar	M.Phil.	Assistant Professor	Poetry; History of Literature	20	None
Dr. Sumneet Kaur	Ph.D.	Assistant Professor	Postcolonialism; Feminism	02	Ph.D. 2 M.Phil. 5
Dr. Gurupdesh Singh	Ph.D.	Professor (Reemployed)	Language, Criticism and Narratives	35	Ph.D. 6 M.Phil. 9
Dr. Parminder Singh	Ph.D.	Professor (Reemployed)	Semiotics, Indian Literature in English and Translation	30	M.Phil. 5

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** Sh. R.L. Rikhi
13. **Percentage of classes taken by temporary faculty – programme-wise information:** None
14. **Programme-wise Student Teacher Ratio:**

Class	Semester	Total No. of students	No. of teachers
M.A. English (Hons)	I	50	06
M.A. English (Hons)	I	50	06
M.Phil. English	I	26	06
Pre-Ph.D. English	I	05	03

15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:**

Post	Sanctioned posts	Filled	Actual
Senior Assistant	01	01	01
Steno	01	None	None
Peon	01	01	01

16. **Research thrust areas as recognized by major funding agencies:** None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise:** None

18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:** None
20. **Research facility /centre with**
    - **State recognition:** None
    - **National recognition:** None
    - **International recognition:** None
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** NA
22. **Publications:**
    - **Number of paper published in peer reviewed journals (national /International)**: 2
    - **Monographs**: None
    - **Chapters in Books**: 3
    - **Edited Books**: Nil
    - **Books with ISBN with details of publishers**: 2

    1. Grammar of the Modern English Language, Foundation Books (Cambridge University Press), by Dr. Sukhdev Singh (co-authored).

    2. The Culture of the Sikligar Tribe, (Edited and Translated by Dr. Sukhdev Singh, Professor) published by Punjabi University, Patiala.
23. **Details of patents and income generated:** NA
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories / Institutions /industries in India and abroad:** None
26. **Faculty serving in**

    a) National committees: Dr. Sukhdev Singh, Professor is a Member of Governing Council and Executive Committee of Indian National Trust for Art and Cultural Heritage (INTACH)

    b) International committees c) Editorial Boards d) any other (please specify): None
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs):** 4 Refresher Courses has been organized by the Department.
28. **Student projects:**

    • **Percentage of students who have done in-house projects including inter- departmental projects :** None

    • **Percentage of students doing projects in collaboration with other universities /Industry /institute:** None
29. **Awards /recognitions received at the national and international level by**
    - **Faculty:** None
    - **Doctoral /post doctoral fellows:** No
    - **Students:** None

30. **Seminars/ Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any:** None
31. **Code of ethics for research followed by the departments:** As established by the Academic Community and the University.
32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected		Pass Percentage
		Male	Female	
M.A. (Hons)	124	07	40	92
M.Phil.	56	02	12	80
Pre-Ph.D.	27	00	05	100

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M.A. English (Hons)	74.46%	21.27%	4.25%	0%
MPhil English	85.71%	14.29%	0%	0%
Pre-Ph.D. English	80%	20%	0%	0%

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations?**

UGC NET: 4

Name of the student	Category
Preety Goyal	General
Neeta Kumari	General
Manpreet Kaur	General
Ravinder Kaur	SC

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	None
P.G. to M.Phil.	42.85
P.G. to Ph.D.	60
Ph.D. to Post-Doctoral	None
Employed • Campus selection • Other than campus recruitment	 02 05
Entrepreneurs	None

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	60
from other universities within the State	20
from universities from other States	20
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None
38. **Present details of departmental infrastructural facilities with regard to**

    a) Library: 05 computers with internet connectivity

    b) Internet facilities for staff and students: Yes, (8 Computers for Faculty with printer and Internet facility and 5 Computers for students with internet facility

    c) Total number of class rooms: 04

    d) Class rooms with ICT facility: None

    e) Students' laboratories: NA

    f) Research laboratories: NA
39. **List of doctoral, post-doctoral students and Research Associates**

    a) from the host institution/university

    b) from other institutions/universities NA
40. **Number of post graduate students getting financial assistance from the university:** M.A. English (Hons) Semester-I: 06 and M.A. English (Hons) Semester-III: 02
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:** None
42. **Does the department obtain feedback from?**

    a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? Yes, the Department uses it for further improvements.

    b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? Yes, the Department uses it for further improvements.

    c. alumni and employers on the programmes offered and how does the department utilize the feedback? None
43. **List the distinguished alumni of the department (maximum 10):** None
44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts:** None
45. **List the teaching methods adopted by the faculty for different programmes:** Lectures and Seminars

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?** By Regular Assessment
47. **Highlight the participation of students and faculty in extension activities.** None
48. **Give details of "beyond syllabus scholarly activities" of the department.** None
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details**. No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied:** None
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department:**

STRENGTHS

1. Highly qualified and experienced faculty
2. International exposure to the faculty
3. Continuous engagements in research by faculty
4. Well behaved students
5. Disciplined students

WEAKNESSES

1. Some areas of teaching are unrepresented (faculty)
2. Under qualified faculty sometimes in case of Adhoc arrangement (faculty)
3. Many students from rural areas are deficient in the subject (students)
4. Lack of targeted add for students from our region or state (students)
5. Large size of classes (system of examination/evaluation)

OPPORTUNITIES

1. Well equipped library
2. Computer and Internet facility
3. Promotion on the basis of merit
4. Fee concession

CHALLENGES

1. Over emphasis on teaching causes diminishing research
2. Lack of focus
3. Rising budget cuts
4. Hike in fee and other costs
5. Absence of defined objectives

52. **Future plans of the department:**

To set up the Under Graduate (U.G.) Centre for English and Social Life.

Objectives:

I. The centre will undertake and encourage students to pursue research creating connections between English and other fields of study.

II. The centre will also offer three full time courses.

(a) Names of the Courses: The proposed courses will be named as follows:

(1) B.A. (HS) in English and Education
(2) B.A. (HS) in English and Media
(3) B.A. (HS) in English and Language Studies.

(b) Duration: The duration of each course will be six semesters.

(c) Intake of students:
20 students (English and Education)
20 students (English and Media)
20 students (English and Language Studies)

(d) Plan of study: For all the courses in each semester there will be five core papers and two interdisciplinary/ elective papers.Of the five papers, three papers will be common for all the courses and will relate to the English language and literature; the other two papers will relate to the allied discipline i.e. education, media, linguistics.

(e) Mode of evaluation: Choice Based Credit System

(f) Potential for employment: The graduates from the proposed centre will have wider employment opportunities in the fields of language education, media, administration, and research.

1. **Name of the Department:** Foreign Languages
2. **Year of establishment:** 1994
3. **Is the Department part of a School/Faculty of the University? :** Yes
4. **Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.) U.G. Courses:**
   i. Certificate Courses in French, German & Russian (Part Time)
   ii. Diploma Courses in French, German & Russian (Part Time)
   iii. Advanced Diploma Courses in French, Russian (Part Time)
   iv. Full Time Diploma in French & Russian.
5. **Interdisciplinary programmes and departments involved:** Interdisciplinary Course in French & Russian namely "Basic French" & "Basic Russian".
   Departments involved: 10
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** Certificate Course in Japanese & ID course in German discontinued due to non availability of teachers.
8. **Examination System: Annual/Semester/Trimester/Choice Based Credit System:**
   Semester introduced for the first time in this session. Choice Based Credit System followed in ID Courses.
9. **Participation of the department in the courses offered by other departments:** None
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	--	---	-----
Associate Professors	--	1	1(CAS)
Asst. Professors	05	0	0
Others (PART TIME)	----	04	04

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Mohan Kumar	M.A., Ph.D., Diploma in German	Associate Professor	Russian Language	19	one pursuing

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors**: None
13. **Percentage of classes taken by temporary faculty – programme-wise information**
    -Certificate Course In French (Part Time) 100
    -Diploma Course in French (Part Time) 100
    -Advance Diploma Course in French (Part Time), 100
    -Full Time Diploma in French 100
    -Interdisciplinary Course: "Basic French FRL-001" 100
14. **Programme-wise Student Teacher Ratio:**
    - Certificate Course in French (Part Time): 40::01
    - Certificate Course in German (Part Time): 30::01
    - Certificate Course in Russian (Part Time): 30::01
    - Diploma IN French (Part Time): 10::01
    - Diploma in German (Part Time): 10::01
    - Advanced Diploma In French (Part Time): 10::01
    - Full Time Diploma in French: 30::01
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:** 2, 2, 2
16. **Research thrust areas as recognized by major funding agencies:** None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.** None
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.** None
20. **Research facility/centre with**
    - **State recognition:** None
    - **National recognition:** None
    - **International recognition:** None
21. **Special research laboratories sponsored by/created by industry or corporate bodies:** None
22. **Publications:** 1
    * **Books with ISBN with details of publishers:** One, ISBN 9789350410653, published by Saraswati House Pvt. Ltd, 9, Daryaganj, New Delhi
23. **Details of patents and income generated:** NA
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally/ internationally to visit other laboratories/ Institutions/industries in India and abroad:** NA

26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify)
    1. Member of the Indian Teachers of Russian Association.
    2. Member of the Indian Teachers of German Association.
27. **Faculty recharging strategies (UGC, ASC, Refresher/orientation programs, workshops, training programs and similar programs).**
    05
28. **Student projects**
    • **Percentage of students who have done in-house projects including inter- departmental projects:** None
    • **Percentage of students doing projects in collaboration with other universities /Industry/institute:** None
29. **Awards/recognitions received at the national and international level by**
    • **Faculty:** None
    • **Doctoral /post doctoral fellows:** None
    • **Students:** None
30. **Seminars/Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any.** None
31. **Code of ethics for research followed by the departments:** As per University/UGC norms
32. **Student profile programme-wise**

2008-09

Name of the Programme	Applications received	Selected Male	Selected Female	Pass percentage Male	Pass percentage Female
1. Certificate Course in French (Part Time)	102	50	49	51.9	7
2. Diploma Course in French (Part Time)	08	01	05	100	66.6
3. Certificate Course in Russian (Part time)	10	10	--	100	--
4. Full time Diploma in Russian	03	03	--	0	--
5. Certificate Course in German(Part Time) (Part Time)	29	19	07	100	100
6. Certificate Course in Japanese(Part Time)	05	04	01	75	100

2009-10

Name of the Programme	Applications received	Selected Male	Selected Female	Pass percentage Male	Pass percentage Female
1. Certificate Course in French (Part Time)	143	76	54	67.3	73.3
2.Diploma Course in French (Part Time)	01	-	01	---	---
3. Full Time Diploma in French	29	13	13	80	100
4. Certificate Course in Russian (Part time)	07	06	01	100	--
5. Full time Diploma in Russian	01	01	--	100	--
6.Certificate Course in German (Part Time)	30	22	08	81.4	100
8.Certificate Course in Japanese (Part Time)	09	08	--	100	--
9. Diploma in German(Part Time)	02	02	--	100	--

2010-11

Name of the Programme	Applications received	Selected Male	Selected Female	Pass percentage Male	Pass percentage Female
1. Certificate Course in French (Part Time)	106	63	39	75	95.6
2.Diploma Course in French (Part Time)	01	-	01	-	--
3. Full Time Diploma in French	30	22	07	58.3	100
04.Certificate Course in Russian (Part time)	02	01	01	--	--
5.Certificate Course in German (Part Time)	32	19	11	91.1	100
6.Certificate Course in Japanese (Part Time)	02	01	01	100	100

2011-12

Name of the Programme	Applications received	Selected Male	Selected Female	Pass percentage Male	Pass percentage Female
1. Certificate Course in French (Part Time)	120	8/6	30	45.4	85
2.Diploma Course in French (Part Time)	01	-	01	-	--

3. Full Time Diploma in French	27	16	09	44.6	100
4.Certificate Course in Russian (Part time)	01	01	00	--	--
5.Certificate Course in German (Part Time)	15	07	06	50	100

2012-13

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
1. Certificate Course in French (Part Time)	133	9/2	38	75.4	78.3
2.Diploma Course in French (Part Time)	03	01	02	--	100
3. Full Time Diploma in French	34	17	12	71.1	100
4.Certificate Course in German (Part Time)	15	07	06	100	100
5. Diploma in German(Part Time)	04	02	02	--	100
6. Advance Diploma in French (Part Time)	07	02	05	100	100
7. Certificate Course in German (Part Time)	23	19	05	100	100

33. Diversity of students

2008-09

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Certificate Course in Russian (Part Time)	100	None	None	None
Certificate Course in French (Part Time)	81	14	05	None
Certificate Course in German (Part Time)	66	34	None	None
Diploma in German(Part Time)	100	None	None	None
Diploma in French (Part Time)	100	None	None	None
Full time Diploma in French	68	17	15	None

2009-10

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Certificate Course in Russian (Part Time)	69	23	08	0
Certificate Course in French (Part Time)	76	19	05	0
Certificate Course in German (Part Time)	66	34	0	0
Diploma in German(Part Time)	100	0	0	0
Diploma in French (Part Time)	100	0	0	0
Advance diploma in French (Part time)	100	0	0	0
Full time Diploma in French	55	30	15	0
Certificate Course in Japanese (Part time)	94	3	3	0

2010-11

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Certificate Course in Russian (Part Time)	60	20	20	0
Certificate Course in French (Part Time)	72	3	25	0
Certificate Course in German (Part Time)	56	44	--	0
Diploma in French (Part Time)	100	--	--	0
Certificate course in Japanese (Part Time)	100	--	--	0
Full time Diploma in French	55	30	15	0

2011-12

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Certificate Course in Russian (Part Time)	100	0	0	0
Certificate Course in French (Part Time)	69	13	18	0
Certificate Course in German (Part Time)	55	41	4	0
Full time Diploma in French	81	9	10	0
Diploma Course in French (Part Time)	100	0	0	0

2012-13

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Certificate Course in Russian (Part Time)	100	0	0	0
Certificate Course in French (Part Time)	74	17	09	0
Certificate Course in German (Part Time)	95	05	0	0
Full time Diploma in French	91	07	02	0
Diploma Course in French (Part Time)	100	0	0	0
Diploma in German (Part Time)	100	0	0	0
Advanced Diploma in French (Part Time)	100	0	0	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.:** N.A.

35. **Student progression:** N. A.

Student progression	Percentage against enrolled
U.G. to P.G.	-
P.G. to M.Phil.	-
P.G. to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	-
Entrepreneurs	-

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	60
from other universities within the State	20
from universities from other States	20
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period**: None
38. **Present details of departmental infrastructural facilities with regard to**
    a) Library: None
    b) Internet facilities for staff and students: Yes
    c) Total number of class rooms: 02
    d) Class rooms with ICT facility: None
    e) Students' laboratories: None
    f) Research laboratories: NA
39. **List of doctoral, post-doctoral students and Research Associates**
    a) from the host institution/university: None
    b) from other institutions/universities: None
40. **Number of post graduate students getting financial assistance from the university.** None
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.** No new programme was introduced in this period.
42. **Does the department obtain feedback from?**
    a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?** Yes, the faculty of the department meets regularly formally & informally to discuss thoroughly problems, suggestions, new ideas regarding curriculum, syllabi, evaluation & the teaching methodology etc. An attempt is made to incorporate all these suggestions in teaching.

b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?** Students are always encouraged to give free & frank feedback regarding curriculum, syllabi etc. Due weightage is also given to their critical suggestions.
c. **alumni and employers on the programmes offered and how does the department utilize the feedback?** None

43. **List the distinguished alumni of the department (maximum 10)**: None
44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts. :** None
45. **List the teaching methods adopted by the faculty for different programmes**. Communicative method used as much as possible, use of audio-visual aids quite frequent; students are motivated to converse in the concerned foreign language.
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored? Periodical evaluation of students through class tests, assignments, translation projects, quiz etc.** All these activities are constantly monitored & their outcome discussed in the faculty meeting.
47. **Highlight the participation of students and faculty in extension activities.** One serving the Academic Staff College of the University as Deputy Director since April 2012.
48. **Give details of "beyond syllabus scholarly activities" of the department.** None
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details.** :No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.** None
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

Strengths:

1. Students-centric & friendly.
2. Syllabi periodically revised & updated.
3. Emphasis on spoken language skills.
4. Sole regular teacher running deptt.
5. Regular in touch with institutes, like Goethe Institute, Alliance Francis.

Weaknesses:

1. Dwindling faculty with passage of time.
2. Lack of Language lab.
3. Lack of departmental library.
4. Mainly part-time courses.
5. Research component.

Opportunities:

1. Introduction of few other major foreign languages.

2. Need to introduce more regular courses.
3. Setting up of Translation Bureau.
4. Establishing contacts with Cultural Centres of France, Germany & Russian \Federation.
5. Need to emphasise on listening skills.

Challenges:

1. Dire need to appoint more regular faculty.
2. Hectic schedule hampering part-time courses.
3. Optimum use of ICT in teaching.
4. Lack of exposure to students.
5. Strengthen research component.

52. Future plans of the department.

Keeping in view the changing global scenario, we would like to have introduced a few other major foreign languages like Spanish, Japanese, Korean & Chinese etc. in order to make budding professionals more competitive in the global market of today. It is imperative to have regular graduate & post graduate courses in the department in order to cater to growing demand of teachers of Foreign Languages in the region. Translation from & into foreign languages has to play a significant role in the present times. Consequently, it is imperative to focus on distinct courses in translation & interpretation or to incorporate them in the present curriculum. A Multilingual Phrasebook in French, German & Russian for the native speakers of Punjabi is also under active consideration after the publication of a "Multilingual Glossary" in 2011.

1. **Name of the Department :** Hindi
2. **Year of establishment:** 1969
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered:** P.G., M.Phil., Ph.D., PGDT
5. **Interdisciplinary programmes and departments involved:**
   ID Courses are introduced for UG., P.G., M.Phil., Ph.D. Students: Architecture, Psychology, Economics, CBM, Electronics, Social Sci, Chemistry, Textile Chemistry, Urdu, Sanskrit,
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:** Urdu, Sanskrit, and Political Science
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	2	1	1CAS
Associate Professors	4	-	
Asst. Professors	3	2	
Others		2 Asst. Prof on contract basis	

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./M.Phil. students guided for the last 4 years
Dr. Sudha Jitender	Ph.D., M.Phil.,	Prof& Head	Modern Hindi Literature, Modern linguistics , MSemotics	26	Ph.D. -09 M.Phil.- 40
Dr. Sunita Sharma	Ph.D.	Asst. Professor	Medieval	04	PhD -04 M.Phil. -06
Dr. Sunil Kumar	Ph.D.	Asst. Professor	Modern	04	Ph.D. -04 M.Phil.- 06

Dr. H.S. Bedi	Ph.D.	Retired Professer	Medieval Hindi Literature	27	M.Phil.-14 Ph.D.-06
Dr. Madhu Sandhu	Ph.D.	Retired Professor	Modern Hindi Fiction	12	Ph.D.-06 M.Phil.-14

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None
13. **Percentage of classes taken by temporary faculty –** programme-wise information
    - 40 % classes taken by temporary faculty
14. **Programme-wise Student Teacher Ratio**
    - M.A.: 11:1
    - M.Phil.: 10:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**
    Sanctioned: One- Clerk, One- Stenotypist, One- Peon
    Filled and Actual: One- Clerk, One- Peon
16. **Research thrust areas as recognized by major funding agencies:-**
    - Comparative Literature
    - Linguistics, Stylistics, Poetics
    - Medieval Hindi Literature
    - Translation
    - Modern Hindi literature
    - Environment consciousness
    - Mass media and journalism
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.**

National

- 'Hindi Ka Bhartiya Tatha Pravasi Mahila Katha Lekhan: Tulnatmak Adhayan Up to1980' a Major Research project of the UGC to Dr. Madhu Sandhu (2010-2012)
- 'Aadhunik Hindi aur Punjabi Kavita Mein Swatantrta Andolan Ki Bhavabhivkti Ka Tulnatmak Adhayan (1857-1947)', Major Research project funded by the UGC to Dr. Sudha Jitinder (2008-2011)
  Grant Received approx. 12 lakh

18. **Inter-institutional collaborative projects and associated grants received**

a) National collaboration b) International collaboration

Inter Departmental collaboration is going on under UPE

1. Comparative Study of Hindi and Punjabi Languages in the context of Modern Indian Aryan Languages (In the special context of Punjab)

2. Hindi aur Punjabi ke Hindi Upnayaskaron ke Chayanit Upnayason ka Sanskritik Adhyayan

3. Madhyakaleen aur Aadhunik Hindi Sahitya mein Paryavaran chetna

- Grant Received approx. 05 lakh

19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:** None
20. **Research facility / centre with**
    • State recognition
    • National recognition
    None
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** N.A.
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national / International)**: 41
    - **Monographs**: None
    - **Chapters in Books:** 02
    - **Edited Books:** 02
    - **Books with ISBN with details of publishers:** 02
23. **Details of patents and income generated :** N.A.
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories / Institutions / industries in India and abroad:** None
26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify)
    Faculty serving in national committees as member of B.O.S., R.D.C., member of different Govt. Institutions, Academic Council- Central Institute of Hindi Agra (Ministry of HRD , Govt. Of INDIA)
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs)**
    Three Refresher Courses have been Organised by Department of Hindi
    - The Department organized a Refresher Course from 4-03-2010 to 24 03-2010 on 'Hindi Evam Sanskrit Sahitya Parampara: Pramukh Ayam aur Yogdan'.
    - Refresher Course entitled 'Hindi Sahitya ka Utkrisht Rachnayein , Rachnakar evam Sandrishtyan 14-06-2011 to 06-07-11
    - Refresher Course entitled 'Beesvein Shtabdi ke Utarardh Mein Rachit Hindi Aur Sanskrit Sahitya ki Uplabdhiyan' 11-10-2011 to 31-10-12
28. **Student projects:** None
    - **Percentage of students who have done in-house projects including inter- departmental projects**- None
    - **Percentage of students doing projects in collaboration with other universities / Industry / institute**- None

29. Awards / recognitions received at the national and international level by

• **Faculty:** Dr. Indernath Madaan Aalochna Puraskar by Hindi Sahitya Kala Parishad to Prof. Sudha Jitender

• **Doctoral / post doctoral fellows:** None

• **Students:** None

30. Seminars/Conferences/Workshops organized and the source of Funding (National/international) with details of outstanding participants, if any.

Five National Seminar has Organised

1. 'Hindi Bhasha Aur Sahitya: Nayi Chunautiiyan, Naye Kshitij', on 28-03-11. Sponsored by UGC
2. 'Internet ke Yug mein Pustak ki Bhumika', 06-06-2011 Sponsored by National Book Trust
3. Punjab Ke Hindi sahitya Ka Varatman Sandharabh' on 28-7-11 Sponsored by Hindi Sahitya Kala Parishad
4. Ekeesvien shati mein rachit Hindi sahitya, Two days seminar,24,25, sept, 2012 Sponsored by UGC
5. Saidhantik aur Sarjnatmak Aalochna, 14-12-12 Sponsored Bharat Pustak Bhandar

31. Code of ethics for research followed by the departments:

- As per UGC and University norms

32. Student profile programme-wise:

Name of the Programme	**Applications received**	**Selected**		**Pass percentage**	
		Male	**Female**	**Male**	**Female**
M.A.	80	04	52	100	100
M.Phil.	200	06	78	100	100
Pre-Ph.D.	27	1	11	100	100

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
P.G.	90	10	0	0
M.Phil.	50	40	10	0
Pre-Ph.D.	90	10	0	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

UGC NET: General: 4, SC: 02, OBC: 02

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	N.A.
P.G. to M.Phil.	60
P.G. to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	-
Entrepreneurs	-

36. Diversity of staff

Percentage of faculty who are graduates	100%
of the same university	30
from other universities within the State	-
from universities from other States	70
from universities outside the country	-

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:

- One

38. Present details of departmental infrastructural facilities with regard to

a) Library: Sufficient books, Magazines, Research Journals, Encyclopaedia are available in library

b) Internet facilities for staff and students: Available in library

c) Total number of class rooms: 4

d) Class rooms with ICT facility: One

e) Students' laboratories: N.A.

f) Research laboratories: N.A.

39. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university: None

b).from other institutions/universities: None

40. Number of post graduate students getting financial assistance from the university.

- 2008-09= 05
- 2009-10= 10
- 2010-11= 12
- 2011-12= 12
- 2012-13= 0

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

- Need assessment exercise are undertaken quite regularly in the

Deptt. for the development of new programme through B.O.C. meetings, discussions with students & teachers & regular feedback from them.

42. Does the department obtain feedback from?

a. **Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?**
Regular meetings and discussions are held with the faculty in learning evaluation.

b. Regular feedback is taken from student in relation to staff, Curriculum & T.L. evaluation and the same is implemented to the maximum extent in the deptt.

c. Source of feedback from All members & Employee is through the seminars, workshops which are regularly held in the deptt.
Yes, Deptt welcomes these suggestions and incorporate it in the Syllabus

d. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
Yes, emphasis has been given to the student suggestions.

c. **alumni and employers on the programmes offered and how does the department utilize the feedback?** None

43. List the distinguished alumni of the department (maximum 10)

1. Dr. S.K. Bath : Prof. & Head, Department of Hindi, Punjabi University, Patiala.
2. Dr. Vinod Shahi : Principal, Govt. College, Jandiala (Jalandhar)
3. Dr. Vinod Kumar : Translation Officer, Indian Army, Chandigarh.
4. Dr. Neelam Sethi : Principal Pt. Mohan Lal College, Gurdaspur.
5. Dr.Neelam Arun Mittu : Principal, D.A.V.College, Abohar
6. Dr. K.K. Rattau : Director, Doordarshan Kendra Chandigarh.
7. Dr.Harish Sood : Principal, D.A.V. College, Nakodar.
8. Dr. Anjna : A.P.J College of fine Arts, Jalandhar
9. Dr. Meenu Nanda : B.D. Arya College, Jalandhar
10. Dr. Vinod Kalra : Head, Department of Hindi, K.M.V. College Jalandhar

44. Give details of student enrichment programmes (special lectures/ workshops /seminar) involving external experts.

- Seminars are organized on latest trends in the field to enrich students knowledge
- Special lectures are conducted and organized time to time
- Through wall magazine
- Special lectures /workshop/seminars are held quite often the deptt. For this previous faculty members are also invited to deliver special lectures.

45. List the teaching methods adopted by the faculty for different programmes.

- Lecture method

- OHP method
- Group Discussion
- Class rooms Seminars
- Project work

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Students & teachers are the main source for monitoring the programme objection.

47. Highlight the participation of students and faculty in extension activities.

- In Admission and Exam Process
- In Sports
- In Cultural Activities
- In Placement Activities
- Students and faculty member are advised & instructed to attend the seminar & present their paper in the seminars & others colleges & university.

48. Give details of "beyond syllabus scholarly activities" of the department.

- For promotion of Rajbhasha Hindi the faculty of the department deliver lectures at the function & workshops of Banks, insurance companies, other Govt. departments, such as Income Tax, Airport Authority of India, IFFCO etc.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details. None

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied. None

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department. Department is always helpful in contributing to the knowledge of students such as through Media (Print & Electronics), Journalism, Translation etc.

Strengths

1. Department of Hindi is one of the prominent departments of North India which has published extensively in reputed journals. Department has 117 books, 975 research papers, 10 projects to its credit.
2. Department has edited a Hindi Lekhak Kosh, published by University, is monumental work of its kind.
3. Department publishes a Referred Journal Pradhikrit which is the only Regular Referred Journal published by any University.
4 Department syllabus changed, updated as per requirement of C. G.P.A. system
5. Department is known to highlight the works of Hindi literature of Punjab.

Challenges:----

1. Less faculty strength
2. Due to less faculty, we admit less students/ researchers in Ph.D. and M.Phil.
3. Less specialized faculty such as translation and other modern spheres.
4. Less research work done by the teachers
5. Cannot get any assistance from outside agencies

52. Future plans of the Department.

Future Vision:--

1. Department is committed to maintain the research standards by all means
2. Through computer, Department. wants to create system for translation to make easy comparative study in different languages, literature and culture.
3. Collaboration with media.
4. Editing manuscripts in devnagri scripts

1. **Name of the Department** : Sanskrit, Pali & Prakrit
2. **Year of establishment** : 1983.
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered**: P.G., M.Phil., Ph.D.
5. **Interdisciplinary programmes and departments involved**:
   Interdisciplinary programmes:
   SKL-603 - Poetics
   SKL-411 - History of Sanskrit Literature
   2012-13
   SKL-052 - General Study of Sanskrit Kavyas on Sikh Gurus
   SKL-002 - General Study of Purnasardhashatakam
   SKL-053 - Main Streams of Sanskrit Literature
   SKL-063 - Relation between Sanskrit & Panjabi
   SKL-064 - Environmental Awareness in Sanskrit Literature
   SKL-062 - General Study of Mahakavi Bhas : A Sanskrit Dramatist
   SKL-007 - Shatakas of Bhartrihari
   SKL-006 - Basics of Sanskrit Learning
   Departments Involved :
   Hindi, Computer Science & Engineering, English, Architecture, School of Punjabi Studies, Electronics, Mathematics, Laws, Chemistry, Physics, Pharmaceutical Sciences.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.** : None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System**: Choice Based Credit System
9. **Participation of the department in the courses offered by other departments** : Hindi Department
10. **Number of teaching posts sanctioned, filled and actual Professors/AssociateProfessors/Asst. Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	Vacant	CAS - 1
Associate Professors	1	Vacant	CAS - 1
Asst. Professors	3	2	0
Others	0	0	0

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designa-tion	Specializa-tion	No. of Years of Experi-ence	No. of Ph.D./M.Phil. students guided for the last 4 years
Dr. Renu Bala	M.A. (Sanskrit), M.A. (Hindi), M.Phil. (Sanskrit), Ph.D.	Professor	Classical Sanskrit Literature & Poetics	23	M.Phil. – 12 Ph.D. – 2
Dr. Dalbir Singh	M.A. (Sanskrit), M.Phil. (Sanskrit), Ph.D.	Reader	Linguistics, Grammar, Sanskrit Literature (On Sikh Gurus)	20	M.Phil. – 14 Ph.D. – 0

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors**: Dr. Lekh Ram Sharma, Emeritus Fellow (UGC).
13. **Percentage of classes taken by temporary faculty – programme-wise information:** M.A. (Hons.) Sanskrit - 50% , M.Phil. (Sanskrit) - 25%
14. **Programme-wise Student Teacher Ratio**: **M.A. (Hons.)** Sanskrit - 6 : 1 ,
    M. Phil. (Sanskrit) - 6 : 1.
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**: Technical – None; Administrative Staff - Sanctioned – 2, Filled – 2, Actual – 2.
16. **Research thrust areas as recognized by major funding agencies**:
    A. Panjab & Sanskrit
    B. Linguistics
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise:**
    A. Completed Project in 2011 – 1
    (i) National
    (ii) Funding Agency – UGC
    (iii) Total Grant – 8,86,960/-
    (iv) Title - Panjab as a Repository and Source of Sanskrit Literature.

B. Ongoing Project

(i) National

(ii) Funding Agency – UGC

(iii) Total Grant – 5,80,000/-

(iv) Title - Sanskrit as a source of Western Pahari's Kahloori Dialect.

18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:** None
20. **Research facility / centre with**
    - **State recognition:** Nil
    - **National recognition:** Nil
    - **International recognition:** Nil

    Research Facility as per University Norms.
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national /International):** Nil
    - **Books with ISBN with details of publishers:** 01
23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad:** None
26. **Faculty serving in**

    a) National committees b) International committees c) Editorial Boards d) any other (please specify) : None
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs). :** Attended Workshops.
28. **Student projects**

    • Percentage of students who have done in-house projects including inter- departmental projects

    • Percentage of students doing projects in collaboration with other universities /Industry / institute: None
29. **Awards / recognitions received at the national and international level by**
    - **Faculty:** None
    - **Doctoral /post doctoral fellows:** None
    - **Students:** None

30. Seminars/ Conferences/ Workshops organized and the source of funding (National/international) with details of outstanding participants, if any.

Date	Topic	Funding Agency
20-21 March, 2009	Social & Environmental Distrubance	UGC
(National) Remedial Steps in Sanskrit Literature, 29-30 Sept., 2009	Life & Ideology of Maharshi Valmiki	Central Valimiki Sabha
(International) International (U.K.) 15-16 March, 2010	Concept of Rights in Sanskrit Literature	UGC
(National) 22 March, 2011	Husbandry in the Vedas	UGC
(National) 17 Sept., 2012	Relevance of Niti Granthas	UGC

(National)

Outstanding Participants

1. Prof. Satyavrat Shastri (Ex, Vice-Chancellor)
2. Prof. Vachaspati Upadhyay (Ex,Vice-Chancellor)
3. Prof. Shridhar Vasisth (Director)
4. Prof. Swantantra Kumar (Ex, Vice-Chancellor)
5. Prof. Gangadhar Panda (Presently Vice-Chancellor)

31. Code of ethics for research followed by the departments: As per University Norms.

32. Student profile programme-wise:

Name of the Programme	Applica-tions received	Selected Male	Selected Female	Pass percentage Male	Pass percentage Female
2008-09					
M.A. (Sanskrit) Sem-I	5	0	2	100	
M.Phil.(Sanskrit)Sem-I	5	2	2		
2009-10					
M.A. (Sanskrit) Sem-I	5	3	0	100	
M.Phil.(Sanskrit)Sem-I	6	4	1		
Ph.D. (Sanskrit)	11				
2010-11					
M.A. (Sanskrit) Sem-I	7	4	1	100	
M.Phil.(Sanskrit)Sem-I	11	7	2		
Pre-Ph.D. (Sanskrit)		1	1		

2011-12 M.A. (Hons.) Sanskrit Sem-I M.Phil.(Sanskrit)Sem-I	 9 7	 3 5	 3 2	100
2012-13 M.A. (Hons.) Sanskrit Sem-I M.Phil.(Sanskrit)Sem-I Pre-Ph.D. (Sanskrit)	 7 9 4	 3 5 2	 3 3 2	100

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State
2008-09 M.A. (Sanskrit) Sem-I M.Phil.(Sanskrit)Sem-I	 100 75%	 None None	 None 25%
2009-10 M.A. (Sanskrit) Sem-I M.Phil.(Sanskrit)Sem-I	 100 40%	 None 20%	 None 40%
2010-11 M.A. (Sanskrit) Sem-I M.Phil.(Sanskrit)Sem-I Pre-Ph.D. Course (Sanskrit) Sem-I	 100% 22.22 100%	 None 11.11 None	 None 66.66 None
2011-12 M.A. (Hons.) Sanskrit Sem-I M.Phil.(Sanskrit) Sem-I	 100 42.85%	 None 28.57%	 None 28.57%
2012-13 M.A. (Hons.) Sanskrit Sem-I M.Phil.(Sanskrit)Sem-I Pre-Ph.D. Course (Sanskrit) Sem-I	 66.66 37.5 100%	 None 12.5% None	 33.33 50 None

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise: UGC NET**:** 2

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	None
P.G. to M.Phil.	2008-09 = 0 2009-10 = 50

	2010-11 = 100 2011-12 = 40 2012-13 = 100% 50% ??????
P.G. to Ph.D.	
Ph.D. to Post-Doctoral	
Employed • Campus selection • Other than campus recruitment	**2**
Entrepreneurs	

36. Diversity of Staff

Percentage of faculty who are graduates	
of the same university	50%
from other universities within the State	None
from universities from other States	50%
from universities outside the country	None

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: None

38. Present details of departmental infrastructural facilities with regard to

a) Library: Attached with the Main Library**.**

b) Internet facilities for staff and students: Yes

c) Total number of class rooms: 3

d) Class rooms with ICT facility: None

e) Students' laboratories: None

f) Research laboratories: None

39. List of doctoral, post-doctoral students and Research associates

a) from the host institution/university: 08

Doctoral Students

1. Raj Kumar
2. Gauri Chawla
3. Rajeev Kumar
4. Saloni
5. Ajay Sharma
6. Anil Kumar
7. Ram Swaroop
8. Teena Vaid

b) from other institutions/universities: None

40. Number of post graduate students getting financial assistance from the University:

2008-09 = 1,

2009-10 = 2,

2010-11 = 3,
2011-12 = 4,
2012-13 = None.

41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:**
None

42. **Does the department obtain feedback from?**
a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
Departement makes necessary changes in the syllabus.
b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
Apply teaching methods as per feedback from students.
c. Alumni and employers on the programmes offered and how does the department utilize the feedback?
Suggestions given by the alumni are always kept in mind for better functioning of the department in curriculum and teaching learning evaluation.

43. **List the distinguished alumni of the department (maximum 10)**.
    i. Sonia Sharma
    ii. Rama Kumari
    iii. Ritu Sharma
    iv. Rajni Wadehra
    v. Sudha Rani Baghel
    vi. Varsha
    vii. Anuradha Sharma

44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts :**
a). National Seminars.
b). Special Lectures form External Examiners of Ph.D. & M.Phil. Viva.

45. **List the teaching methods adopted by the faculty for different programmes**:
Lecture Method, Group Discussion etc.

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
With Weekly discussion.

47. **Highlight the participation of students and faculty in extension activities.**
Students :- Participation in National Level Sanskrit Debate, Paper presentation in Seminars, Gold Medal & Trophy won in All India Inter University Sanskrit Debate Competition.
Faculty:-Presentation of Self Composed Poetry in All India Sanskrit Poetic Symposia.

48. Give details of "beyond syllabus scholarly activities" of the department.

a) Practice of Spoken Sanskrit.

b) Chanting of Sanskrit Verses in traditional tunes of the Metres.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details: No

50. Briefly highlight the contributions of the Department in generating new knowledge, basic or applied.

Awareness regarding Environment, Social Values, Women empowerment, Human Rights etc. in the perspective of Sanskrit Literature.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

I. Strengths:-

1. The Department offers courses in M.A. (Hons.) Sanskrit, M.Phil. (Sanskrit). It also provides facilities for Research leading to Ph.D. Degree.
2. A Professor (Retd.) of the Department got Emeritus Fellowship of the UGC
3. The Department has completed and submitted to the UGC a Major Research Project and is also doing research on 2 projects under UGC UPE Scheme.
4. The Department has been contributing to Sanskrit Literature by creative writings.

II. Weaknesses:-

1. The Department does not have required regular teaching faculty.
2. Lack of adequate classrooms and infrastructure.
3. Lack of office furniture.

III. Opportunities:-

1. Offered a number of Ancient Indian Value based Interdisciplinary Courses.
2. Contribution of Panjab since Vedic Era to Sanskrit Literature especially research on various aspects of Sanskrit Literature on Sikh-Gurus.
3. Comparative Study of Modern Indian Languages with special reference to Sanskrit and Panjabi.

IV. Challenges:-

1. Lack of specialized teaching faculty as per the vast field of the subject.
2. Student strength not upto the mark as the availability of the subject is in a few schools and colleges.
3. Having only 2 regular teachers, the Department is not even eligible to apply for the SAP-UGC Programme.

52. Future plans of the department:

1. The Department will continue organizing seminars on the themes relevant to the academic and social pursuits in modern scenario.

2. Short Term speaking courses in Sanskrit.
3. To translate Sanskrit Granthas in Panjabi and Hindi.
4. To start a Sanskrit Journal.

1. **Name of the Department** : School of Punjabi Studies
2. **Year of establishment**: 1979
3. **Is the Department part of a School/Faculty of the University**: Yes
4. **Names of Programmes offered (UG, PG, M.Phil., Ph.D., Integrated masters; Integrated Ph.D., D.Sc. D.Litt. etc.):** B.A. (Honours School), M.A. (Hons.), M.Phil. and Ph.D.
5. **Interdisciplinary programmes and departments involved**:
   Four ID courses are started, two for U.G. and two for P.G. students of other departments from the academic session 2011-12. Two courses for odd semesters and two for even semester. M.Phil. and Pre-Ph.D. Students of other departments also opt our M.Phil. and Ph.D. courses as ID courses. Students of following departments opted for these courses:
   Department of Social Sciences, Department of Zoology, Department of Human Genetics, Department of Physics, Department of Chemistry, Department of Economics, Department of Pharmaceutical Sciences, Department of English, Department of History, Department of Political Science, Department of Physical Education, Department of Microbiology, Department of Molecular Biology & Bio-Chemistry, Department of Sports Medicine and Physiotherapy and Music Department.
6. **Courses in collaboration with other universities, industries, foreign institution, etc**.: None
7. **Details of programmes discontinued, if any, with reasons**: None
8. **Examination System : Annual/Semester/Trimester/Choice Based Credit System**:
   Choice Based Credit System
9. **Participation of the department in the courses offered by other departments**: Our students opted ID courses in the following departments:
   Department of Urdu and Persian, Department of Sanskrit, Department of Guru Nanak Studies, Department of Computer Sciences.
10. **Number of teaching posts sanctioned, filled and actual (Professor/Associate Professor/Asst. Professors/others):**

Total No. of sanctioned posts : 22	Filled	Actual (including CAS & MPS)
Professor	7	-
Associate Professors	-	-
Assistant Professors	1	-
Re-employed Professors	2	-

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance:

Sr No.	Name	Qualifi-cation	Designa-tion	Specializa tion	No. of Years of Experi-ence	No. of Ph.D./ M.Phil. students guided for the last 4 years
1.	S.S Khara	Ph.D.	Prof. & Head	Literature and Culture	35 Years	Ph.D. : 3 M.Phil. : 8
2.	H.S. Bhatia	Ph.D.	Professor	Literature	35 Years	Ph.D. : 8 M.Phil. : 14
3.	Gurmeet Singh	Ph.D.	Professor	Folklore and Literature	27 Years	Ph.D. : 4 M.Phil. : 8
4.	Kawaljit Kaur Jassal	Ph.D.	Professor	Language	35 Years	Ph.D. : 4 M.Phil. : 8
5.	Sohinder Singh	Ph.D.	Professor	Literature	30 Years	Ph.D. : 12 M.Phil. : 29
6.	Raminder Kaur	Ph.D.	Professor	Literature	16 Years	Ph.D. : 4 M.Phil. : 6
7.	Harjit Kaur	Ph.D.	Associate Professor	Folklore & Culture	27 Years	Ph.D. : 3 M.Phil. : 8
8.	Darya	Ph.D.	Assistant Professor	Folklore	17 Years	Ph.D. : 4 M.Phil. : 10
9.	P.S. Sidhu	Ph.D.	Professor	Language	35 Years	Ph.D. : 9 M.Phil. : 7
10.	H.S. Bedi	Ph.D.	Professor	Literature	25 Years	Ph.D. : 3 M.Phil. : 5

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors :

The following Visiting Fellows are invited in the Department for an interaction with the faculty and students:

1. Kewal Dhaliwal (Eminent Theatre Personality)
2. Ajmer Aulakh (Winner of Bharti Sahit Academy Award Playwright and Theatre Personality)
3. Parminderjit (Shromani Punjabi Poet Honoured by Bhasha Vibhag, Punjab, Patiala)
4. Khalid Hussain (Renowned Punjabi Short-Story Writer of the Jammu Region and Patron of Adbi Sangat and Jammu Academy)

5. Dr. Sushil Sharma (Renowned Punjabi Folklorist of Jammu Region)
6. Dr. Rajinderpal Brar (Renowned Punjabi Literary Critic)

13. Percentage of classes taken by temporary faculty programme-wise information: None

14. Programme-wise Student Teacher Ratio :

Year	No. of Students	No. of Teachers	Student Teacher Ratio
2009-10	123	12	10.25 : 1
2010-11	172	11	15.64 : 1
2011-12	225	11	20.46 : 1
2012-13	235	10	23.05 : 1
2013-14	273	10	27.03 : 1

15. Number of academic support staff (technical and administrative staff : Sanctioned, filled and actual:

1 Sanctioned Administrative Staff : 8
2 Actual filled Administrative Staff : 6
3 Technical Assistant on contract (under SAP Programme) : 1

16. Research thrust areas as recognized by major funding agencies:

1. Punjabi Language
2. Medieval and Modern Punjabi Literature
3. Punjabi Folklore and Culture

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, projects title and grants received project-wise:

Number of Faculty : 10
Number of Ongoing Projects
i. Linguistics : 5
ii. Punjabi Literature : 6
iii. Punjabi Lokdhara te Sabhiachar : 3
iv. Research Projects under UPE Scheme : 3
Total Ongoing Projects : 17

i **Linguistics :**
Prof. (Dr.) P.S. Sidhu

1 Transliteration and Annotation in Punjabi of Vakaypadiam by Bhartrhari.
2 Transliteration and annotation in Punjabi of Mahabhashay by Pantanjali.
3 Transliteration and annotation in Punjabi of Ashatadhia by

Panini.

Prof. (Dr.) K.K. Jassal

1 Ughe Bhasha Vigiani : Jivan ate Chintan (Eminent Linguists :Life and Linguistic Contribution)

2 Amriki School De Bhasha Vigiani-Jivan Te Chintan

ii **Punjabi Literature :**

Dr. S.S. Khahra

1 Naval Adhian : Kunji Sankalp.

Dr. H.S. Bhatia

1 Punjabi Sahit Chinton : Beej Sankalp

2 Language of Punjabi Criticism.

Dr. Sohinder Singh

1 Veehvi Sadi Di Amriki Kavita Dian Vichardharai Prvirtian

Dr. H.S. Bedi

1 Parvasi Punjabi Sirjanatamak Sahit Vich Varti Jandi Navin Punjabi Shabdavali : Sandarbh Kosh.

Dr. Raminder Kaur

1 Punjabi Kahanikar Sandarabh Kosh

iii **Punjabi Lokdhara te Sabhiachar :**

Dr. Gurmeet Singh

1. Lok Chakitsa, Tyohaar te Mele, Lok Nach, Lok Natak, Bhavan Nirmankari, Prampragat Phull Boote te Rukh etc.

Dr. Harjeet Kaur

1. Lok Kalawan de Pattern ate Design, Lok Kasidakari, Lok Bunan Kala,. Punjabi Haar-Shingar.

Dr. Darya

1. Pitar-Puja, Rukh-Puja, Greh-Puja, Peer-Fakiran di Pooja, Lok-Dharam te Lok Tyohaar, Kabila Dharam Prbhandh.

iv **University with Potential for Excellence Scheme Research Projects:**

1. Paramjit Kaur and Dr. Sukhdev Singh Khahra : Desh Vand : A Comparative Study of Punjabi and Hindi Novels.
2. Palvi Sharma and Dr. Gurmeet Singh : Evaluation of Colonial Punjabi Folklore Studies
3. Karaj Singh and Dr. Raminder Kaur: A Comparative Study of Short Stories Written by Nanak Singh and Munshi Prem Chand.

v. **Research Projects of Post Doctoral Fellows:**

1. Dr. Ramanpreet Kaur and Dr. Paramjit Singh Sidhu: A comparative Study of Grammatical Markers in 16th Century Punjabi.
2. Dr. Sukhdev Singh and Dr. Darya : Subaltern Discourse of Guru Granth Sahib : Socio-Cultural Study.

18. **Inter-institutional collaborative projects and associated grants received:**
a) National collaboration b) International collaboration: None

19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:**
UGC-SAP (DRS-II)
Year Amount
2009-10 : 6,30,000-00
2010-11 : 14,83,618-00
2011-12 : 4,15,145-00

20. **Research facility/centre with:**
- **State recognition** : None
- **National recognition** : None
- **International recognition** : None

21. **Special research laboratories sponsored by/created by industry of corporate bodies**: NA

22. **Publications:**
- **Number of Papers published in peer reviewed journals (national/International)** : 42
- **Monographs** **:** 00
- **Chapters in Books** : 14
- **Edited Books** : 13
- **Authored Books:** : 23

23. **Details of patents and income generated**: NA

24. **Areas of consultancy and income generated**: None

25. **Faculty selected nationally/internationally to visit other laboratories/Institution/industries in India and abroad:** None

26. **Faculty serving in**
a) National committees b) International committees c) Editorial Boards d) any other (Please specify):

Dr. Sukhdev Singh Khara

i Dean Faculty of Languages, GNDU, Amritsar.
ii Member Senate & Syndicate, GNDU, Amritsar.
iii Member Finance Committee, GNDU, Amritsar.
iv Member Advisory Committee UGC Academic Staff College, GNDU, Amritsar.
v Member Internal Quality Assurance Cell, GNDU, Amritsar.
vi Member Advisory Board, Baba Farid Centre For Sufi Studies, Punjabi University, Patiala.
vii Member Board U.G. of Studies for Punjabi, Punjabi University, Patiala.
viii Member Research Board Organized by the Syndicate of Punjabi University, Patiala to finalize the Research Projects.

Dr. Harbhajan Singh Bhatia

i. Member Syllabus Committee, Central University of Punjab,

Bathinda.

ii. Member Board of Studies, Chandigarh University, Gharhuan.

Dr. Gurmeet Singh

i. Member Editorial Board of Research Journal Khoj Darpan, GNDU, Amritsar.

ii. Member Board of Studies, Shri Guru Granth Sahib University, Fatehgarh Sahib.

Dr. Kawaljit Kaur Jassal

i Member Editorial Board of Research Journal Khoj Darpan, GNDU, Amritsar.

Dr. Sohinder Singh

i. Member, Faculty of Language, GNDU, Amritsar, 2012-14.

ii. Member Board of Moderation in the subject of Punjabi, 2012-2013.

Dr. Raminder Kaur

i. Member, General Body of Sahit Academy, New Delhi.

ii. Member, General Council, Indian Academy of Fine Arts, Thakur Singh Arts Gallery Amritsar.

iii. Edited Special Issue of Research Journal Lok Vaani, September, 2013.

Dr. Harjit Kaur

i. Edited Special Issue of Research Journal Lok Vaani, 2013.

Dr. Darya

i. Member Editorial Boards of Research Journals, Khoj Darpan, Lok Vaani and Hashia Lok.

ii. Member Editorial Board of Punjabi Literary Magazine Meghla.

27. Faculty recharging strategies (UGC, ASC, Refresher/orientation programs, workshops, training programs and similar programs):

1. Workshop dedicated to the Poetry of Eminent Punjabi Poet Bhai Veer Singh, 2009.
2. Refresher Course: Punjabi Bhasha da Adhyan ate Adhyapan: Virsa ate Vartman, 2009.
3. Refresher Course: Punjabi Lokdhara: Vartman Paripekh, 2010.
4. Refresher Course: Punjabi Sahit: Adhyan Adhipan Dian Smasyavan, 2012.
5. Refresher Course: Punjabi Sahit: Ateet, Vartman ate Bhavikh, 2013.

28. Students projects:

- Percentage of students who have done in-house projects including inter-departmental projects: None

- Percentage of students doing projects in collaboration with other universities/ Industry/ institute: None

29. Awards/ recognitions received at the national and international level by:

- Faculty

- Dr. Sukhdev Singh Khara, Dr. Ravi Yadgari : Alochna Puraskar, Chandigarh, 2013.
- Dr. Harbhajan Singh Bhatia, Shromani Alochak Puraskar, Bhasha Vibhag, Punjab, Patiala, 2012.

- Doctoral/Post Doctoral Fellows

- Dr. Ramanpreet Kaur Joined in the Department as Post Doctoral Fellow, February 2012.
- Dr. Sukhdev Singh Joined in the Department as Post Doctoral Fellow, September, 2013.

- Students

- In the years of 2012 and 2013, Sahib Singh, Research Fellow, School of Punjabi Studies won the title of Mr. Jashan (Jashan is an Annual Grand Cultural Event of GNDU, Amritsar)
- In the years of 2012 and 2013, students of School of Punjabi Studies consecutively won the Trophy in Theatrical Category.
- In the years of 2012 and 2013, Lovpreet Singh, Dilawar Singh and Arvinder Singh, students of school of Punjabi Studies consecutively qualified for inter-varsity level in the Sports of Fencing, Weight Lifting and Shooting
- In the years of 2012 and 2013, students of School of Punjabi Studies won second position in the Sports Meet of Guru Nanak Dev University, Campus, Amritsar.

30. Seminars/Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any:

Seminars/Conferences/Workshops organized:

Punjabi Adhyan ate Khoj : Drish te Drishti (2001-2008), 11-12 March, 2008.

- Bastivadi Daur di Punjabi Kavita : Punar Vichar, 19-20 February 2010.
- Punjabi Sabhyachar : Vartman Chunautian, 23 March 2010.
- Punjabi Bhasha da Adhyan ate Adhyapan : Virsa te Vartman, 10-11 February, 2011.
- Bhasha Adhyapan di Yojnabandi De Mool Sarokar, 31 March 2011.
- Dr. Swaran Chandan : Sirjna ate Samikhia, 21 March 2012.
- Adhunik Punjabi Galp : Nave Rujhan, 21 March 2012.

- Punjab de Kabile: Ateet ate Vartman, 30 March 2012.
- Vishavikaran De Yug Vich Punjabi Sahit ate Bhasha da Adhyapan, 17-18 October 2012.
- Parvasi Punjabi Galp da Kav Sashtar, 19 February, 2013.
- Lokdhara Adhyan : Badalde Paripekh, 20, 21 March, 2013.
- Punjabi Bhasha, Sahit te Sabhyachar : Vartman te Bhavikh, 25 March, 2013.

Source of funding:
UGC and Guru Nanak Dev University, Amritsar

Outstanding Participants:
Late Professor Satinder Singh Noor (Delhi), Professor Jagbir Singh (Delhi), Dr. J.S. Neki (Delhi), Dr. Karanjeet Singh (Delhi), Dr. Kuljit Shelly (Delhi), Late Professor A.S. Kang (Kurukshetra), Professor Karamjeet Singh (Kurukshetra), Professor Harsimran Singh Randhawa (Kurukshetra), Dr. Davinder Singh (Jammu), Dr. Sushil Sharma (Jammu), Professor Nahar Singh (Chandigarh), Professor Jagjit Singh (Chandigarh), Professor Sukhdev Singh (Chandigarh), Professor H.S. Gill (Patiala), Professor S.S. Lee (Patiala), Professor Jaswinder Singh (Patiala), Professor Dhanwant Kaur (Patiala), Professor Rajinderpal Singh (Patiala), Professor Satish Verma (Patiala), Dr. Surjit Patar (Ludhiana), S. Gursharan Singh Natakkaar (Chandigarh), Dr. Waryam Sandhu (Jalandhar), Shri Ajmer Aulakh (Mansa).

31. Code of ethics for research followed by the departments:
As per UGC Guidelines

32. Student profile programme-wise:

Sr. No.	Name of the Programme	Applications received	Selected Male	Selected Female	Pass percentage Male Female
1.	B.A. (H.S)	2009-2010 : 13	9	4	92
		2010-2011 : 24	15	9	97
		2011-2012 : 53	23	7	93
		2012-2013 : 107	30	3	90
		2013-2014 : 113	23	9	----
2.	M.A. (Hons.)	2009-2010 : 57	8	21	100
		2010-2011 : 83	15	35	100
		2011-2012 : 91	7	43	100
		2012-2013 : 97	12	38	100
		2013-2014 : 103	17	33	100
3.	M.Phil.	2009-2010 : 87	2	18	100
		2010-2011 : 109	1	19	100
		2011-2012 : 122	3	17	100

		2012-2013 : 161 2013-2014 : 257	7 8	13 22	100 100
4.	Pre.-Ph.D.	July 2012 : 32 Jan. 2013 : 10 July 2013 : 5	4 2 1	28 8 4	100 100 100

33. Diversity of students:

Sr. No.	Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State
1.	B.A. (H.S)	0	0	0
2.	M.A. (Hons.)	98	0	02
3.	M.Phil.	72	28	02
4.	Pre.-Ph.D.	100	0	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SLET, GATE and other competitive examinations? Give details category-wise:

Students have cleared NET exam conduct by UGC, New Delhi as follow: 57

2008-09 : 09
2009-10 : 10
2010-11 : 12
2011-12 : 12
2012-13 : 14

35. Student progression:

Students progression	Percentage against enrolled
U.G. to P.G.	20
P.G. to M.Phil.	38
P.G. to Ph.D.	28
Ph.D. to Post-Doctoral	4
Employed - Campus selection - Other than campus recruitment	 0 50
Entrepreneurs	___

36. Diversity of staff:

Percentage of faculty who are graduates	100
of the same university	80

from other universities within the State	20
from universities from other States	0
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** NA

38. **Present details of departmental infrastructural facilities with regard to**:

a) Library	1
b) Internet facilities for staff and students	Yes
c) Total number of class rooms	6
d) Class rooms with ICT facility	None
e) Students' laboratories	1 Computer Lab
f) Research laboratories	None

39. **Number of doctoral, Post-Doctoral students and Research Associates**:

a) from the host institution/university

No. of doctoral students :

2008-09 : 08
2009-10 : 16
2010-11 : 20
2011-12 : 13
2012-13 : 17

No. of Post-doctoral students :

2012-13 : 02

b) from other institutions/universities

None

40. **Number of post graduate students getting financial assistance from the university**:

10% of the enrolled students

41. **Was any need assessment exercise undertaken before the development of new programmes (s)? If so, highlight the methodology:** No

42. **Does the department obtain feedback from?**

a. **Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?**
Yes, to update the curriculum

b. **Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**
Yes, to update the curriculum

c. **Alumni and employers on the programmes offered and how does the department utilize the feedback?**
None

43. List the distinguished alumni of the department (maximum 10):

i Dr. Satinder Singh, Professor, Ex. Pro-Vice-Chancellor, Guru Nanak Dev University, Amritsar.
ii Dr. K.S. Thind, Professor, Ex. Registrar, Guru Nanak Dev University, Amritsar.
iii Dr. Joginder Kairon, Ex. Director, Punjab State University Text Book Board, Chandigarh.
iv Dr. Surjit Patar, An Eminent Punjabi Poet.
v Dr. Manmohan , IPS
vi Dr. Manjitpal Kaur, Eminent Punjabi Playwright.
vii Dr. Jaswant Deed, Eminent Poet and Media Personality.
viii Dr. Lakhwinder Johal, Eminent Poet and Media Personality.

44. Give details of student enrichment programmes (special lectures/ workshops/ seminar) involving external experts:

1. Workshop dedicated to the Poetry of Eminent Punjabi Poet Bhai Veer Singh, 2009.
2. Punjabi Sahit Sabha organizes literary activities throughout the year.

Students' interaction with the following visiting fellows:

- Kewal Dhaliwal (Eminent Theatre Personality)
- Ajmer Aulakh (Winner of Bharti Sahit Academy Award Playwright and Theatre Personality)
- Parminderjit (Shromani Punjabi Poet Honoured by Bhasha Vibhag, Punjab, Patiala)
- Khalid Hussain (Renowned Punjabi Short-Story Writer of the Jammu Region and Patron of Adbi Sangat and Jammu Academy)
- Dr. Sushil Sharma (Renowned Punjabi Folklorist of Jammu Region)
- Dr. Rajinderpal Brar (Renowned Punjabi Literary Critic)

45. List the teaching methods adopted by the faculty for different programmes:

1. Classroom lectures
2. Power Point Presentations

46. How does the department ensure the programmes objectives are constantly met and learning outcomes are monitored?

1. Board of Control ensures the programmes objectives and monitor the outcomes of learning.
2. Every year, the Advisory Committee for SAP reviews the annual progress.

47. Highlight the participation of students and faculty in extension activities:

1. Department organizes educational trips and picnics every year.
2. Celebration of Lohri Festival is a permanent annual feature.

48. Give details of "beyond syllabus scholarly activities" of the department:

1. Punjabi Sahit Sabha - a student body organizes literary activities during the academic session.
2. Punjabi Khoj Manch - a Research body of Research scholars conduct academic discussions on various topics.

49. State whether the programme/department is accredited / graded by other agencies? if yes, give details: No

50. Briefly highlight the contributions of the department in generating new knowledge, basis of applied:

The department started new academic programmes in the fields of Punjabi Lokdhara ate Sabhiachar, Pakistani Punjabi Sahit and Immigrant Punjabi Literature.

51. Detail five major Strengths, weaknesses, Opportunities and Challenges (SWOC) of the department:

Strengths

The School of Punjabi Studies has been constituted as an interdisciplinary and combined research and teaching department. It has four major constituents: Punjabi Language, Punjabi Literature, Punjabi Folklore and Punjabi Culture. The Faculty Members of this department are role models as they have cultivated competence in their respective specializations. Their research contributions and academic planning's have not only been recognized but also has been imitated at various levels by other institutions. The department was the first one in India to introduce new academic programmes in the fields of Culture, Folklore, Pakistani Punjabi Sahit, Parvasi Punjabi Sahit, Teaching of Urdu and Computer Application in Punjabi etc. The ID Courses offered by the department are great attraction for the students of other departments.

Weaknesses

As compared to the year of inception of School of Punjabi Studies (1979), the present strength of faculty has reduced from 22 to 10 (8 regular teachers and 2 re-employed). During 2014-15, it will further come down in number. This has become the major weakness as it is a research and teaching department. Recruitment of the new faculty is the need of the hour.

The number of students in the department has increased to 273, but there is not sufficient space and furniture for them. New teaching aids also needed to improve the standards of teaching-learning.

Challenges

The department can become in-eligible for UGC Financial Assistance for the next stage of SAP after March 2014, if the recruitment of new teaching faculty is not done.

52. Future plans of the department:

1. Language Laboratory
2. Documentation and preservation of folklore material
3. Hi tech classrooms
4. Punjabi Folklore Museum

1. **Name of the Department:** Urdu and Persian
2. **Year of establishment:** 2002
3. **Is the Department part of School/ Faculty of the University:** Yes
4. **Names of programmes offered:**
   i. Certificate Course in Arabic
   ii. Certificate Course in Persian
   iii. Certificate Course in Urdu
   iv. Diploma Course in Arabic
   v. Diploma Course in Persian
   vi. Diploma Course in Urdu
   vii. Advance Diploma Course in Persian
   viii. Advance Diploma Course in Urdu
   ix. M. A. (Hons.) Urdu
   x. Pre- Ph. D. Persian
   xi. Pre- Ph. D. Urdu
   xii. Ph. D. Persian
   xiii. Ph. D. Urdu
5. **Interdisciplinary Programmes and Departments involved:**
   i. Undergraduate Persian
   ii. Undergraduate Urdu
   iii. Postgraduate Persian
   iv. Postgraduate Urdu
   v. Pre- Ph. D. Persian
   vi. Pre- Ph. D. Urdu
   vii. Ph. D. Persian
   viii. Ph. D. Urdu
6. **Courses in collaboration with other universities, industries, foreign institutions etc:** None
7. **Details of programmes discontinued with reasons:** None
8. **Examination system:** Choice Based Credit System
9. **Participation of the department in the courses of other department:**
   School of Punjabi Studies:-
   I. B. A. (Hons.) Semester-I
   II. B. A. (Hons.) Semester-II
   III. M. A. (Hons.) Semester-II
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors):**

	Sanctioned	Filled	Actual (Including C A S & M P S)
Professor			
Associate Professor			1
Assistant Professor	2	1	2

Others (Part Time)	1	1	1
Re- employed	1	1	1

11. **Faculty profile with name, qualification, area of specialization, experience and research under guidance:**

Name	Qualifi-cation	Designation	Specializa-tion	Years of experience	Ph. D./ M. Phil students guided for last 4 years
Aziz Abbas	M.A. Ph.D.	Associate Professor	Indo-Persian Literature	30 years	Ph.D.- 3
Barkat Ali	M.A. Ph.D.	Professor (Re-employed till December 2013)	-	31 years	Ph.D.- 2

12. **List of senior Visiting fellows, Adjunct faculty, emeritus professors:** None
13. **Percentage of classes taken by temporary faculty- programme wise information:** 50%
14. **Programme wise student teacher ratio:**
    i) Certificate Course in Arabic 20::1
    ii) Certificate Course in Persian 20::1
    iii) Certificate Course in Urdu 30::1
    iv) Diploma Course in Arabic 20::1
    v) Diploma Course in Persian 20::1
    vi) Diploma Course in Urdu 30::1
    vii) Advance Diploma Course in Persian 10::1
    viii) Advance Diploma Course in Urdu 10::1
15. **Number of Academic support Staff:**
    Sanctioned: 1
    Filled: 1
    Actual: 1
16. **Research Thrust Area as recognized by major funding agencies:** None
17. **No. of faculty with ongoing projects and associated grant received:** None
18. **Inter- institutional collaborative projects and associated grants received :** None
19. **Departmental projects funded by DST-FST, UGC-SAP/ CAS etc.:** None
20. **Research Facility/ centre with**

State recognized: None
National recognized: None
International recognized: None

21. **Special research laboratories sponsored by/ created by industry or corporate bodies:** NA
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national/International)**: 3
    - **Monographs**: None
    - **Chapters in Books**: 1
    - **Edited Books**: None
    - **Books with ISBN with details of publishers**: 1
23. **Details of patents and income generated:** NA
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally/internationally to visit other laboratories/ Institutions/industries in India and abroad:** None
26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify)

    Dr. Aziz Abbas

    i) Assistant Editor, KASHF (Hindi) Journal.
    ii) Member Anti Hijacking Committee, Airport Authority of India, Rajasansi.
    iii) Member Research Degree Committee Panjab, University, Chandigarh.
    iv) Member Research Degree Committee, Punjabi University, Patiala.
    v) Member Board of Control, Panjab University, Chandigarh
    vi) Member Board of Control, Punjabi University, Patiala.
    vii) Member Board of Control, Krukshetra University, Krukshetra
27. **Faculty recharging strategies (UGC, ASC, Refresher/orientation programs, workshops, training programs and similar programs).**

    Dr. Aziz Abbas:

    i) Attended one day workshop on "User Awarness Programme on e-resource" on 6.5.2011.
    ii) Attended three day workshop of "Manucriptology and All India Teachers' Meeting (18-20.1.2012)
    iii) Attended Two day workshop for Senior faculty (including Heads) on the "Methodology of Organizing the Refresher Course" (5-6.10.2012)
    iv) Attended three day workshop/ short term course in "Latest Trends in Software Technology" (3.1.2013- 5.1.2013)
28. **Student projects**

    • Percentage of students who have done in-house projects including inter- departmental projects: None

    • Percentage of students doing projects in collaboration with other universities/Industry/institute: None
29. **Awards / recognitions received at the national and international level by**

    • Faculty None

- **Doctoral / post doctoral fellows** None
- **Students** None

30. **Seminars/Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any** None
31. **Code of ethics for research followed by the departments:** As per the Unviersity/UGC rules
32. **Student profile programme-wise:**

(2007- 2008)

Name of the Programme	Applications received	Selected Male Female	Pass percentage Male Female
Certificate Course in Urdu	15	11 - 4	100 - 100
Certificate Course in Persian	6	1 - 5	100 - 100
Certificate Course in Arabic	-	- - -	100 - 100
Diploma Course in Urdu	6	1 - 6	100 - 100
Diploma Course in Persian	6	0 - 6	100 – 100

(2008- 2009)

Name of the Programme	Applications received	Selected Male Female	Pass percentage Male Female
Certificate Course in Urdu	30	26 - 4	100 - 100
Certificate Course in Persian	20	17 - 3	100 - 100
Certificate Course in Arabic	4	0 - 4	100 - 100
Diploma Course in Urdu	14	7- 7	100 - 100
Diploma Course in Persian	3	2 - 1	100 - 100

(2009- 2010)

Name of the Programme	Applications received	Selected Male Female	Pass percentage Male Female
Certificate Course in Urdu	21	18 - 3	100 - 100
Certificate Course in Persian	5	4 - 1	100 - 100
Certificate Course in Arabic	1	1 - 0	100 - 100
Diploma Course in Urdu	16	6 - 10	100 - 100
Diploma Course in Persian	7	6 - 1	100 - 100
Advance Diploma Course in Urdu	1	0 - 1	100 - 100
Advance Diploma Course in Persian	5	3 - 2	100 - 100

(2010- 2011)

Name of the Programme	Applications received	Selected Male Female	Pass percentage Male Female
Certificate Course in Urdu	11	7 - 4	100 - 100
Certificate Course in Persian	13	13 - 0	100 - 100
Certificate Course in Arabic	-	- - -	- - -
Diploma Course in Urdu	2	1 - 1	100 - 100
Diploma Course in Persian	3	2 - 1	100 - 100
Advance Diploma Course in Urdu	1	1 - 0	100 - 100
Advance Diploma Course in Persian	3	2 - 1	100 - 100

(2011- 2012)

Name of the Programme	Applications received	Selected Male Female	Pass percentage Male Female
Certificate Course in Urdu	24	15 - 9	100 - 100
Certificate Course in Persian	14	9 - 5	100 - 100
Certificate Course in Arabic	7	7 - 0	100 - 100
Diploma Course in Urdu	7	0 - 7	100 - 100
Diploma Course in Persian	7	7 - 0	100 - 100
Advance Diploma Course in Urdu	1	0 - 1	100 - 100
Advance Diploma Course in Persian	5	3 - 2	100 - 100

33. **Diversity of students:** All these courses are part time and most of the students are from other departments of Guru Nanak Nanak Dev University, Amritsar

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Certificate Course in Urdu	90	8	2	0
Certificate Course in Persian	90	8	2	0
Certificate Course in Arabic	90	8	2	0
Diploma Course in Urdu	100	0	0	0
Diploma Course in Persian	100	0	0	0
Advance Diploma Course in Urdu	100	0	0	0
Advance Diploma Course in Persian	100	0	0	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.** None

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	-
P.G. to M.Phil.	-
P.G. to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	 - -
Entrepreneurs	-

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	-
from other universities within the State	-
from universities from other States	100
from universities outside the country	-

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None

38. **Present details of departmental infrastructural facilities with regard to**
    - **a) Library**: None
    - **b) Internet facilities for staff and students**: None
    - **c) Total number of class rooms**: None
    - **d) Class rooms with ICT facility**: None
    - **e) Students' laboratories**: NA
    - **f) Research laboratories** NA

39. **List of doctoral, post-doctoral students and Research Associates:**
    a) **from the host institution/university**: None
    b) **from other institutions/universities**:

Ph. D. Awarded: 7

S. No.	Name	Supervisor	Year
1.	Kounsar Jan (Drakhshan Andrabi)	Dr. Aziz Abbas	2008
2.	Ghulam Hussain	Dr. Aziz Abbas	2008
3.	Nusrat Maqbool	Dr. Aziz Abbas	2010
4.	Najam Din	Dr. Barkat Ali	2011
5.	Leyaqat Hussain	Dr. Barkat Ali	2011
6.	Hardev Singh	Dr. Aziz Abbas	2011
7.	Mohammad Siddique	Dr. Aziz Abbas	2012

Ph. D. Scholars Registered: 8

1.	Irfan Amine	Dr. Barkat Ali
2.	Altaf Hussain Dar	Dr. Barkat Ali
3.	Mohd. Qadeer	Dr. Aziz Abbas
4.	Riyaz Ahmad Lone	Dr. Aziz Abbas
5.	Mohd. Shafiq	Dr. Barkat Ali
6.	Prveen Hussain	Dr. Barkat Ali
7.	Syed Mudasir Ahmad	Dr. Barkat Ali
8.	Akhtar Husain	Dr. Aziz Abbas

40. **Number of post graduate students getting financial assistance from the university.** None
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.** No
42. **Does the department obtain feedback from?** No
    a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? --**
    b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? --**
    c. **alumni and employers on the programmes offered and how does the department utilize the feedback? --**
43. **List the distinguished alumni of the department (maximum 10):**None
44. **Give details of student enrichment programmes (special lectures/ workshops /seminar) involving external experts.** None
45. **List the teaching methods adopted by the faculty for different programmes.** None
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?** NA
47. **Highlight the participation of students and faculty in extension activities.** None
48. **Give details of "beyond syllabus scholarly activities" of the department.** None
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details.** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
    Department is teaching Urdu, Persian and Arabic which is useful for the students and researchers of other departments, particularly School of Punjabi Studies, Department of History, Guru Nanak Studies and Music. Departments also help the aspirants of different competitive exams.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

i) Regular revision of Syllabi
ii) Student friendly atmosphere
iii) Spoken language skills.
iv) Regular in touch with Urdu promoting institutions and councils

Weakness:

i) Lack of Teaching faculty
ii) Lack of permanent non teaching staff
iii) Lack of Language Lab
iv) Lack of departmental library
v) Part time and evening courses
vi) Lack of proper class rooms

Opportunities:

i) Introduction of new courses like Diploma Course and Advance Diploma Course in Arabic, Certificate Course and Diploma Course in Translation and Mass Communication.
ii) Re- introduction of M. A. (Hons) Urdu.
iii) Introduction of few new Indian languages like Kashmiri.
iv) Introduction of few new foreign languages like Turkish.
v) Emphasize on research and Ph. D. In Urdu and Persian both.
vi) Establishing contact with Culture House of Iran, Afghanistan, Turkey, Uzbekistan, Turkmenistan etc.
vii) Introduction of Courses like Translation, Interpretation and Mass Communication.

Challenges:

i) Need of regular faculty
ii) Hectic schedule evening courses
iii) Strengthening of research facilities.
iv) Exposure to students
v) Use of ICT in teaching

52. Future plans of the department

Facing the continuous demand and changing global scenario the Department is trying to start new courses like Diploma Course in Arabic, Advance Diploma Course in Arabic, Certificate Course in Translation and mass Communication, Diploma Course in Translation and Mass Communication, M.A. (Hons.) Urdu, Certificate Course in Turkish and Certificate Course in Iranology.

FACULTY OF LAWS

==/ 21 /==

1. **Name of the Department:** Laws
2. **Year of establishment:** 1972
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered:** U.G. (LL.B.), P.G. (LL.M.), Ph.D.
5. **Interdisciplinary programmes and departments involved:** Yes, Eight Departments
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** B.A.LL.B. (FYIC) discontinued due to shortage of infrastructure
8. **Examination System:** Credit Based Evaluation System
9. **Participation of the department in the courses offered by other departments:** Yes, U.G. Interdisciplinary Courses
10. **Number of teaching posts sanctioned, filled and actual (Professors/ Associate Professors/Asst. Professors/others)**

Post	**Sanctioned**	**Filled**	**Actual (including CAS & MPS)**
Professor	2	1	4
Associate Professors	2	1	1
Asst. Professors	4	3	3
Others	7	5	5

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designa-tion	Speciali-zation	No. of Years of Experi-ence	No. of Ph.D./ M.Phil. students guided for the last 4 years
Rajinderjit Kaur Pawar	M.A. (English), LL.M. (PU.), Ph.D. (GNDU)	Professor	Jurisprudence and Constitutional law	30	3
Kuljit Kaur	LL.M., Ph.D. (PU)	Professor	International Law, Human rights	25	2

Jaspal Singh	M.A. (Punjabi), LL.M., Ph.D. (GNDU) P.G. Diploma in Labour Laws & Personnel Management	Professor	Constitutional Law, Environment Law	25	2
Rattan Singh	LL.B. (FYIC), LL.M., Ph.D. (GNDU) P.G. Diploma in Labour Laws & Personnel Management M.A. Police Admn.,	Professor	Constitutional Law, Research Methodology	19	2
Viney Kapoor Mehra	LL.M. Ph.D. (GNDU) M.A. Police Admn.	Associate Professor	Family Law, Women & Law & Corporate Law	16	-
Ravinder Pal Singh	LL.M. Ph.D. (GNDU)	Assistant Professor	Criminal Law, Interpretation of Statutes	10	-
Bimaldeep Singh	LL.M. Ph.D. (GNDU)	Assistant Professor	Corporate Law, Evidence Law,	10	-
Harkirandeep Kaur	LL.M., Diploma in International Trade Law	Assistant Professor	Intellectual Property, Human Rights,	½	-
Mr. Komal Krishan Mehta	LL.M.	Assistant Professor (Contract Basis)	Taxation Law, Criminal Law	7 Yrs	-
Ms. Anshu Jain	LL.M. Ph.D. (RGNLU)	Assistant Professor (Contract Basis)	RTI, Property Law	1 ½ Yr.	-

Ms. Inderpreet Kaur	LL.M.	Assistant Professor (Contract Basis)	Indian Legal History, Professional Ethics	1 yr.	-
Ms. Divya Sharma	LL.M.	Assistant Professor (Contract Basis)	Torts, Environment Law	1 Yr.	-
Ms. Arvindika Choudhary	LL.M.	Assistant Professor (Part Time)	Contract	6 months	-

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None
13. **Percentage of classes taken by temporary faculty – programme-wise information**: 45
14. **Programme-wise Student Teacher Ratio:** 20:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**

Post	Sanctioned	Filled
Supdt. Gr I	1	0
Sr. Assistant	2	0
Stenographer	1	1
Daftri	1	1
Peon	2	0

16. **Research thrust areas as recognized by major funding agencies:** N.A.
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.**
    National Project from UGC on the title "Right to Education in the State of Punjab: Some Pitfalls and Policies" Rs. 500000/- to Dr. Rattan Singh
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:** None
20. **Research facility / centre with**
    - State recognition - None
    - National recognition - None
    - International recognition - None

21. **Special research laboratories sponsored by / created by industry or corporate bodies**: NA
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national /International):** 25
    - **Monographs:** Nil
    - **Chapters in Books:** 4
    - **Edited Books:** Nil
    - **Authored Books:** 3
23. **Details of patents and income generated** NA
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally /internationally to visit other laboratories / Institutions / industries in India and abroad** None
26. **Faculty serving in**
    a) National committees: Prof. Gurjeet Singh, Acting Part-time member of Law Commission
    b) International committees - None
    c) Editorial Boards: Prof. Rattan Singh
    d) any other (please specify) - Prof. Jaspal Singh, Member Punjab Legal Services Authoprity
27. **Faculty recharging strategies (UGC, ASC, Refresher/orientation programs, workshops, training programs and similar programs).**
    1. Orientation Programs
    2. Workshops
    3. Training Programs
    4. Seminars etc.
28. **Student projects**
    - **Percentage of students who have done in-house projects including inter- departmental projects-** 55% (Moot Courts Competitions, Debates, Group Discussions)
    - **Percentage of students doing projects in collaboration with other universities / Industry / institute**- None
29. **Awards / recognitions received at the national and international level by**
    • **Faculty**: Prof. Rattan Singh
    • **Doctoral / post doctoral fellows:** Dr. Mamta Mehmi, Dr. Ajaypal
    • **Students:** None
30. **Seminars/Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any.**
    1. Seminars UGC & ICSSR
    2. Seminars cum Workshops UGC & ICSSR
31. **Code of ethics for research followed by the department:**
    Modern Language Association of America Handbook Style

32. Student profile programme-wise:

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
LL.B. (Hons.)	200	93	54	98	100
LL.M. (Hons.)	45	12	24	100	100
Pre-Ph.D.	15	3	7	98	100

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
LL.B. (Hons.)(U.G.)	70	15	15	0
LL.M. (Hons.)(P.G.)	70	15	15	0
Ph.D.	70	15	15	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

1. PCS (Judicial) 8
2. UGC-NET 9
3. UGC-JRF 4
4. Law Officer 3

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	25
P.G. to M.Phil.	LL.M. (Hons.) -25
P.G. to Ph.D.	35
Ph.D. to Post-Doctoral	5
Employed • Campus selection • Other than campus recruitment	 - 20 apart from self employment in the Bar
Entrepreneurs	-

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	50
from other universities within the State	35
from universities from other States	15
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None
38. **Present details of departmental infrastructural facilities with regard to**
    a) **Library:** 30000 Books & Journals
    b) **Internet facilities for staff and students:** 20 for Teachers & Staff and 10 for Students
    c) **Total number of class rooms:** 7 Rooms & One Hall
    d) **Class rooms with ICT facility:** No
    e) **Students' laboratories:** No
    f) **Research laboratories:** No
39. **List of doctoral, post-doctoral students and Research Associates**
    a) **from the host institution/university:** 2
    b) **from other institutions/universities:** None
40. **Number of post graduate students getting financial assistance from the university**: Unspecified
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology**: No
42. **Does the department obtain feedback from?**
    a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?** Yes
    b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?** Yes
    c. **alumni and employers on the programmes offered and how does the department utilize the feedback?** Yes
43. **List the distinguished alumni of the department (maximum 10)**
    1. Justice Fatehdeep Singh, Judge, Punjab & Haryana High Court
    2. Vivek Puri District & Session Judge, Ferozpur
    3. Puneet Mohan, Secretary to CJI
    4. Gurdev Singh Sahota, DIG Punjab
    5. R.K. Goel, Director RAW
    6. Baldev Singh, DIG, J&K
    7. Darbari Lal, ADJ, Ludhiana
    8. Balwinder Kumar Sharma, ADJ, Jalandhar
    9. Garish, CJM, Faridkot
    10. Ashish Arbol, PCS
44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.**
    1. Seminars: UGC & ICSSR
    2. Seminars cum Workshops: UGC & ICSSR

45. **List the teaching methods adopted by the faculty for different programmes.**
    1. Lecture Methods
    2. PPT Presentations
    3. Practical Training Method
    4. Historical Visits
    5. Jail/Police Station Visits
    6. Legal Literacy Camps
    7. Public Awareness Camps/Seminars/Debates
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
    Views of students are taken to access the impact of teaching of teachers through assessment performa method
47. **Highlight the participation of students and faculty in extension activities.**
    1. Moot Courts
    2. Practical Training at District Court
    3. Group Discussions
    4. Presentations
    5. Debates etc.
    6. Para-legal Volunteers
48. **Give details of "beyond syllabus scholarly activities" of the department.**
    1. Moot Courts Competitions Inter/Intra University
    2. Group Discussions Inter/Intra University
    3. Debates etc. Inter/Intra University
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details.** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
    Very recently, the Department has introduced many new concepts to make the education system more interactive so as to keep abreast with the changes in the modern educational scenario. The concept of providing worksheet is one such novel concept which has been introduced. This has been basically adopted from the Western educational system and it aims at providing a summarized version of the lecture delivered by the teacher along with recommended references for further study as well as a few model and exercise questions for solution. The Department has 22 computers for the teachers and the students, so that students are adequately acquainted with the new technology which they can use for their educational and professional benefits. In addition, Department has a multi media for power presentation along with a video cam and a digital

cam. Department has its own broad band internet connection to keep the teachers and students abreast with latest developments. The department has subscribed to indialawsite for the same. The Department is also trying to infuse new a spirit in the Free Legal Aid Clinic. For last few years, the final year students of the Department are regularly visiting the Central Jail as a part of their Practical Training Programme and are collecting reports from the jail authorities as well as from the prisoners. Similarly, visits to Lok Adalats are a means to make the students more conversant with the Alternative Disputes Resolution System, especially when the subordinate judiciary has got mounting arrears and backlog of cases. Keeping a keen eye on the changing trends in the modern educational system and the changing perception of the teacher-taught relationship, the Department seeks to introduce a more inter-active system of teaching. Latest audio-visual techniques (e.g. over-head projectors and video cassette players etc.) are being used for imparting instructions to the students. These steps have been introduced with a view of making legal education in the Department a success. In line with the emerging trends in the post-globalized era, the Department has been endeavouring to provide a vast amount of information and reading materials to the budding lawyers in addition to what is required for their routine studies. A Centre of Gravity - the Students Common Room has been set up in the Department where newspapers, magazines, and information brochures are placed for the students.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths

-Competent Teaching Faculty
-Congenial Atmosphere for study
-Best Library
-Computer Facility to Students
-Extra Curricular Activities

Weaknesses

-No Placement Unit
-Due to full admission in this year, shortage of infra-structure
-Less Grants
-Less Budget to the Department
-Less Practical Training Time

52. Future plans of the department:

The Department plans to introduce in near future the following career oriented Degree/Diploma courses:

- Five Years LL.B. (Hons.) Degree Course (FYIC) 100 Seats
- 3 Years Law Evening Degree Course 50 Seats
- Post Graduate Diploma in Cyber Laws 20 Seats
- Post Graduate Diploma in Human Rights 20 Seats

- Post Graduate Diploma in Medical Jurisprudence 20 Seats

In the present scenario, the above mentioned Degrees and Diploma courses are in a great demand. Moreover, the Bar Council of India has recommended to prefer the introduction of Five Year Integrated Law Course with specialization.

OUR EFFORTS

Surely, the Department is leaving no stone unturned to sharpen the legal competence of its budding lawyers to compete with the new challenges in the field of law. If the posts are sanctioned and the amount as requested is provided, our Department shall contribute in the qualitative legal education and research in the country.

OUR VISION

The Department of Laws at Guru Nanak Dev University is trying to fulfill the vision put forth by the Bar Council of India:

"While entering the new millennium, the Bar Council of India sharing vision for a better world, re-dedicates itself to strive for maintenance of highest standards of professional ethics, advancement of legal profession and service to humanity".

FACULTY OF LIFE SCIENCES

==/ 22 /==

1. **Name of the Department**: Biotechnology
2. **Year of establishment**: 1991
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered:** M. Sc. & Ph.D.
5. **Interdisciplinary programmes and departments involved:**
   List of Interdisciplinary Courses being Offered are as under:
   M.Sc. II Semester (even semester)

Course No.	C/E/I/	Course Title
BTL-051	I	Tools and Techniques in Biotechnology

   M.Sc. III Semester (Odd semester)

BTL-052	I	Fundamentals of Biotechnology

   Open to all the Departments at the University Campus.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**: None
7. **Details of programmes discontinued, if any, with reasons**
   Due to poor response of industry and academia to M.Sc. Bioinformatics graduates, the M.Sc. degree programme in Bioinformatics was discontinued w.e.f. session 2010-2011
8. **Examination System : Annual/ Semester/ Trimester/ Choice Based Credit System :** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments**:
   M.Sc. Biotechnology students take interdisciplinary course offered by other Departments.
10. **Number of teaching posts sanctioned, filled and actual (Professors/ Associate Professors/ Assistant Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	0	2
Associate Professors	1	1	1
Assistant Professors	4	4	2
Others	--	--	--

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided/ under progress for the last 4 years
Dr. Prabhjeet Singh	Ph.D., IARI, New Delhi	Professor & Head	Plant Molecular Biology	22	7
Dr. Gurcharan Kaur	Ph.D., JNU, New Delhi	Professor	Medical Biotechnology	28	9
Mr. Pramod Kumar Verma	M.Tech., I.I.T. New Delhi	Associate Professor	Biochemical Engineering	20	--
Dr. Pratap Kumar Pati	M.Tech., IIT, Kharagpur Ph.D., IHBT, Palampur	Associate Professor	Plant Tissue Culture & Genetic manipulation	17	10
Dr. Ramandeep Kaur	Ph.D., IMTECH, Chandigarh	Assistant Professor (Senior Scale)	Microbial Technology	14	3
Dr. Prakash Chandra Mishra	Ph.D., ICGEB, New Delhi	Assistant Professor	Bioinformatics & Structural Biology	5	2

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors

- Dr. Pascal Montro, CIRAD, Montpellier, France
- Professor M.R.N. Murthy, IISc., Bangalore
- Mr. Manish Kumar, IMTECH, Chandigarh
- Mr. M Ragothaman, JNU, New Delhi
- Dr. T. Mohapatra, IARI, New Delhi
- Dr. Bala Kumar, Biorad, USA
- Dr. Subimal Dutta, USA
- Dr. Swapandeep Singh Chimni, Department of Chemistry, GNDU, Amritsar

- ❖ Dr. Balvinder Singh, Bioinformatics Centre, Institute of Microbial Technology, Sector 39A, Chandigarh
- ❖ Dr. Pankaj Soni, Senior Scientist (Scientist EI), Institute of Microbial Technology, Sector 39-A, Chandigarh
- ❖ Ms. Charu Kapil, Protein conformation and Enzymology Lab, Department of Biosciences, Jamia Millia Islamia, Delhi
- ❖ Dr. Soma S. Marla, Principal Scientist, Bioinformatics, DNAFP Division, National Beuro of Plant Genetic Resources, Pusa Road, New Delhi
- ❖ Dr. Naidu Subbarao, Scientist, Centre for Computational Biology and Bioinformatics, Jawahar Lal Nehru University, New Delhi
- ❖ Mr. Suchir, Senior Computational Biologist, Mascon Global Ltd., 758, Ist Floor, Udyog Vihar, Phase -5, Gurgaon
- ❖ Dr. SuNone Kaul, Senior Research Scientist, National Institute of Advanced Industrial Science & Technology (AIST), Central 4, 1-1-1, Higashi, Tsukuba, Ibaraki 305-8562, Japan
- ❖ Dr Renu Wadhwa, Group Leader, Cell Proliferation Group, National Institute of Advanced Industrial Science & Technology (AIST), Central 4, 1-1-1, Higashi, Tsukuba, Ibaraki 305-8562, Japan
- ❖ Dr. D. Sundar, Department of Biochemical Engineering and Biotechnology, Indian Institute of Technology (IIT), New Delhi Hauz Khas, New Delhi

13. Percentage of classes taken by temporary faculty – programme-wise information :

5-10%. Temporary faculty is appointed only against leave vacancy of a faculty member

14. Programme-wise Student Teacher Ratio:

M.Sc. Biotechnology – 3:2

M.Sc. Bioinformatics – 11:4

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Staff	Sanctioned	Filled	Actual
Technical	6	3	3
Administrative	4 + 1 (Fixed)	3+1 (fixed)	3+1 (fixed)

16. Research thrust areas as recognized by major funding agencies

- ❖ Medical Biotechnology
- ❖ Plant Biotechnology
- ❖ Microbial Biotechnology
- ❖ Structural Biology

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

National :

Professor Gurcharan Kaur

i. Total grant received : Rs. 59.0 Lacs; DBT, Govt. of India, New Delhi; Cellular and molecular mechanisms of adverse effects of antiepileptic and mood stabilizing drugs (2010-13).
ii. Total grant received : Rs. 11.67 Lacs; UGC, New Delhi; Reproductive neuroendocrine dysfunction in cycling female rats treated with antiepileptic drugs (2010-13).

Professor Prabhjeet Singh

i. Total grant received : Rs. 64.85 Lacs; DBT, Govt. of India, New Delhi; Heat stress induced calmodulin binding proteins in sorghum: Characterization cloning and expression analysis (2011-14).
ii. Total grant received : Rs. 86.74 Lacs; DBT, Govt. of India, New Delhi; Peptidyl prolyl c*is-trans* isomerases : Role in storage protein deposition in wheat and relevance to industry (2008-11).
iii. Total grant received : Rs. 33.28 Lacs; DBT, Govt. of India, New Delhi; Transgenic analysis for the role of wheat gene (*TaVAP*) encoding for a vesicle-associated membrane protein-associated protein in abiotic stress tolerance (2008-2011).

Dr. P.K. Pati

i. Total grant received : Rs. 21.7 Lacs; CSIR, New Delhi; Development of a Molecular Detection System for *Alternaria* species infecting *Withania Sominfera* (L) and analysis of post-infectional changes during leaf spot disease using biochemical and molecular approaches. (2011-14).
ii. Total grant received : Rs. 92 Lacs; DBT-AIST, Japan, Collaborative Project; Insights into secondary metabolite production and their accumulation in Withania somnifera using in vitro propagation system. (2010-13).
iii. Total grant received : Rs. 20 Lacs; CSIR, New Delhi; Insight into 24-epibrassinolide mediated synthesis of protective proteins and enzymes in *Brassica* juncea L. under copper stress. (2011-14).

Dr. Ramandeep Kaur

i. Total grant received: Rs. 24.95 Lacs; DBT, Govt. of India, New Delhi; Cloning, expression and characterization of truncated globins (HbN and HbO) from *Myxococcus xanthus*. (2010-13).
ii. Total grant received: Rs. 18.74 Lacs; CSIR, New Delhi; Myxobacteria from North Indian Plains: diversity and potential for novel anti-infectives. (2010-13).
iii. Total grant received: Rs. 26.48 Lacs; DBT, Govt. of India, New Delhi; Structure function studies on a conserved essential malaria

parasite containing PEXEL motif. (2011-14); Co-Principal Investigator.

Dr. P.C. Mishra

i. Total grant received: Rs. 26.48 Lacs; DBT, Govt. of India, New Delhi; Structure function studies on a conserved essential malaria parasite containing PEXEL motif. (2011-14).
ii. Total grant received: Rs. 25.26 Lacs; DBT, Govt. of India, New Delhi; Brain Plasticity associated with Cerebral Malaria. (2010-12).

International: None

18. Inter-institutional collaborative projects and associated grants received

a**) National collaboration**:

Professor Prabhjeet Singh

i. Total grant received : Rs. 86.74 Lacs; DBT, Govt. of India, New Delhi; Peptidyl prolyl c*is-trans* isomerases : Role in storage protein deposition in wheat and relevance to industry (2008-11).
ii. Total grant received : Rs. 33.28 Lacs; DBT, Govt. of India, New Delhi; Transgenic analysis for the role of wheat gene (*TaVAP*) encoding for a vesicle-associated membrane protein-associated protein in abiotic stress tolerance (2008-2011).
iii. Total grant received : Rs. 64.85 Lacs; DBT, Govt. of India, New Delhi; Heat stress induced calmodulin binding proteins in sorghum: Characterization cloning and expression analysis (2011-14).

b) International collaboration:

Professor Gurcharan Kaur

i. Total grant received : Rs. 75.0 Lacs; DBT-AIST, Japan, Collaborative Project; Use of Ashwagandha derived phytochemicals for development of differentiation-based therapy of brain cancers (2010-13).
ii. Total grant received : Rs. 45 Lacs; ICMR-BMBF, Germany (Indo-German Scheme), Investigation on the therapeutic potential applications of PSA mimetics in cell culture and mouse models of brain injury and disease (2011-13).

Dr. P.K. Pati

i. Total grant received : Rs. 92 Lacs; DBT-AIST, Japan, Collaborative Project; Insights into secondary metabolite production and their accumulation in *Withania Somnifera* using *in vitro* propagation system. (2010-13).

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

- DST-FIST grant worth Rs. 36,43, 208/- approx. (2006-11)
- DST-FIST sanctioned Rs. 1 crore for level-I (2012 onwards)
- DISC grant received Rs. 49.94 Lacs during period (2008-2012)
- DBT grant received for M.Sc. Biotechnology programme 89.94 Lacs (2008-2012)

20. Research facility / centre with:

- **State recognition**: -
- **National recognition**

i) M.Sc. Biotechnology programme sponsored by DBT, Govt. of India, New Delhi

ii) Distributed Informatics Sub-Centre (DISC) sponsored by DBT, Govt. of India, New Delhi

- **International recognition**: -

21. Special research laboratories sponsored by / created by industry or corporate bodies: None

22. Publications:

- **Number of papers published in peer reviewed journals (national / International):** 52
- **Monographs**: Nil
- **Chapters in Books:** Nil
- **Edited Books:** Nil
- **Books with ISBN with details of publishers**: None
- **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCO host, etc.)**
- **Citation Index – average:** 2.05
  Total citation till date of 183 cited documents = 1646
  Average citation 1646/183 = 9
- **h-index**: h-index of Department till date (as per Scopus database): 22

23. Details of patents and income generated: None

24. Areas of consultancy and income generated: None

25. Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad

Professor Gurcharan Kaur

i. Visiting Professor in INSERM, Lille, France 1st Feb. to 1st March 2009 under Indo French Centre for Promotion of Advanced Research (IFCPAR) project

ii. Visiting Professor in INSERM, Lille, France 1st June. to 30th June 2010 under IFCPAR project

iii. Visiting Professor in ZMNH, University of Hamburg, Hamburg, Germany from 18th Nov to 17th Dec 2011 under Indo-German project

iv. Visiting Scholar in Department of Psychiatry, Boston University School of Medicine, Boston from 16th May to 17th August 2013 under DBT-CREST program

Professor Prabhjeet Singh

i. Visiting Scientist in the lab of Dr. W.A. Snedden, Department of Biology, Queen's University, Kingston, Ontario, Canada from March 2012 – March 2013

Dr. P.K. Pati

i. "Fulbright-Nehru Senior Research Fellowship" by the Foreign Fulbright Scholarship Board (FSB) in Washington D.C.

26. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Professor Gurcharan Kaur

- ❖ Vice-President, Society for Neurochemistry, India (2008-2011)
- ❖ Executive member, Indian Academy of Neurosciences (2008-2012)
- ❖ Executive Member of Association of Gerontology (India) (2009-2011)
- ❖ Reviewer of International journals: Brain Research, Biogerontology, Experimental Neurology, Experimental Gerontology, Rejuvenation Research, IJMR, Brain Research Bulletin, PLoS ONE etc.
- ❖ Member Editorial Board of "Biogerontology" Journal.
- ❖ Reviewer for Research Grants Proposals of ICMR, DST-GOI, DBT-GOI, CSIR

Professor Prabhjeet Singh

- ❖ On the panel of referees of more than 25 journals (including Nature) for reviewing manuscripts submitted for publication.
- ❖ Reviewer of Research grant proposals of DBT/CSIR-Govt. of India

Dr. P.K. Pati

- ❖ Appointed as member of committee for mentoring Colleges under Star College Scheme of Department of Biotechnology, Govt of India, New Delhi

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

Dr. Ramandeep Kaur

- ❖ Refresher Course "Research Methodology in Sciences", 02.03.2010 to 22.03.2010, Panjab University, Chandigarh.

28. Student projects (for M.Sc.)

- Percentage of students who have done in-house projects including inter- departmental projects: 100%
- Percentage of students doing projects in collaboration with other universities / Industry / institute: None

29. Awards / recognitions received at the national and international level by

• Faculty

Professor Gurcharan Kaur

- ❖ Selected Fellow, Indian Academy of Neuroscience
- ❖ Selected for DBT-CREST fellowship award
- ❖ Member of DBT-Neurobiology Expert Group
- ❖ Member of ICMR-Translational Neuroscience Task Force
- ❖ Member of Translational Neuroscience Expert Group of 'Indian Council of Medical Research'

❖ Member of Biogerontology Expert Group of 'Indian Council of Medical Research'

Professor Prabhjeet Singh

❖ Selected for DBT-CREST fellowship award by DBT, Govt. of India

Dr. P.K. Pati

❖ Received "INSA Teachers Award (2012)" from Indian National Academy of Sciences, New Delhi.

❖ "Fulbright-Nehru Senior Research Fellowship" by the Foreign Fulbright Scholarship Board (FSB) in Washington D.C.

- **Doctoral Students**

❖ Ms Gurpreet Kaur awarded "Fulbright Nehru Doctoral Fellowship" to carry out part of Ph.D. research work at Department of Biochemistry and Biophysics, Chapel Hill, NC 27599, USA from 15th August, 2012 to 14th May, 2013.

❖ Ms Isha Sharma awarded "Fulbright Nehru Doctoral Fellowship" to carry out part of Ph.D. research work at Department of Horticultural Science, North Carolina State University, Raleigh, North Carolina, 27607, USA from 15th August, 2011 to 31st December, 2012.

❖ Ms Pritika Singh awarded "AIST International Fellowship" to carry out part of Ph.D. research work at National Institute of Advanced Industrial Science & Technology (AlST), Japan from 30th Sept, 2011 to 28th Dec, 2011

❖ Ms Shivani awarded first prize in poster presentation in national symposium (14th-16th Sept, 2011) on "Advances in Biotechnological Research in Agri-Horticultural Crops for sustaining Productivity, Quality Improvement & Food Security" at Sardar Vallabhbhai Patel University of Agriculture & Technology, Meerut.

❖ Mr. Ashutosh Sharma received "Young Scientist Award" in 14th Punjab Science Congress held on 7-9th Feb., 2011 at Sant Longowal Institute of Engineering and Technology, Longowal, India for the work entitled "PCR based detection of *Alternaria species* infecting *Withania somnifera* (L.) Dunal a high value medicinal plant"

❖ Mr. Ashutosh Sharma received best poster prize at International Conference on Entomology at Patiala held during February 17-19, 2012 for the poster entitled "Pests infesting *Withania somnifera* (L.) Dunal-a high value medicinal plant".

❖ Hardeep Kataria awarded with IBRO-APRC Exchange fellowship 2011, availed at AIST, Japan from October 2011 to February 2012

❖ Rachana Mishra awarded with travel grant for Route 28 Summits in Neurobiology "Adult Neurogenesis and Neurodegenerative Diseases" August 4-10, 2012, Frauenchiemsee, Germany.

❖ Mr. Amardeep Singh awarded travel grant to attend the conference at Austria Vienna, 2012

❖ Mr. Amardeep Singh awarded Senior Research Felllowship 2010-2012

- **Students:** None

30. Seminars/ Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.

Conference/Workshop/Symposium organized : 08

- Workshop on, "Basic Neurochemical Techniques for Young Neuroscientists", from 17th-27th Nov 2008.
- International Symposium on, "Molecular aspects of Brain Aging and Neurological Disorders", during 28th-29th Nov. 2008.
- Organized Workshop on Bioinformatics tools in Biological Research on 19th-20th March 2010.
- Organized Workshop cum orientation programme on "confocal microscopy" on 4th November, 2011.
- Organized Workshop on Bioinformatics Applications in Genomics & Proteomics on 5th-6th November, 2011.
- Punjab Science Congress at Guru Nanak Dev University, Amritsar organized from 7th to 9th Feb 2012
- XXX Annual Conference of Indian Academy of Neurosciences and International Symposium on 'Translational Neurosciences: Unraveling Mysteries of Brain in Health and Disease during 27th to 30th Oct 2012 at GNDU, Amritsar.
- Organized Sardar J.S. Rai Memorial Lecture in GNDU, Amritsar on 29th Oct 2012

31. Code of ethics for research followed by the department:

The students are required to maintain a work book for day to day recording of the data. The students are also directed to ensure non-interference in the working of their colleagues. Safety Guidelines for conducting research are followed.

32. Student profile programme-wise: (2008-2012)

Name of the Progrmme	Applicatios received	Selected Male	Female	Pass percentage Male	Female
M.Sc. Biotechnology	790 approx.	14	51	100 (7 students dropped out)	
Pre Ph.D. Course Work	225 approx.	21	16	100	

33. Diversity of students : (2008-2012)

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M.Sc. Biotechnology	67	12	21	2
Pre Ph.D. Course Work	51	8	41	--

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.**

Fellowship	No. of students
CSIR-JRF	2
CSIR-SRF	5
DBT-JRF	5
DBT-SRF	1
DST-PURSE	1
Inspire-DST (for Gold Medalist)	2
University / Project Fellows	5
CSIR-UGC-NET (LS)	1
UGC-NET (LS)	1

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	None
P.G. to M.Phil.	None
P.G. to Ph.D.	34%
Ph.D. to Post-Doctoral	8%
Employed • Campus selection • Other than campus recruitment	 0 17%
Entrepreneurs	NA

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	33%
from other universities within the State	0
from universities from other States	67%
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period**: None

38. **Present details of departmental infrastructural facilities with regard to**

a) **Library**: Yes, there are 782 books.

b) **Internet facilities for staff and students:** All teacher and students have access to internet facility

c) **Total number of class rooms:** 03

d) **Class rooms with ICT facility:**

i) Multimedia Projector: 04

ii) OHP: 04

iii) E-beam: 01

iv) Digital Smart Podium: 02

v) Motorized Project Screen: 01

e) M.Sc. Practical's ' laboratories: 03

f) Research laboratories: 06

39. List of doctoral, post-doctoral students and Research Associates

a) List of doctoral from the host institution/university: 34

b) from other institutions/universities: 5

40. i) **Number of post graduate students getting financial assistance from the university:** 27

ii) **Number of post graduate students getting financial assistance from the** DBT: 21

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology. No

42. Does the department obtain feedback from?

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes, Course Curriculum is revised every year.

b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes, M.Sc. Biotechnology students are required to submit their feedback for every course, which provides an opportunity to the teachers to improve the teaching programme.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

DBT Advisory Committee is held every year to assess the progress of M.Sc. Biotechnology teaching programme.

43. List the distinguished alumni of the department (maximum 10)

- Dr. Shailesh Dewasthaly, Head of Regulatory Affairs, Intercell Smart Vaccines, Vienna, Austria
- Dr. Narendra Wajapayee, Assistant Professor of Pathology, Department of Pathology, Yale University School of Medicine, New Haven, CT
- Dr. Bhuvanesh Dave, Research Assistant Professor, Cancer Centre of Excellence, The Methodist Hospital Research Institute, Houston, USA
- Dr. Rupinder Kaur, Staff Scientist, Centre for DNA Fingerprinting and Diagnostics, Hyderabad
- Dr. Subhadeep Chatterjee, Staff Scientist, Centre for DNA Fingerprinting and Diagnostics, Hyderabad
- Dr. P.K. Singh, Scientist E1, National Botanical Research Institute, Lucknow
- Dr. Rajinder Singh, Staff Scientist, National Botanical Research Institute, Lucknow
- Dr. Archana Chugh, Assistant professor, School of Biological

Sciences, IIT, Delhi

- Dr. Rachana Chaba, Assistant Professor, Indian Institute of Science Education and Research, Mohali
- Dr. Gopal Ji Jha, Scientist-C, Naitonal Institute of Plant Genome Research, New Delhi

44. Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.

Conference/Workshop/Symposium organized : 08

- Workshop on, "Basic Neurochemical Techniques for Young Neuroscientists", from 17th-27th Nov 2008.
- International Symposium on, "Molecular aspects of Brain Aging and Neurological Disorders", during 28th-29th Nov. 2008.
- Organized Workshop on Bioinformatics tools in Biological Research on 19th-20th March 2010.
- Organized Workshop cum orientation programme on "confocal microscopy" on 4th November, 2011.
- Organized Workshop on Bioinformatics Applications in Genomics & Proteomics on 5th-6th November, 2011.
- XXX Annual Conference of Indian Academy of Neurosciences and International Symposium on 'Translational Neurosciences: Unraveling Mysteries of Brain in Health and Disease during 27th to 30th Oct 2012 at GNDU, Amritsar.
- Organized Sardar J.S. Rai Memorial Lecture in GNDU, Amritsar on 29th Oct 2012
- Organized Workshop on "Structural Bioinformatics" on 21-22 February, 2013

45. List the teaching methods adopted by the faculty for different programmes. :

Interactive Teaching is carried out using Multimedia presentation

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Regular feedback through personal interaction with students is obtained to ensure that the programme are being met.

47. Highlight the participation of students and faculty in extension activities.

- As prescribed in sr. no. 30, students and faculty participate in various workshops & conferences
- The faculty also delivered lectures in General Orientation Courses, Refresher Courses, Workshop etc. organized by Guru Nanak Dev University, Amritsar and other Universities.

48. Give details of "beyond syllabus scholarly activities" of the department. :

The faculty is actively involved in duties as Examiners of the University, members of Board of Studies, Interview panel of other Universities/Institutions, Reviewers for Projects and research papers etc.

49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details**. :
Yes, M.Sc. Biotechnology programme is ranked 'B+' out of 32 Universities running DBT supported M.Sc. Biotechnology teaching program in country

50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
Department has published several papers which have lead to addition of knowledge in the area of plant sciences, animal biotechnology and microbial biotechnology.

51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

Strengths

- The Department of Biotechnology is part of the DBT-sponsored national network of M.Sc. Biotechnology programme.
- Faculty is highly qualified with specialization in different core areas of Biotechnology.
- Admission of the Students to the M.Sc. Biotechnology is through National Level Entrance Test conducted by JNU, New Delhi/ and Entrance test conducted by the Department.
- Students admitted through JNU are awarded a fellowship of Rs. 3000/- PM during their course.
- Most of the faculty members in the Department are having ongoing research programs funded by the University and various external agencies like DBT, CSIR, DST, ICMR which results in high quality training to M.Sc. and Doctoral students, and publications in high impact factor journals.

Weakness

- Additional faculty and qualified technicians are required.
- Shortage of space for future expansion of the department.
- More funds are required to train the students in Practical and Research Project since as per DBT guidelines, M.Sc. Biotechnology Students are required to undergo hands on training.

Vision

- To strengthen teaching and practical training of M.Sc. students so as to enable them to compete at global level.
- To augment the quality of research so as to publish in high impact factor publications.
- To widen the scope of national and international collaboration for establishing linkages with industry.
- Improvement of Computer facility and Computer networking of the Department.
- Strengthening of Research Infrastructure

- Development of Video-Conferencing Facilities
- Introduction of Online Public Access Catalogue (OPAC) for Library Services.
- Computerization of Store Functioning

52. Future plans of the department.

- ❖ To upgrade the Instrumentation Facility
- ❖ To establish intranet facility
- ❖ Augmentation of infrastructural facilities

1. **Name of the Department:** Botanical & Environmental Sciences
2. **Year of establishment:** 1990
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered:** B.Sc. (Hons. School) Botany, M.Sc. (Hons.) Botany, M.Sc.(Hons.) Environmental Sciences, M.Phil. Botany, M.Phil. Environmental Sciences, Ph.D. Botany, Ph.D. Environmental Sciences.
5. **Interdisciplinary programmes and departments involved**:

Interdisciplinary program	Department involved
Animal Tissue culture	Molecular Biology & Biochemistry
Molecular Microbiology	-do-
Essentials of Transplant Immunology	-do-
Experimental Life Science	-do-
Protein Biochemistry	-do-
Advances in Genomics and Human Genetics	Human Genetics
Growth Abnormalities in Children	-do-
Genetics in Medicine	-do-
Applications of Cytogenetic Methods	-do-
Applied Human Population Genetics	-do-
Genomics to Proteomics	-do-
Prevention and Management of Genetic Diseases	-do-
Applied Microbiology	Microbiology
Recent Trends in Microbiology	-do-
Techniques in Microbiology	-do-
Best Ecological Practices and Biodiversity Conservation	Zoology
Principles of Toxicology	-do-
Genetics: A molecular approach	-do-
Structural Biology & Bioinformatics	Biotechnology
Cell and Molecular Biology	-do-
Advances in Biotechnology	-do-

6. **Courses in collaboration with other universities, industries, foreign institutions :** None
7. **Details of programmes discontinued, if any, with reasons:** B.Sc. (Hons) Botany, as per university policy.
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:** Interdisciplinary Courses for Pre-Ph.D. Course Work.
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**
Current Status of Posts

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	2	0	3
Associate Professors	1	0	3
Assistant Professors	10	9	3
Others (Programmer)	1	1	1

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
G.S. Virk	M.Sc., Ph.D.	Professor (rtd. w.e.f. June 2013)	Plant tissue culture	32	3/5
A.K. Thukral	M.Sc., Ph.D.	Professor (reemployed w.e.f. July, 2013,)	Environmental Biology	33	6/7
Avinash Kaur Nagpal	M.Phil., Ph.D.	Professor	Genotoxicity, Plant tissue culture and Plant databases	32	5/7
Renu Bhardwaj	M.Phil., Ph.D.	Professor	Plant Physiology and Biochemistry	25	8/ 8
Saroj Arora	M.Phil., Ph.D.	Professor	Environmental Toxicology	28	5/7
A.S. Soodan	M.Sc., Ph.D.	Associate Professor	Plant Taxonomy	26	3/7

Adarsh Pal Vig	M.Sc., Ph.D.	Associate Professor	Plant Biochemistry and Vermicomposting	24	5/9
Satwinderjeet Kaur	M.Sc., Ph.D.	Associate Professor	Genetic Toxicology	18	2/7
M.S. Bhatti	B.E., M.E., Ph.D.	Assistant Professor	Environmental Engineering	12	--
Rajinder Kaur	M.Sc., Ph.D.	Assistant Professor	Resource Conservation and Management	12	--
Jatinder Kaur	M.Sc. , Ph.D.	Assistant Professor	Environmental Pollution and Monitoring, Genotoxicity.	12	0/7
Er. Bhupinder Pal Singh	B.E. (E & EC), M. Tech. (IT)	Sr. Programmer / Lecturer	Database Designing, Neural Networks, Bioinformatics	13	0/2

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None
13. **Percentage of classes taken by temporary faculty – programme-wise information:** 10-15 %
14. **Programme-wise Student Teacher Ratio:** 20:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:**

Staff Details	Sanctioned	Filled	Actual
Number of Administrative Staff	4	4	4
Number of Technical Staff	6	6	6
Number of Mali Staff	8	8	10

16. **Research thrust areas as recognized by major funding agencies:**
    - Genetic toxicology and antimutagenesis
    - Environmental conservation and phytodiversity
    - Molecular and biochemical characterization of plant products
    - Plant protection and tissue culture.
    - Plant stress physiology, biochemistry & molecular biology .
    - Environmental toxicology.
    - Phytoremediation and phytonanotechnology.
    - Bioinformatics and plant databases

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

Number of faculty with projects with national funding	Number of faculty with projects with international funding	Total grants received (INR)
8	0	1,33,19,800

Ongoing

S.No.	Title of the Project	Amount Sanctioned (INR)	Funding Agency	Duration
1.	Investigation on quinones and imidazoles as apoptosis–inducing and COX-2 inhibiting agents	20,00,000	CSIR	2011-2014
2.	DNA topoisomerase inhibitory effects of glucosinolates from *Brassica rapa* and *Raphanus sativus*	8,26,800	UGC	2011-2014
3.	Assessment of cytotoxicity induced by phytochemicals of *Acacia Noneotica* (L.) Willd Ex Del. via apoptotic pathways mediated through Caspases activating activities in human cancer cell lines	11,38,000	UGC	2011-2014
4.	Insight into 24-Epibrassinolide mediated synthesis of stress protective proteins and enzymes in *Brassica juncea* under Cu stress using Biochemical and Molecular Approaches	33,00,000	CSIR	2011-2014

5.	Isolation and Characterization of Brassinosteroids and Polyamines from *Brassica juncea* L. Plants under cadmium metal stress	12,00,000	UGC	2011-2014
6.	Profiling and quantification of hydrolytic products of Glucosinolates from germplasm of *Brassica juncea* (L.) Czern & *Eruca sativa* (Mill.) Thell. And their anticancer activity.	48,55,000	DST	2012-2015
7.	Evaluation of antimutagenic and antioxidant activity of *Chlorophytum borivilianum* Sant. et Fernand.)	1,00,000	UGC	2011- 2013

18. **Inter-institutional collaborative projects and associated grants received**
    a) National collaboration: None
    b) International collaboration: None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**.

Type of Grant	Duration	Amount (INR in lacs)
DST-FIST	2008-2013	45.00 lac
DRS-SAP	2009- 2014	85.00 lac

20. **Research facility / centre with**
    • **State recognition**: (PSCST, Chandigarh.)
    • **National recognition**: (Education Leadership Award- 2013 by Dewang Mehta School, Mumbai.)
    • **International recognition:** (Mata Kaulan Botanical Garden - Member of Botanic Gardens Conservation International, Richmond, Surrey, U.K.)
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    * **Number of papers published in peer reviewed journals (national**

/ International): 214

- **Monographs**: Nil
- **Edited Books:** 10
- **Chapters in Books**: Nil
- **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCO host, etc.):** 120
- **Citation Index – range / average**: Total: 570, Range: 30-528/ Average: 47.5
- **SNIP**: 128.12
- **SJR**: 88.55
- **Impact Factor – range / average**: Range: 0 – 5.57
- **h-index**: 12

23. **Details of patents and income generated:** An easy and efficient method for isolation of hydrolytic products of glucosinolates from *Eruca sativa* (Prelim search competed)
24. **Areas of consultancy and income generated:**
    Dr. M.S. Bhatti: Consultancy to local industry, academic institutions under Industry-Academic Linkage programme related to up-gradation of Effluent treatment plant to Nijjer Agro Foods, Amritsar; Prabir Foods, Amritsar; Bhogpur Co-operative Sugar Mills Ltd., Jalandhar; Harraj Agro Foods, Jandiala Guru. [Total amount Rs 20,000]
    Dr. Adarsh Pal Vig: Training & Establishment of Vermicomposting facilities at various institutes.
25. **Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad**

Faculty	Name of Institute
Dr. Satwinderjeet Kaur	University of Wisconsin–Madison

26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Faculty	National Committee/ International Committee/ Editorial Board
Professor A.K. Thukral	• Life Member, Linnean Society, London -2013 (FLS).
Professor Avinash Nagpal	• Editorial board of Bioscience Guardian- An international Journal (www.bioscienceguardian.com) ISSN.2277-9493.
Professor Renu Bhardwaj	• Programme Co-coordinator, Training of Foresters (Forest Department, Punjab Govt.) in Seed Technology.

Dr. Adarsh Pal Vig	• Chairman, Board of Studies (BOS), Distant Education Programme (DEP), Punjab Technical University (PTU) For the Subject of Biotechnology since 2009 • Chairman, BOS, PTU for the subject of Environmental Sciences, Department of Academic since 2011 • Botany Research International (BRI), IDOSI Publications, P.O. Box 40468, Deira, Dubai, UAE • Editor, "Indian Journal of Ecology" India. (from 23.2.2005 for 3 years) • Co-editor, "Indian Journal of Environment & Ecoplanning" Dumka, India. (since 2006)
Dr. Jatinder Kaur	• Editorial board of Bioscience Guardian- An international Journal (www.bioscienceguardian.com) ISSN.2277-9493
Dr. M.S. Bhatti	• Member, Editorial Advisory board in "International Journal of Environmental Sciences", Integrated Publishing Association *(Indexed in Chemical abstract)*

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs)

Faculty	Conference/Symposia/ workshop	Organizer/s	Duration
Professor Avinash Kaur Nagpal	15th All India Congress of Cytology and Genetics (AICCG) and Fogarty International workshop on Arsenic Contamination in Groundwater: Health Effects, Molecular Epidemiology, Susceptibility and Mitigation'	Magadh University, Bodgaya	November 21-23, 2011.
Dr. M.S. Bhatti	(a)International workshop on 'Advances in Disinfection Technology'	National Environmental Engineering Research Institute (NEERI), Nagpur	February 9, 2011.

	(b)Short term course on 'Environment Management in Process Industries'	National Institute of Technology, Jalandhar	June 5-9, 2011
	(c)Training programme on 'Hydrogeochemical Modeling Assessment and Management of Urban & Coastal Groundwater'	School of Environmental Sciences, Jawaharlal Nehru University, New Delhi	October 17-23, 2011
	(d)Workshop on design of experiments (DOE)	Mumbai	November 15-16, 2011
	(e)Workshop on 'Alternative Sustainable Technologies'	Institute of Chemical Technology (ICT), Mumbai	14–18 March 2012
Dr. Rajinder Kaur	National Training Programme on "Cultivation & Processing of Medicinal & Aromatic Plants	IHBT, Palampur	March 18-24, 2012.
Dr. Jatinder Kaur	(a) UGC-sponsored 3-week Special Winter School	Academic Staff College, GNDU, Amritsar	December 23, 2008 - January 12, 2009
	(b) Workshop on "Analysis of Biological Data	Department of Botanical and Environmental Sciences, guru Nanak Dev University,	August 27-September 2, 2012
	(c) Workshop on "Essentials of Finance and Financial Management"	Amity institute of training and Development, Amity University, Noida	December 10-21, 2012

	(d) Workshop on "Molecular Biotechnology and Bioinformatics",	International Center for Stem Cells, Cancer and Biotechnology (ICSCCB), Pune, India	December 24-28, 2012
Er. Bhupinder Pal Singh	Attended UGC sponsored Workshop on Analysis of Biological Data	Department of Botanical and Environmental Sciences, Guru Nanak Dev University, Amritsar	August 27 - September 2, 2012)

28. Student projects

- **Percentage of students who have done in-house projects including inter- departmental projects:** (65%)
- **Percentage of students doing projects in collaboration with other universities / Industry / institute**: (35%)

29. Awards / recognitions received at the national and international level by

• Faculty

S. No.	Award	Agency
1.	DBT-CREST Award for Advance Research Abroad	DBT, New Delhi
2.	Fast Track Young Scientist Award	DST, New Delhi.
3.	BOYSCAST Fellowships - Two	DST, New Delhi.
4.	Professor P.N. Mehra (i)Young Scientist award (ii)Senior Scientist award-Two	Professor P.N. Mehra Memorial Trust, Patiala
5.	Fellow of National Academy of Environment Science (FNESA) – Two	National Environment Science Academy, New Delhi
6.	(i)Young Scientist (ii) Woman Scientist Award (iii) Senior Scientist Award (iv) Life Fellowships - Two	International Consortium of Contemporary Biologists
7.	Fellow of Linnean Society (FLS) – Two	Linnean Society, London
8.	Common-wealth academic staff fellowship in UK	UGC, New Delhi
9.	Top reviewer of year 2010	Desalination journal (Elsevier)

Professor A.K. Thukral

- Received Professor P.N.Mehra Senior Scientist Award (2010)
- Elected Fellow of International Association of Computer Sc. And Information Technology (2013)

Professor Avinash Kaur Nagpal

- Received **Vocational Award-2011**by Rotary Club Amritsar North East on 1st May, 2011.
- Conferred with **Senior Scientist Award** at Fourth International Conference of Life Science Research for Rural and Agricultural Development organised by International Consortium of Contemporary Biologists and Madhawi Shyam Educational Trust (MSET) at Central Potato Research Station, Patna, Bihar during 27th to 29th December 2011.

Professor Renu Bhardwaj

- Received **National Environmental Science Academy Fellowship Award** –New Delhi 2012 (FNESA).
- Nominated for **Fellowship of the Linnean Society** – London 2013 (FLS).
- Received Academic Brilliance Awards-2013. (Award For Excellence in Research) by Education Expo TV's Research Wing for Excellence in Professional Education & Industry

Dr. Adarsh Pal Vig

- Awarded as a Distinguished **Teacher's Award** by the Lions Club Amritsar Golden Temple, Amritsar (2012).

Dr. Satwinderjeet Kaur

- Received DBT crest Fellowsip, Janaury, 2012.

Dr. M.S. Bhatti

- Top Reviewer certificate from Elsevier publication (Desalination) in 2010 for exceptional contribution to the quality of journal.

Dr. Rajinder Kaur

- Received Second prize in model making competition in Two-day workshop cum training on management of Municipal Solid Waste and Plastic Waste sponsored by Ministry of Environment &Forests, Govt. of India. April 16-17, 2009.
- Received Second prize in paper presentation (poster) in UGC sponsored National Seminar on "Recent Strategies in Environmental Protection" organized by Department of Botany and Chemistry S.R. Govt. College Amritsar. December 3, 2010.

Dr. Jatinder Kaur

- Received "Young Scientist award with a gold medal" in International Conference organized by Madhawi Shyam Educational Trust and International Consortium of Contemporary Biologists held at Indian Institute of Forest Productivity, Ranchi, Jharkhand; November 20-22, 2009.

- Received best poster award in UGC sponsored National Seminar organized by Department of Geology and Environmental Studies, Lyallpur Khalsa College, Jalandhar. March 17, 2011.
- Received "Outstanding Woman scientist Award" in International Conference organized by International Consortium of Contemporary Biologists (ICCB), Madhawi Shyam Educational Trust (MSET), Ranchi and Silk Society of India (SSI), Nagpur. December 13-15, 2010.

• Doctoral / post doctoral fellows

S. No.	Awards / Prizes	Student/s	Year
1.	Best Interjector Award, ASM Virtual Workshop on Scientific Writing and Publishing, The American Society for Microbiology held at GNDU, Amritsar	Resham Sharma	2013
2.	Best Abstract Title Award, ASM Virtual Workshop on Scientific Writing and Publishing, The American Society for Microbiology held at GNDU, Amritsar	Ravdeep Kaur	2013
3.	2nd Best Poster Award at National Conference on Advances in Environment Science and Plants, DDU, University of Delhi, New Delhi	Dhriti Kapoor Neha Handa	2013
4.	3rd Best Poster Award at National Conference on Advances in Environment Science and Plants, DDU, University of Delhi, New Delhi	Sukhmeen Kaur Shagun Bali	2013
5.	First Prize in the competition "Bio-Abstracts and Paper Presentation" during Annual Tech Fest Aranya 2012, Thapar University, Patiala	Harpreet Kaur	2012
6.	S.R. Yadav Award for Best Poster Presentation at International Symposium on Innovative Prospects in Angiosperm Taxonomy (ISIPAT), Sant Gadge Baba University, Amravati, Maharashtra	S.A.Shakoor M.A. Bhatt S.H. Mir Jeewan Jyoti	2012
7.	Best Poster Award (National Symposium on "Forage Resource and Livestock for Livelihood, Environment and Nutritional Security)	Mudasir Ahmad Bhatt, Sheikh Abdul Shakoor and Shoukat Ahmad Mir	2011

8.	Best Oral Award (Life Science Research for Rural and Agricultural Development International Consortium of Contemporary Biologists (ICCB)	Rajneet Kaur Soodan	2011
9.	Best Poster Award (UGC sponsored National Seminar on "Solid Waste Management")	Mandeep Kaur Vineet Kumar	2011
10.	Best Poster Award (International Conf. on Bio-resource Development & Natural Resource Management for Community Upliftment)	Rajwant Kaur and Simerpreet Kaur	2010
11.	Award for JRF in Sciences to Foreign Students from developing countries	Mabwoga Okongo Samson	2009 -10
12.	National Level student research convention	Mabwoga Okongo Samson	2009
13.	Young Scientist Award (International Conf. on Bio-resource Development & Natural Resource Management for Community Upliftment)	Tarunpreet Singh Thind	2010
14.	Best Poster Presentation (Int. Conf. on Changing Env. Trends and Sustainable Development)	Gurveen Kaur	2009
15.	Best Poster Presentation (Society for free Radical Research – India)	Tarunpreet Singh Thind	2008
16.	Best Poster Presentation (Society for free Radical Research – India)	Priya Arora	2008
17.	Dr. B. M. Johari Rolling Trophy	P.G. Students - II prize	2007
		P.G. Students - II prize	2007
18.	Young Scientist Award (Punjab Science Congress)	Tarunpreet Singh Thind	2009
		Priya Arora	2007
		Anjana Bhatia	2005
19.	Post-Graduate Merit Scholarship for University Rank Holder	Shivani	2007 – 09

Fellowships

S.No.	Fellowships	Student/s	Year
1.	UGC Post Doctoral Fellowship (1)	Dr. Rajbir Kaur	2012
2.	Dr. D.S. Kothari Post Doctoral Fellowship of UGC (3)	Dr. Priyanka Sharma	2008
		Dr. Amit Chawla	2009
		Dr. Priya Uppal	2011
3.	Nehru Fulbright International Fellowship (1)	Miss Isha Sharma	2011
4.	CSIR- Research Associate ship (1)	Dr. Rajbir Kaur	2011
5.	Inspire Fellowship-JRF+SRF (9)	Miss Indu Sharma (JRF)	2009
		Miss Gurveen Kaur (JRF+SRF)	2010
		Miss Resham Sharma (JRF+SRF)	2010
		Miss Jasmit Kaur (JRF+SRF)	2010
		Miss Dilpreet Arora (JRF)	2011
		Miss Harpreet Babbar (JRF)	2011
		Miss Harpreet Kaur (JRF)	2011
		Miss Jiwan Jyoti (JRF)	2012
		Miss Ravdeep Kaur (JRF)	2012
6.	CSIR Senior Research Fellowship (4)	Miss Geetanjali	2010
		Mr. Tarunpreet Singh	2010
		Mr. Mukesh Kumar	2011
		Miss Neha Sharma	2013
7.	Maulana Azad Fellowships (12)	Miss Savinder Kaur	2009
		Miss Gurveen Kaur	2009
		Miss Harsimran Kaur	2009
		Miss Arvinder Kaur	2011
		Miss Davinder Kaur	2011
		Miss Harpreet Kaur	2011
		Mrs. Paramjeet Kaur	2011
		Miss Simerpreet Kaur	2012
		Miss Rajwant Kaur	2012
		Miss Jagdeep Kaur	2013
		Miss Pardeep Kaur	2013
		Miss Jiwan Jyot Kaur	2013

8.	Rajiv Gandhi Fellowship (8)	Miss Maninder Kaur	2008
		Miss Vanita Chahal	2010
		Miss Mamta	2010
		Miss Priya Thapa	2010
		Mr. Ashok Kumar	2011
		Miss Sonia Mahey	2011
		Miss Poonam	2012
		Mr. Sandeep Singh	2013

Post Doctoral Fellowships:

1. Dr. Sukhbir Kaur (National Institute of Health (NIH), U.S.A)
2. Dr. Sikander Pal Choudhary (Zhejiang University, Zhejiang, China; Jacob Blaustein Institutes for Desert Research, University of the Nagev, Israel)
3. Dr. Priyanka Sharma (Department Of Biotech, Univ of Pune)
4. Dr. Priya Uppal (IIS. Bangalore)
5. Isha Sharma (Doha College of Arts and Science, Qatar University, Qatar)
6. Dr. Rajbir Kaur (UGC-Post Doctoral Fellowship)
7. Dr. Prabhjeet Kaur (University of Washington)
8. Dr. Rajbir Singh Sohi (University of Washington)

30. Seminars/ Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.

Sr. No.	Theme/Title of Workshop/Course	Sponsor/ Collaborator	Duration
1)	2-day workshop cum training programme on Management of Municipal Solid & Plastic Waste	HRD Foundation	April 16-17, 2009
2)	National seminar on Total Eclipse-2009	DST Rashtriya Vigyan ewam Prodyogiki Sanchar Parishad and Vigan Prasar, New Delhi	June 29-July 1, 2009
3)	National seminar on "Environment and Sustainable Development	UGC	November 3-4, 2009
4)	Jaswant Singh Rai Memorial Lecture	Charitable Trust	November 4, 2009
5)	National Seminar on "Environment Analysis and Remediation "	UGC	March 21-22, 2011

6)	Sardar Bishan Singh Samundri Memorial Lectureship Award	Sardar Jaswant Singh Rai Memorial Trust	November 15, 2011
7)	Refresher Course on "Health and Life Sciences"	UGC	December 23, 2011 January 12, 2012
8)	15th Punjab Science Congress	Punjab Academy of Sciences, Patiala	February 7-9, 2012
9)	Invited Lecture of Dr. Michael Fenech on "Nutrigenomics"	EMSI, India	February 2, 2012
10)	National Seminar on Environment Management	UGC	March 22-23, 2012
11)	Workshop on Analysis of Biological Data	UGC	Aug 27-Sept 02, 2012
12)	Sardar Bishan Singh Samundri Memorial Lectureship Award	Sardar Jaswant Singh Rai Memorial Trust	January 9, 2013
13)	Brain Storming Workshop for Promoting Extramural Research in Punjab	DST	February12, 2013
14)	National Seminar on Environmental Conservation	UGC-DRS	March 28, 2013
15)	National Seminar on Cancer Research	UGC-CPEPA	March 29, 2013
16)	National Science Day (Lecture by Dr. M.A. Singara Charya on Food Security & GMOs))	Departmental Funding	September 24, 2013
17)	Annual National Environment Awareness Campaign **(NEAC)**	Min. of Environment & Forests, GOI, New Delhi through PSCST, Chandigarh	2008-13
18)	Annual Biodiversity Day	PSCST, Chandigarh	2009-13

31. **Code of ethics for research followed by the department:** As per University/UGC norms.

32. **Student profile programme-wise: Current Status**

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
M.Sc.(Hons) Botany	56	0	30	0	100
M.Sc.(Hons) Environmental Sciences	36	6	30	100	100
M.Phil. (Botany)	17	2	5	100	100
M.Phil. (Environmental Sciences)	14	3	3	100	100
Ph.D.(Botany)	41	12	29	100	100
Ph.D.(Environmental Sciences)	30	5	15	100	100

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.Sc. (HS) Botany	80	10	10	0
M.Sc. (Hon) Botany	50	15	35	0
M.Sc. (Hon) Environmental Sciences	55	20	25	0
M.Phil. (Botany)	90	5	5	0
M.Phil. (Environmental Sciences)	85	10	5	0
Ph.D. (Botany)	80	15	5	0
Ph.D.(Environmental Sciences)	85	15	0	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.**

Civil Services	Defence Services	NET	SET	GATE
1	2	20	7	5

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	100
P.G. to M.Phil.	75
P.G. to Ph.D.	70
Ph.D. to Post-Doctoral	45
Employed • Campus selection • Other than campus recruitment	 30 65
Entrepreneurs	5

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	85
from other universities within the State	10
from universities from other States	5
from universities outside the country	0

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: 2

38. Present details of departmental infrastructural facilities with regard to

a) Library: The Departmental Library has more than 13,000 books in Botanical & Environmental Sciences.
b) Internet facilities for staff and students: (well connected wi fi)
c) Total number of class rooms (5)
d) Class rooms with ICT facility (3)
e) Students' laboratories (6)
f) Research laboratories (6)

39. List of doctoral, post-doctoral students and Research Associates a) from the host institution/university b) from other institutions/universities:

From the host institution/university

Doctoral Students: Ashok Kumar, Sushant Sharma, Rakesh Joshi, Neha Sharma, Rajneet Kaur, Manik Sharma, Ashun Chaudhray, Madhu Chandel, Neha Handa, Resham Sharma, Gurveen Kaur, Harpreet Kaur, Harpreet Shergill, Saloni, Robin, Harpreet Babbar, Poonam, Dhriti Kapoor, Vandana Gautam, Rajdawinder Kaur, Shakoor Ahmed, Muddasir, Ravdeep Kaur, Sukhmeen Kaur, Shagun Bali, Vinod Kumar, Anket Sharma, Parminder Kaur, Rakesh Kumar, Manish Kumar, Sonia Mahey, Jasmeet Kaur, Jyoti Mahajan, Priyanka, Jagdeep Kaur Parihar, Pardeep Kaur Parihar, Tajinder Kaur, Arvinder Kaur, Devinder Kaur, Sneh Rajput, Jiwan Jyot, Simerpreet, Rajwant

Kaur, Maninder Kaur, Mandeep Kaur, Saraswati, Deepakshi Sharma, Vaneet Kumar, Sandeep Singh, Navdeep Singh, Vaneeta Chahal, Savinder Kaur, Harsimran Dhingra, Aman Chabhal, Sakshi Sharma, Sonia Sharma, Sartaj Bhatt, Paramjeet Kaur, Sandeep Kaur,.

Post-doctoral Students: None

Research Associate: Dr. Rajbir Kaur

From other institutions/universities

Doctoral Students: Rohit Arora, Varinder Kaur, Ravinder Singh.

Post-doctoral Students: None

Research Associates: None

40. **Number of post graduate students getting financial assistance from the university:** Through the academic scholarships for rank holding meritorious students and students belonging to under privileged sections and economically weaker classes approximately 50 students.
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:** No
42. **Does the department obtain feedback from?** Yes
    a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?** Yes, via constant faculty- student meetings, Evaluation Performas on a monthly/ semester basis, information is utilized for betterment of syllabi and schedule.
    b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?** Yes, via constant faculty- student meetings, Evaluation Performas on a monthly/ semester basis, information is utilized for betterment of all academic exercises.
    c. **alumni and employers on the programmes offered and how does the department utilize the feedback?** Yes, the alumni frequently visits the department and young researchers visit their labs for constant exchange of protocols and research expertise.
43. **List the distinguished alumni of the department (maximum 10):**
    1. Dr. Sanjeev Sharma (PCS)
    2. Dr. Sukhbir Kaur (National Institute of Health (NIH), U.S.A)
    3. Dr. Sikander Pal Choudhary (Zhejiang University, Zhejiang, China; Jacob Blaustein Institutes for Desert Research, University of the Nagev, Israel)
    4. Dr. Priyanka Sharma (Department Of Biotech, Univ of Pune)
    5. Mukesh Kanwar (Shri Guru Granth Sahib World Sikh University, Fatehgarh Sahib (Punjab))
    6. Dr. Priya Uppal (IIS. Bangalore)
    7. Isha Sharma (Doha College of Arts and Science, Qatar University, Qatar)
    8. Dr. Amit Chawla (Scientist, IHBT, Palampur)

9. Capt. Abhinav Joshi (Indian Army Officer via CDS Exam)
10. Capt. A. N. Kumar (Indian Army Officer via CDS Exam)

44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.**
This includes all the National seminars/ workshops/ conferences hosted by the department as mentioned in Point 30 of this NAAC Performa. In addition to this, the department organizes meeting of faculty with the students to apprise them of the placement options and to listen to their problems regarding teaching/ research or otherwise. Each class is assigned a tutor who looks after their requirements and problems and provides them guidance for seminars, field study, status reports, case studies and project reports

45. **List the teaching methods adopted by the faculty for different programmes.**
- Interactive classroom teaching in the form of lectures, seminars with extensive use of black board as and wherever needed.
- Frequent use of projector for PowerPoint Presentations by both faculty and research fellows and also in post graduation level seminars.
- Practical Working is encouraged in labs so that students develop a knack for hands- on training in future.
- Field visits to botanical garden for various flora diversity studies.
- Annual tours to study the biogeography and biodiversity of one or two of the major states of India in December for Post Graduate classes.
- Routine presence of all the teaching/ non teaching/ research and student community is encouraged during all seminars/ conferences/ workshops/ viva examinations for wide exposure on academic terms.

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
- The department regularly organizes faculty- research fellow meetings to discuss problems faced in labs and to find out effective solutions for the same.
- The Faculty routinely discusses latest instrumentation procurement strategies for better research productivity in various BOC meetings.
- Frequent Inspection Regimes are followed and both teaching and research standards are minutely maintained for routine inspection by various funding bodies and other quality agencies such as DST, DBT, UGC, NEAC, NAAC, ISO ETC.

47. **Highlight the participation of students and faculty in extension activities.**
- Extension Activities cover both academic events such as helping in organization and participation in various conferences/ seminars/ workshops hosted by the department as well as active participation in

such events held at other universities and institutes. Research scholars and faculty visit other labs for hand on training on latest equipment and technical know- how also.

- The department welcomes academic and awareness drives in collaboration with local and national NGOs/ Institutes/ Universities & makes sure that there are regular visits and invited lectures from eminent scientists to keep the faculty and students enlightened about the latest in their research areas.

48. **Give details of "beyond syllabus scholarly activities" of the department**.
    - Annual Shramdaan Camp to encourage students and faculty alike for greenery drives, environmental awareness, cleaning of the different sections of the university botanical garden, various contests like "slogan writing", " potted plant display" "seed display" "poster making & "Debates" etc.
    - Annual BOT-ENV Fest to encourage students in the field of various extra curriculum activities such as rangoli making, best display, cookery skills, handicrafts etc.
    - Get together on festivals like Lohri & Basant Panchmi and Indoor game contests like chess, table tennis, scrabble etc to increase faculty-student interaction beyond academic spheres.
    - Annual Inter Department Sports meet for students and faculty in games such as Cricket, Volleyball, 100 m & 200 m race etc.
    - Annual Welcome Function for fresher batches of post graduation students and research fellows to introduce them to the department and faculty in a friendly informal way.
    - Annual Prize Distribution Function to felicitate meritorious students and faculty of the department in various National, International and University events.
    - Participation in the University Youth Fest - Jashan.
    - Annual Educational Tour to various parts of India for 3rd Semester Post Graduate Students.
49. **State whether the programme/department is accredited/graded by other agencies?** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**

    1. Numerous Environmental Campaigns & Biodiversity Drives with special focus on Punjab.
    2. Computer Applications & expertise in statistical analysis of data.
    3. Consultancy and Advice services for local environmental and industrial purposes.
    4. Cleaning of soil/ water samples via Phytoremediation.
    5. Phytochemical related search for cancer and lifestyle disorders.
51. **Detail major Strengths, Weaknesses, Opportunities and Challenges**

(SWOC) of the department.

1. **Academics**

Strengths:

1. Academic reputation, national ranking, richness of unique on-campus resources for teaching, research and development.
2. Dedicated, committed and funds-raising faculty and staff.
3. Special provisions for SC/ST, minority and women students.
4. Growing interest in Ph.D. and good national/international alumni base

Weakness:

1. Pressure on space, infrastructure and maintenance for research and teaching.
2. Inadequate resources for practical training and field visits (no vehicle).
3. Low level of patents, university industry linkages and extension.

Opportunities

1. Build on strengths and developing programs with international collaborations through bilateral exchange of students and faculty and MOU etc.
2. Enhance establishment of centres of excellence.
3. Synergy between NGOs, schools, colleges, research institutions and neighbouring universities that reinforce the unity of institution.
4. Capacity utilization of the Department for environmental issues of the campus and city.

Challenges:

1. Timely release of financial grants from state and centre.
2. Recruitment of faculty and administrative staff.
3. Uninterrupted power supply and research labs of international standards.
4. Increased external competition and emergence to new approaches to education.

52. Future plans of the department:

- Isolation and characterization of natural plant products and exploring their potential as antimicrobial, antigenotoxic, anticarcinogenic, antioxidant, antiinflammatory and nematicidal for their future use as protective drugs and biopesticides.
- Molecular and biochemical basis of phytoremediation, phytodiversity and mode of action of different natural products.
- Solid waste management and organic manure by vermicomposting.
- Raising disease tolerant plants through tissue culture.
- Digital database of trees and shrubs of Majha region of Punjab and landscape ecology of Harike and Himalayan region by remote sensing.
- Stress physiology and plant hormonal interactions.

1. **Name of the Department:** Human Genetics
2. **Year of Establishment:** 1990
3. **Is the Department part of a School/Faculty of the University?:** Yes
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D. Litt., etc.):** B.Sc.(Honours School), M.Sc. (Honours School), M.Sc. (Honours), Ph.D.
5. **Interdisciplinary programmes and departments involved**
   For P.G.
   -HGL-ID 051-Human Genetics in Health and Diseases
   -HGL-ID 052-Introductory Human Genetics
   For U.G.
   -HGL-ID 001-Fundamentals of Human Biology
   -HGL-ID 002- Basic Human Genetics
6. **Courses in collaboration with other universities, industries, foreign institutions etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments**
   The students of the Department of Human Genetics for their interdisciplinary courses regularly participates in different courses offered by various departments of the University such as Music, History, Zoology, Food Sciences, Botany, Biotechnology and Foreign Languages.
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	2	1	4
Associate Professor	3	3	3
Assistant Professor	6	4	3

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualifi-cation	Designa-tion	Specialization	No. of years Experi-ence (Teaching /Research)	No. of Ph.D./ M.Phil. Guided for last 4 yrs
A.J.S. Bhanwer	Ph.D.	Professor	Molecular Genetics/ Genetics of Complex diseases	29	3
Sharda Sidhu	Ph.D.	Professor Re-employed	Human Growth and Population Studies	33	2
Vasudha Sambyal	Ph.D.	Professor	Human Cytogenetics	16	1
Vanita Kumar	Ph.D.	Professor	Human Molecular Genetics	16	1
Gursatej Gandhi	Ph.D.	Associate Professor	Human Cytogenetics/ Population Biomonitoring/ Bioethics	25	1
Anupam Kaur	Ph.D.	Associate Professor	Cytogenetics/ Molecular cytogenetics	19	-
Badaruddoza	M.Phil.; Ph.D.	Associate Professor	Human Population Genetics/Genetic Epidemiology	13	1
Manpreet Kaur	Ph.D.	Assistant Professor (Stage 2)	Immunology and Lectinology	4.5	-
Kamlesh Guleria	Ph.D.	Assistant Professor (Stage 2)	Human Molecular Genetics	4.5	-
Sanajana Mehrotra	Ph.D.	Assistant Professor	Infection Biology	8 months	-

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors

- Professor Karl Sperling; Ex-Director, Institute of Human Genetics; Humboldt University; Berlin, Germany.

- Professor N.K. Mehra; Head, Department of Transplantation Immunology and Immunogenetics, All India Institute of Medical Sciences, New Delhi

13. **Percentage of classes taken by temporary faculty – programme-wise information Manual for Universities:** None

14. **Programme-wise Student Teacher Ratio**

B.Sc. (Hons. School) : Total Student 100; Ratio 10:1
M.Sc. (Hons. School) : Total Student 15; Ratio 1.5:1
M.Sc. (Honours) : Total Student 42; Ratio 4.2:1
Pre-Ph.D. : Total Student 4; Ratio 0.4:1

15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**

	Sanctioned	Filled	Actual
Programmer	1	0	0
Medical Officer	2	0	0
Senior Technical Assistant (Photo-Micrography)	1	1	1
Senior Technician (Tissue Culture)	1	1	1
Senior Technician (Molecular Biology and Cytogenetics	1	1	1
Senior Technician	1	0	0
Technician	3	3	3
Junior Technician (Lab.)	4	0	0
Stenographer	1	0	0
Senior Assistant	1	1	1
Clerk/Junior Assistant	1	1	1
Daftari	1	1	1
Peon	1	0	0

16. **Research thrust areas as recognized by major funding agencies**

In view of the specializations of the faculty, following thrust areas of the department have been recognized by different funding agencies such as; UGC, DST, DBT, ICMR, CSIR:

- Molecular, Biochemical and Cytogenetic studies in Complex Genetic Disorders such as Type 2 diabetes, Cardiovascular Diseases, Cancer (Breast and Gastrointestinal Tract Cancers), Eye Disorders, Reproductive Disorders, Rheumatoid Arthritis, Obesity, Mental Retardation, Congenital anomalies, Study of Genomic Diversity of Human Populations of North-West Punjab.

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

Title of the Projects	PI/Co-I	Funding Agency	Amt. (Rs.)	Period
Centre of Excellence in Sports Sciences	Dr. A.J.S. Bhanwer Dr. Gursatej Gandhi	UGC, New Delhi	30.00 Lakhs	2007-2010 (Completed)
Analysis of Genetic determinants of T2DM and their role in its susceptibility in some North-West Indian population groups	Dr. A.J.S. Bhanwer Dr. Vasudha Sambyal	DBT New Delhi	16.75 Lakhs	2008-2011 (Completed)
Molecular genetic analyses in diabetic retinopathy cases	Dr. Vanita Kumar	DST, SERC Fast Track Scheme	18.96 Lakhs	2009-2012 (Completed)
Assessment of *VEGF* Polymorphisms and Serum Vascular Endothelial Growth Factor (sVEGF-C) level as Prognostic Marker for Breast Cancer	Dr. Kamlesh Guleria Dr. Vasudha Sambyal	DBT	16.08 Lakhs	2009-2013
Study of Adiponectin Levels and Single Nucleotide Polymorphisms in the Adiponectin Gene in Type 2 Diabetic Women	Dr. Kawaljit Kaur Mentor: Dr.AJS Bhanwer	DST (DST-WOS-A)	17.88 Lakhs	2009-2013 (Completed)
Molecular Studies of Alcoholism in SC Population of Punjab	Dr. A.J.S. Bhanwer	UGC	11.72 Lakhs	2010-2013

Metabolic Genotypes as Modulators of DNA and Chromosomal Damage in Persons Engaged in Quarrying/Stone Crushing	Dr Gursatej Gandhi	DST	18.80 Lakhs	2010-2013
Genetic polymorphism of *MTHFR*: Its implication as maternal risk factor for Down Syndrome	Dr. Anupam Kaur	UGC	8.61 Lakhs	2010-2013
Indo-German DBT Project "The neurobiology of hereditary retinal diseases genes and molecular dysfunctions underlying disorders of the neuroretina"	Dr. Vanita Kumar Dr. Jai Rup Singh Dr. Daljit Singh Dr. Indu Ravijit Singh	DBT	1.07 crore	2010-2013
Genetic polymorphism in `relation to renal disease, genetic damage and biomarker responses	Dr. Gursatej Gandhi	UGC New Delhi	09.57 Lakhs	2011-2014
Genetic polymorphism, DNA damage and oxidant status in individuals residing in the vicinity of mobile phone base stations	Dr. Gursatej Gandhi	ICMR New Delhi	26.44 Lakhs	2011-2014
Assessment of HIF-1α and TP53 as prognostic markers in esophageal cancer: A multidisciplinary approach	Dr. Vasudha Sambyal Dr. Kamlesh Guleria	DST New Delhi	49.68 Lakhs	2011-2014

Study of genetic polymorphisms of short tandem repeat (STR) loci in Punjabi population of North-West Punjab	Dr. Badaruddoza	UGC New Delhi	10.00 Lakhs	2011-2014
Association of mannose binding lectin polymorphism and serum protein levels in chronic obstructive pulmonary disorder (COPD) and rheumatoid arthritis (RA) patients in Punjab	Dr. Manpreet Kaur Dr. Jatinder Singh	UGC New Delhi	09.09 Lakhs	2011-2014
Assessment of HIF-1α and TP53 polymorphisms and their serum levels in breast cancer patients	Dr. Kamlesh Guleria	UGC New Delhi	10.66 Lakhs	2011-2014

18. Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration

Title of the Projects	PI/Co-I	Funding Agency	Amount (Rs.)	Period
Indo-German DBT Project "The neurobiology of hereditary retinal diseases genes and molecular dysfunctions underlying disorders of the neuroretina"	Dr. Vanita Kumar Dr. Jai Rup Singh Dr. Daljit Singh Dr. Indu Ravijit Singh	DBT	1.07 crore	2010-2013

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; Total grants received during 2009-2013

Projects	Period	Amount (Rs.)
DST FIST	2004-2009	60,00,000
UGC Infrastructure grant	2007-2009	40,00,000
UGC SAP	2007-2012	49,00,000

Centre of Excellence in Sports Sciences	2007-2010	30,00,000
DST FIST	2010-2015	45,00,000
UGC SAP	2013-2018	To be released

20. Research facility / Centre with state recognition / National recognition / International recognition

Presently, the Department has adequate grants from various sources. Therefore, the department is in the process of developing optimal infrastructure, however, more space, contingent grant and human resources are still required. The department has some sophisticated instruments such as Semi automated DNA Sequencer (ABI PRISM-377), Automatic pipetter, Analytical Balances, Automatic Ice Flaker, Real Time PCR, Nanodrop Spectophotometer, UV spectrophotometer, Automatic Photomicrographic System, Bionocular Microscopes, Body Fat Analyser, Refrigerated Centrifuge, CO_2 incubators, Cold Room, ELISA Reader, Fluoroscent Microscope, Freezers, Hydridization Incubator, Inverted Microscope, Semi-Automatic Blood Analyser, Stereo Microscope, Thermal Cyclers, Vertical and Horizontal, Laminar Flow, Vertical PAGE apparatus, Water Purification Systems, Nucleic acid synthesizer, Manual sequencers, Hybridization Incubator, 2-D gel Electrophoresis system, Liquid Scintillation Counter, Gel Documentation System, Lyopholiser, Gene Pulsar, Pulse-field Gel Electrophoretic System. There is also provision in the department for generator set to enable electric supply during working hours so that research work is not hampered. Therefore, the department has well-equipped laboratories and also has many sophisticated instruments to facilitate the research.

21. Special research laboratories sponsored by / created by industry or corporate bodies: None

22. Publications:

- **i. Number of papers published in peer reviewed journals (national / International):** 163
- **ii. Monographs:** None
- **iii Chapters in Books:** 6
- **iv Edited Books**: Nil
- **v Books with ISBN with details of publishers**: None
- **vi Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCO host, etc.):** Over 100
- **vii Citation Index – range / average**
  SNIP
  SJR: 50-431/ Average 90
- **viii Impact Factor – range / average**
  0.08 - 14.397/ average 2.17

ix. h-index-

1-12/ average 4.5

23. Details of patents and income generated:

Same mentioned at Sr. No. 24.

24. Areas of consultancy and income generated

Cytogenetic investigations are being carried out in cytogenetic lab. (Centre for Genetics Disorders which is merged in Department of Human Genetics since April 1, 2010) since 1996. This income has been generated from chromosomal investigations and genetic counselling. The patients are being referred from all parts of Punjab. The cases mainly include Down syndrome, recurrent abortions, mental retardation, sex anomalies, Turner and Klinefelter's syndrome etc. Apart from these, cases of Duchenne muscular dystrophy, Thalassemia and other rare diseases are imparted genetic Counselling. The detail of income generated is as given below:

From	To	Indian Rs.
April 1, 2009	March 31, 2010	60,500
April 1, 2010	March 31, 2011	64,000
April 1, 2011	March 31, 2012	70,000
April 1, 2012	March 31, 2013	98,500

25. Faculty selected nationally/internationally to visit other laboratories /Institutions / industries in India and abroad

Dr. Vanita Kumar; Visiting fellow, Institute of Medical Genetics and Human Genetics, Humboldt University, Berlin, Germany

26. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Indian Society Human Genetics
American Society of Human Genetics
Indian Immunology Society
Punjab Academy of Sciences
Indian National Science Congress Association
ADNAT, Hyderabad
National committee for purchase of sophisticated equipments, Books in Central University of Punjab, Bathinda
Editorial Board in more than 15 national and International Journals

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

Faculty members regularly attend the Refresher / orientation programs at Academic Staff College at Guru Nanak Dev University and in other universities and also hands on practical training, workshops and similar programs time to time.

28. **Student projects**

    • **Percentage of students who have done in-house projects including inter-departmental projects**

    Research projects for all the student of M.Sc (Hons. School) and M.Sc (Hons) are compulsory-(100%)

    • **Percentage of students doing projects in collaboration with other Universities /Industry / institute:** None

29. **Awards / recognitions received at the national and international level by**

    • **Faculty:** Same as at S. No. 50

    • **Doctoral / post doctoral fellows:** None

    • **Students:** None

30. **Seminars / Conferences / Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.**

    - UGC-SAP Seminar on "Genetics of Complex Disease" (April 2, 2010)
    - G.S. Randhawa Oration Award (April 3, 2010)
    - Sardar Jaswant Rai Memorial Lecture in Life Sciences (April 5, 2010)
    - Indo-German Workshop on Bioinformatics in Human Genetics: Mutations, Microarray Analyses & Ontologies (January 25-29, 2010), Organised by the Centre for Genetic Disorders
    - UGC-SAP Seminar on "Genetics of Complex Disease" (March 15-16, 2011)
    - UGC- SAP DRS-I Seminar on "Genomics of Complex Diseases" (March 2, 2012)
    - UGC Seminar on "Genetics of Mendelian and Complex Disease" (September 18, 2012)
    - Lecture by Professor Fugo on Plasma blade and its application. Dec. 5, 2012
    - Seminar on "Human Genomics" March 24-25, 2013
    - Refresher Course in Health and Life Sciences (July 10, 2013 – July 30, 2013)

31. **Code of ethics for research followed by the departments**

    Research work strictly follows the release of revised Ethical guidelines for Biomedical Research on Human subjects by the Indian Council Medical Research (ICMR). The department organises once/twice in a year the ethical committee meeting with renowned scientist, social worker, doctor and other expert from relevant biomedical fields to evaluate the research projects, research proposals, Ph.D. thesis research work, M.Sc. dissertations based on human subjects submitted by different departments of the University.

32. Student profile programme-wise:

Name of the Programme	Applications received	Selected Male Female	Pass percentage Male Female
2009			
B.Sc. (HS) Human Genetics	0	0	100 100
M.Sc. (HS) Human Genetics	10	3 7	100 100
M.Sc. (Hons) Human Genetics	110	2 10	0 100
2010			
B.Sc. (HS) Human Genetics	Through JET (U.G.)	4 27	0 0
M.Sc. (HS) Human Genetics	0	0 0	100 100
M.Sc. (Hons) Human Genetics	77	2 25	100 100
Pre-Ph.D.		5 14	80 100
2011			
B.Sc. (HS) Human Genetics	Through JET (U.G.)	3 36	0 0
M.Sc. (HS) Human Genetics	1	0 1	67 100
M.Sc. (Hons) Human Genetics	69	2 28	100 100
Pre-Ph.D.	24	3 15	67 100
2012			
B.Sc. (HS) Human Genetics	Through JET (U.G.)		100 100
M.Sc. (HS) Human Genetics	0	0	0 100
M.Sc. (Hons) Human Genetics	58	2 26	0 100
Pre-Ph.D.	25	1 5	100 100
2013			
B.Sc. (HS) Human Genetics	Through JET (U.G.)	4 39	100 100
M.Sc. (HS) Human Genetics	17	1 15	100 100
M.Sc. (Hons) Human Genetics	49	3 18	50 73
Pre-Ph.D.	26	1 3	

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the state	% of students from universities outside the state	% of students from the other countries
2009				
B.Sc. (HS) Human Genetics	N.A	N.A	N.A	0
M.Sc. (HS) Human Genetics	100`	0	0	0
M.Sc. (Hons) Human Genetics	42	42	16	0
Pre-Ph.D.	100%	0	0	0
2010				
B.Sc. (HS) Human Genetics	N.A	N.A	N.A	0
M.Sc. (HS) Human Genetics	0	0	0	0
M.Sc. (Hons) Human Genetics	37.5	44	18.5	0
Pre-Ph.D.	100	0	0	0
2011				
B.Sc. (HS) Human Genetics	N.A	N.A	N.A	0
M.Sc. (HS) Human Genetics	0	0	0	0
M.Sc. (Hons) Human Genetics	50	27	23	0
Pre-Ph.D.	100	0	0	0
2012				
B.Sc. (HS) Human Genetics	N.A	N.A	N.A	0
M.Sc. (HS) Human Genetics	0	0	0	0
M.Sc. (Hons) Human Genetics	39	14.5	46.5	0
Pre-Ph.D.	100	0	0	0
2013				
B.Sc. (HS) Human Genetics	N.A	N.A	N.A	0
M.Sc. (HS) Human Genetics	100	0	0	0
M.Sc. (Hons) Human Genetics	47	24	29	0
Pre-Ph.D.	50	0	50	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise. : NET-2; GATE-3

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	65
P.G. to M.Phil.	NA
P.G. to Ph.D.	40
Ph.D. to Post-Doctoral	60-70
Employed • Campus selection • Other than campus recruitment	 NA Ph.D. Nearly 80; M.Sc. Nearly 30
Entrepreneurs	M.Sc. Nearly 10

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	30
from other universities within the State	40
from universities from other States	30
from universities outside the country	0

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: None

38. Present details of departmental infrastructural facilities with regard to

a) Library

There are well-stocked central and departmental libraries. The department also has Book Club facility. At present more than 250 books are available in the departmental Book Club related to running syllabus of the Department of Human Genetics. Common Internet facilities are available in the department where access to many online journals is feasible for faculty and research students to aid in the learning process.

b) Internet facilities for staff and students

There are two computer labs equipped with 15 computers, 2 printers, one server and one scanner for students for all classes. Internet facility is available to all the computers through LAN from the computer science department of the university. The department has thirteen computers in the rooms of faculty members as well as in office. All the faculty members and office staff have internet facilities. Also, all the research

labs in the department have internet facilities to facilitate the research activities for research scholar.

c) Total number of class rooms 5

d) Class rooms with ICT facility 2

e) Students' laboratories 2

f) Research laboratories 9

39. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university

Current Ph.D. Students: 35

S. No.	Name of Student	Supervisor	Topic	Year of Registra-tion
1.	Sandeep Kaur	Dr. Badaruddoza	Epidemiology of Blood Pressure in Relation to Certain Quantitative Traits among Urban Punjabi Adolescents	2007
2.	Naresh Mahajan	Dr. Gursatej Gandhi	Genetic Damage and polymorphism study in coronary artery disease	2008
3.	Tarandeep Kaur	Dr. Gursatej Gandhi	Genetic Polymorphism of Drug metabolizing genes and genetic damage study in hypertensive patients	2008
4.	Shivani Vats	Dr. A.J.S Bhanwer Dr. Vasudha Sambyal	Genetic Polymorphism in Patients of Type 2 Diabetes and Coronary Artery Disease	2008
5.	Mohd. Akbar Bhat	Dr. Gursatej Gandhi	Genetic Polymorphism of Drug metabolizing genes and Genetic Damage study in Coronary Artery Disease Patients	2008
6.	Kshema Thakur	Dr. Jatinder Singh Dr. Manpreet Kaur	Molecular cloning and further characterization of phytolectins from *Arisaema helliborifolium* and *Sauromatum guttatum*	2009

7.	Sarika Sharma	Dr. Vasudha Sambyal Dr. Kamlesh Guleria	*HIF1α* and *TP53* Polymorphisms and Chromosomal Instability in Breast Cancer Patients	2010
8	Shiwali Goyal	Dr. Vanita Kumar	Molecular Genetic Analysis in Cases with Retinal Dystrophies	2010
9	Neha Sudhir	Dr. Anupam Kaur	Cytogenetic analysis in couples and screening of TNF-A and IL-10 Polymorphisms in women with Recurrent Miscarriages	2010
10	Kirandeep Kaur	Dr. Anupam Kaur	Screening of *MTHFR* and *eNOS* Polymorphisms and Assessment of Chromosomal instability in Ischemic stroke	2010
11.	Meenakshi Ahluwalia	Dr. Anupam Kaur	Chromosomal Aberration (CA) Analysis and Molecular Analysis for Genetic Polymorphism in *GSTT1* and *GSTM1* genes	2010
12.	Manpreet Kaur	Dr. Badaruddoza	Population Genetic Analysis of Five North West Punjabi Endogamous Groups using Microsatellite Markers	2010
13.	Rubina Sharma	Dr. A.J.S. Bhanwer	Role of SNPs in *CAPN10, PPARG, PGC-1* alpha genes in susceptibility to Type 2 Diabetes in different population groups of Punjab	2011

14.	Jasmine Sokhi	Dr. A.J.S. Bhanwer	Analysis of few SNPs in *PI3K, IRS-1, INS, INSR, KCNJ11, PP1G.G* and *ABCC8* genes with type 2 Diabetes and their role in susceptibility in different population groups of Punjab	2011
15.	Bhavna Sharma (Part-Time)	Dr. Vasudha Sambyal	Cytogenetic investigations in Infertile Couples	2011
16	Gaurav	Dr. Vasudha Sambyal Dr. Kamlesh Guleria	Cytogenetic Analysis and Assessment of *HIF1α* Polymorphisms in Esophageal Cancer Patients	2011
17.	Sukhpreet Kaur	Dr. Vasudha Sambyal	Assessment of Chromosomal instability and *TP53* polymorphisms in Esophageal Cancer Patients	2011
18.	Gurpreet Kaur	Dr. Gursatej Gandhi	Susceptible Genotypes and Genomic Damage in Chronic Obstructive Pulmonary Disease	2011
19	Gurleen kaur	Dr. Gursatej Gandhi	Susceptible Genotypes and Genomic Instability in Renal disease Patients	2011
20.	Aarti Sharma	Dr. Manpreet Kaur	Genetic polymorphism, mannose-binding Lectin (MBL) levels and DNA damage in Chronic Obstructive Pulmonary Disorder (COPD) patients	2011
21.	Annie	Dr. Manpreet Kaur Dr. Jatinder Singh	Association of mannose binding lectin polymorphism and serum protein levels in Rheumatoid Arthritis (RA) patients	2011
22.	Ruhi Kapahi	Dr. Kamlesh Guleria	Screening of *VEGF* Polymorphisms in Breast Cancer patients	2011

23.	Ruhi Sikka	Dr. A.J.S. Bhanwer Dr. S Chakrabarti	Single nucleotide polymorphism and serum level analysis of Adiponectin (*ADIPOQ*) in diabetic retinopathy cohort from Northern India	2011
24.	Ramandeep Kaur	Dr. A.J.S. Bhanwer	CRP, MCP-1, eNOS gene polymorphism and conventional risk factors in Type 2 Diabetes and Coronary Artery Disease	2012
25	Ramanpreet Kaur	Dr. Sharda Sidhu	Metabolic syndrome in adult females- Relationship with Anthropometric and body composition variables	2012
26.	Sandip Singh	Dr. Avinash Nagpal Dr. Vasudha Sambyal	Genotoxicity Assessment of Soil and Water Samples from Sutlej River in Punjab and its Catchment Areas	2012
27.	Navdeep Kaur	Dr. Vanita Kumar	Biochemical and Molecular Genetic Analysis in Cases with Diabetic Retinopathy	2012
28.	Amandeep Walia	Dr. Vanita Kumar	Evaluation of Natural Compounds on Retinoblastoma	2012
29.	Tarnjeet	Dr. Manpreet Kaur Dr. Jatinder Singh	Association of galectin 3 polymorphism and its serum levels with Rheumatoid Arthritis (RA)	2012
30.	Navdeep Singh	Dr. Jatinder Kaur Dr. Manpreet Kaur	Environmental monitoring of Kanjali wetland region under influence of seasonal variations	2012
31.	Priyanka Raina	Dr. A.J.S. Bhanwer	*TGF-β, MCP-1, eNOS* polymorphisms and conventional risk factors in Type 2 Diabetes and End Stage Renal Disease	2012

32.	Akeen Kour	Dr. Vasudha Sambyal	Assessing *BRCA1* in Sporadic Breast cancer Patients	2012
33.	Harjit Kaur	Dr. Badaruddoza	Study of Genetic Variants Associated with Central Obesity in North Indian Punjabi Population	2013
34.	Raminder Kaur	Dr. Jatinder Singh Dr. Manpreet Kaur	Evaluation of P-selectin and its ligand gene polymorphism association with atherosclerosis	2013
35	Shruti Passan	Dr. Vanita Kumar	Genetic Analysis in Glaucoma Cases.	2013

b) from other institutions/universities
Current Ph.D. Students: 7

Sr. No.	Name of Student	Supervisor	Topic	Year of Registration
1	Dr. Punit Arora (Part-Time)	Dr. A.J.S. Bhanwer	A genetic epidemiological study of Type 2 Diabetes Mellitus patients of Amritsar	2007
2	Dr. APS Batra (Part-Time)	Dr.Vasudha Sambyal Dr. Sharda Sidhu	Epidemiological and Cytogenetic Study of Breast and Esophageal Cancer Patients of Amritsar District	2007
3	Radhika Sharma	Dr. Gursatej Gandhi	Association of polymorphism of some genes with DNA damage among sports persons	2007
4	Kapila Mahajan	Dr. Gursatej Gandhi	Polymorphisms of some metabolizing genetic damage in patients on antihypertensive therapy	2007
5	Sofia Bhatia	Dr. Vanita Kumar	Molecular Genetic Analysis in Retinitis Pigmentosa and Other Retinal Dystrophy Cases	2012

6	Gurvinder Singh	Dr. A.J.S. Bhanwer Dr. Swarkar Sharma	Association analysis of various candidate genes in diabetic neuropathy patients.	2013
7	Vishali Kalotra	Dr. Anupam Kaur	Study of Polymorphisms in *KIR, HLA-C HLA-G IL-25, IL-2RA, TGF-B3* genes and cytogenetic analysis in cases with recurrent miscarriages	2013

40. **Number of post graduate students getting financial assistance from the university.:** Two
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.**
Through thorough discussions in BOC meetings.
42. **Does the department obtain feedback from?**
a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
This is obtained from Board of Control (BOC) meetings which are held annually and wide discussions are done on different topic in each subject. Also modifications in the curriculum are made as per latest trends in human genetics as reported in scientific literature. The faculty members attempt to make the students aware of latest trends in Human Genetics and be in touch with recent concepts in the field by revising and updating curriculum contents every year. Therefore, the department offers a comprehensive course curriculum for all the three degrees (B.Sc. Hons. School, M.Sc. Hons. School and M.Sc. (Hons)), involving all aspects of Human Genetics, especially latest trends in Human Genetics.
b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
The Department of Human Genetics has been taking students' feedback for all the courses on specially designed questionnaire which is provided by GNDU. With respect to feedback given by the students, every faculty member acts accordingly for next semester. Beyond this practice, there is regular interaction and one-to-one relationship of students with faculty so as to improve their academic performance, assistance in sorting-off academic/personal problems, finding of books and materials for learning, etc. The faculty advisor provides the role of a counselor to impart advice and addresses the grievances of the students.
c. alumni and employers on the programmes offered and how does the department utilize the feedback?

As per suggestions from the alumini and subject expert, members of BOC tend to incorporate the changes / modification in the course curriculum /teaching patterns time to time.

43. List the distinguished alumni of the department (maximum 10)

Most of the alumini have permanent faculty positions in reputed institutions in India and abroad.

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts

The department organises national seminars / international symposia by inviting reputed speakers every year under UGC-SAP/CPEA and other such schemes. The department regularly organizes popular scientific lectures related to different fields of human genetics to facilitate the student and research scholars. The list of some distinguished speakers is as:

Name of Guest Speaker	Topic	Dates
Dr. Saechae Jeoung Director Centre for Advanced Measurement and Instrumentation Korea Research Institue of Standards and Science Daejon. Republic of Korea	Applicatons of Femtosecond lasers	Feb.16, 2009
Dr. R. M. Pitchappan ,Regional Director Geographic India, Madurai Kamraj University Madurai TamilNadu	Molecular Basis of Infections Disease suspectability	Nov. 5, 2009
Dr. R. M. Pitchappan , Regional Director, Geographic India, Madurai Kamraj University Madurai TamilNadu	Genographic Project and Migration of Man	Nov. 6, 2009
Dr. Hariayadarhsi Pannu Assistant Professor Department of Neurosurgery The University fo Texas Health Science Centre Houston USA	Vascular Disease: Do the genes fit?	Dec. 15, 2009
Dr. Naranjan S. Dhalla Distinguished Professor & Senior Fellow Centre for Advancement of MedicineInstitute of Cardiovascular Sciences St. Boniface General Hospital Research Centre Faculty of Medicine University of ManitobaWinnipeg, Canada	A Journey to Explore Problems Confronting Ischemic Heart Disease	Feb. 26, 2010

Professor R.C. Sobti Hon'ble Vice-Chancellor Panjab University, Chandigarh G.S. Randhawa Oration Award	Risk Genotype and of STAT and SOCs Genes in the Progression of HPV Mediated Cervical Cancer	April 3, 2010
Dr. Beant Singh Ahloowalia Former Consultant International Atomic Energy & Food & Agricultural Organization of UN, Vienna, Austria Sardar Jaswant Rai Memorial Lecture in Life Sciences	Invasion of Genes: Genetic Heritage of India	April 5, 2010
Dr. Eran Pras Assaf Harofeh Medical Center Danek Institute of Medical Genetics Sackles Faculty of Medicine Tel Aviv University, Israel	Brittle Cornea Syndrome	April 6, 2010
Dr. Kavleen Sikand Center for Gene Regulation in Health and Disease, Cleveland State University, 2121 Euclid Avenue, Cleveland, OH 44115, USA	Targeting of Androgen Receptor by miR 488	April 7, 2010
Dr. Naved Alam Product Manager Premas Biotech Pvt. Ltd. Gurgaon, Haryana, India	Enabling Meaningful Genome Biology using Illumina Next-Generation Technologies	Oct. 27, 2010
Mr. Sudhakar Mathur Eppendorf India Ltd.	Recent Advances in Real Time PCR	Nov. 15, 2010
Dr. Mantej Kaur Chhina Consumer Safety Officer (CSO) Food and Drug Administration Maryland (USA)	Role of Fibroblast in Idiopathic Pulmonary Fibrosis	Nov. 2, 2011
Professor N.K. Mehra Head,Department of Transplantation Immunology and Immunogenetics All India Institute of Medical Sciences, New Delhi	Biomedical Research in the Post-Genomics Era: Opportunities and Challenges	Nov. 28, 2011
Professor (Dr.) Richard Fugo Director, The Fugo Eye Institute, PA, USA	Invention of Fugo Blade and its Applications	Dec. 5, 2012

Professor (Dr.) N.K. Mehra Department of Transplantation Immunology and Immunogenetics AIIMS, New Delhi	Human Genetics in Post-Genomic Era	Oct. 27, 2012
Professor (Dr.) N.K. Mehra Department of Transplantation immunology and Immunogenetics AIIMS, New Delhi	Careers in Science – Shaping Human Lives	Oct. 27, 2012
Professor (Dr.) Klaus-Peter Herm Institute for Exercising and Sports, Germany	Growth Dynamics in Sports	Oct. 8, 2012

45. List the teaching methods adopted by the faculty for different programmes

Regular classes as per academic calendar are held. Students are taught latest in the field through various modes- blackboard teaching method, audio-visual aids, power point presentation and OHP. The resources for subject are text books, research publications, seminars and news updates. Teachers keep abreast by attending regular workshops/conferences/training courses and by finding relevant material on internet through online books and Journals.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

The students are prepared for platform speaking through seminars open to all the departmental faculty and students of all courses and for research activities through their dissertation work. Questions pertaining to the syllabus are often discussed in classes to enable students prepare for various examinations. Daily recapitulation and questioning enables the learning process in the students and evaluation by the teachers. The students are constantly monitored for their learning outcomes through continuous evaluation system such as Minor I, II, Quiz and Major examinations.

47. Highlight the participation of students and faculty in extension activities

Well-equipped central recreational facilities include; swimming pool, indoor gymnasium, sports facilities, computer labs, hostels, etc. Competitions, geared for the all round development of the students, are a regular feature of the University.

The students of the department have been actively and regularly participating in different extension activities like all kinds of sports (man and women), cultural activities such as youth festival and Jashan etc., NSS, and Gurdwara functions of the Institution through Departmental Society of Human Genetics.

Faculty members are also often invited to deliver lectures and talks to students of various colleges, and also in orientation and refresher courses

for colleges and university teachers. The department also organizes regular lectures, for interactions with national/international scientists for the benefit of students and faculty.

48. **Give details of "beyond syllabus scholarly activities" of the department**

    The department has actively and regularly participated in different extension activities like all kinds of sports (man and women), cultural activites, NSS, and Gurdwara functions of the Institution through Departmental Society of Human Genetics. All the students are used to update the display boards on regular basis with various latest news/articles related to different aspects of human genetics. Many students also attend conferences especially the annual Conferences of "Indian Society of Human Genetics", along with the faculty members.

49. **State whether the programme /department is accredited/graded by other agencies? If yes, give details:** No

50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**

    The research activities of the department of Human Genetics pertain to human molecular genetics, cytogenetics, growth, biochemical, immunogenetics aspects of different diseases and population studies. A multi-tier approach is also underway for the comprehensive screening and evaluation of the spectrum of genetic diseases prevalent in the population groups of the northwest region of India. Genetic epidemiological surveys precede growth, cytogenetic and molecular investigations. Some databases for different genetic diseases have been set up and are being extended in view of genetic variations among the people inhabiting this region. The population and growth studies conducted on different populations of Punjab have provided important information about nutritional and anthropometric profiles of various caste groups. The database for various body morphological characteristics and body composition parameters of these populations has also been set up. The molecular genetic studies of various diseases, viz. cardiovascular diseases, hypertension, obesity, diabetes, eye disorders, cancer etc., are being undertaken.

    By positional cloning approach genes for many novel phenotypes of congenital cataract have been mapped on chromosomes; 1, 2, 3, 13, 14, 15, 16, 19, 21, and 22. Unique genes/mutations in many retinitis pigmentosa families have also been identified. A novel locus and a novel gene for night blindness in an autosomal recessive night blindness family has also been identified. Novel mutations in EXT1 & EXT2 genes have been identified in autosomal dominant hereditary multiple exostoses (HME) families of Indian origin by linkage and mutation analyses. A rich collection of data and samples from patients suffering from different genetic disorders and also from various population groups is being maintained at department.

The research work of the faculty members has been included in International databases i.e. Online Mendelian Inheritance in Man (OMIM), National Centre for Bioinformatics (NCBI) database and World Health Organization (WHO) database viz.

1. Novel OMIM nos. have been assigned to new phenotypes/loci/mutations identified in congenital cataract families of Indian origin by Dr. Vanita Kumar:
   "Central pouch-like" cataract with Y-sutural opacities mapped to 15q21-q22, has been assigned OMIM No.: 605728.
   Sutural cataract with punctate and cerulean opacities mapped at 22q11.2-q12.1, is given OMIM No.: 607133.
   Cerulean cataract mapped at 16q23.1, has been assigned OMIM No.: 610202. This cataract phenotype has been classified as cerulean cataract type-4.
2. The research work of Dr. Sharda Sidhu on "Prevalence of Anaemia in Preschool Children of Punjab" has been included in WHO database on Iron Deficiency/Anaemia.
3. Novel SNPs and sequences of genes of Type-2 diabetes in NCBI gene bank as a part of the work of Dr. A.J.S Bhanwer.
4. Gene sequences of two candidate genes for Psoriasis have been deposited in NCBI database as part of work of Dr. Gursatej Gandhi.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

The department of human genetics is known as cohesive interactive department. The major strength of the department is as follows:

i. Orientation towards research is initiated in the students at master's level vide laboratory rotations and dissertations on focused aspects. Faculty members constantly strive to achieve excellence in their research fields. Many projects are ongoing and all the faculty members have joint as well as individual research projects. Faculty members constantly apply to different agencies for research grants under various national / international schemes.

ii. In past few years the department has signed Memorandum of understanding (MOU) with many reputed institutes and Universities in India and abroad for conducting collaborative research such as; Center for Cellular and Molecular Biology (CCMB), Hyderabad; Central Scientific Instruments Organization (CSIO), Chandigarh; Jawaharlal Nehru University (JNU), New Delhi; Bhabha Atomic Research Centre (BARC), Mumbai; Punjab University Chandigarh, Jammu University, Jammu; Kurukshetra University, Kurukshetra, Jawaharlal Nehru University (JNU), Delhi; Max Planck Institute of Science, Germany; and with Austrian universities via Eurasia-Pacific UNINET, Austria. Also Indo-German collaborative research projects are continuously being undertaken by the faculty for the past many years.

iii. The department has trained staff, all Ph.D. in specialized fields and with good academic record and research outputs in terms of publications and research grants. Faculty members regularly attend workshops/research training at national and international levels to keep them updated with the latest technologies. Organisation of national / international seminars/ lectures / workshops by honorary professors of the department and distinguished scientists is a regular feature of the department. The faculty strives for regular and rapid publication of their research results in appropriate journals.
iv. The department also has Book Club facility with more than 250 books related to the offered courses. A comprehensive computer lab with Internet facilities is available in the department where access to many online journals is feasible for faculty and research students to aid in the learning process.
v. The department has well-equipped research laboratories and also many sophisticated instruments to facilitate the research activities of the students. Nearly 40 students are registered for the Ph.D. degree in the department who are currently pursuing their doctoral degree work.

Opportunities

Department has a very good placement record of all the students who have been awarded with Ph.D. degrees. 50% of them are working in research institutes or laboratories abroad. Every year ~80% of the B.Sc. (H.S.) students join the M.Sc. (H.S.) programme and ~35% of M.Sc. and ~95% M.Sc. (H.S.) students go in for higher studies in pursuit of Ph.D. at GNDU, and other academically renowned national institutes (AIIMS, New Delhi; JNU, New Delhi; PGI, Chandigarh; L.V. Prasad Eye Research Institute, Hyderabad). Some of the students also join various training programmes at CCMB, Hyderabad; University of Delhi, Delhi; and also they join Ph.D. programmes in different institutes in Australia, Canada, Germany, Italy, UK, USA, etc.

The students get training and are prepared at the department for platform speaking through seminars open to all the faculty members of the department and students of all courses and also they are trained for research activities through their M.Sc. dissertation work. The research scholars are imparted in assisting practicals besides their ongoing research work. Daily recapitulation and questioning enables the learning process in the students and evaluation by the teachers.

The departmental faculty attempts to make the students aware of latest trends in Human Genetics and be in touch with recent concepts in the field by revising and updating curricula contents every year. Courses have been designed to keep them at par with the international course curricula in Human Genetics and abreast of the current developments in the field. Regular updating of the syllabi is done periodically every year.

Challenges

Although, there are significant number of completed and ongoing projects in the department, but it is a challenge to procure more funds from various national and international funding agencies such as DST, UGC, CSIR, DBT, ICMR and BMBF.

The research publications of the department in the past five years have increased many fold but still there is a great need to get published research papers in higher impact factor journals in future. The department also need to organize international conferences/ workshops/ practical trainings to get full potential of the high end equipments such as SEM, TEM, confocal microscope, next generation sequencer, automated DNA sequencer cytogenetics workstation being procured as centralized facility of the university so as to facilitate and encourage the faculty and research scholars for more collaborations and high quality research work in future.

Weaknesses

Joint inter- and intra-departmental research proposals among different faculty members are required to get good amount of grant from different funding agencies and also to get full potential of high end equipments procured by the university so as to undertake high quality research. Also a comprehensive research plans is required to get fulfilments of the aims of the department to develop a database of different genetic diseases and provide baseline data for the different populations in Punjab.

52. Future plans of the department

Apart from providing high quality teaching, following are the academic and research activities planned for the next five years:

The department faculty aims at developing a database of different genetic diseases and to provide baseline data for the different populations in Punjab.. The major focus of the future research plan is to:

- document socio-demographic profile of the local communities.
- survey for genetic conditions, health/medical status of the communities.
- screen for inherent genetic diseases, congenital malformations and inborn errors of metabolism.
- create an epidemiological database of complex diseases for making genetic registry.
- Identify genes involved for different hereditary diseases.
- provide the genetic counselling to the families afflicted with different genetic diseases.

1. **Name of the Department**: Microbiology
2. **Year of establishment**: 1990
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt. etc.):** M.Sc. (Honours), Ph.D.
5. **Interdisciplinary programmes and departments involved:** None
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:** Subjects of Microbiology in the Course Curricula of other departments are being taught by our department.
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	One CAS	Vacant Four	Four
Associate Professors	One CAS	Vacant One	One
Assistant Professors	Three	Two	Two
Others			

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designation	Specialization	No. of Years of Experience	No. of Ph.D./M.Phil. students guided for the last 4 years
D.S. Arora	Ph.D.	Professor	Microbial Technology.	22	3 Ph.D.
B.S. Chadha	Ph.D.	Professor	Industrial Biotechnology	22	3 Ph.D.
H.S. Saini	Ph.D.	Professor	Environmental Biotechnology	22	3 Ph.D.
Sajid Husain	Ph.D.	Professor	Virology	19	1 Ph.D.

Rajesh Kumari	Ph.D.	Associate Professor	Actinomycete Biotechnology	6	-
Amarjeet Kaur	Ph.D.	Assistant Professor	Mycology	6	-
Sukhraj Kaur	Ph.D.	Assistant Professor	Medical Microbiology	-	-

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None
13. **Percentage of classes taken by temporary faculty – programme-wise Information:** None
14. **Programme-wise Student Teacher Ratio:**
    M.Sc. (Hons.) Microbiology: 50:1
    M.Sc. (Hons.) Fermentation & Microbial Technology: 30:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:**
    5 Technical Assistants 2 Filled
    3 Administrative staff 3 Filled
16. **Research thrust areas as recognized by major funding agencies: Following research thrust areas are recognized by UGC under SAP (DRS II)**
    - Development of bio- actives from natural resources.
    - Development of process optimization for mineralization of aromatics amines under different fermentation conditions.
    - Immunomodulation study of antimicrobials
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.**
    a) National:
    - DBT Project "Developing efficient microbial inocula for degradation of textile dyes and their amines: Genotoxicity evaluation for validation of their degradation potential". 2011-2014. Dr. H.S. Saini. 29.0 Lac.
    - DST Project "Antimicrobial compound production from a new *Streptomyces sp.* exhibiting broad spectrum activity: strain improvement, purification and characterization of the antimicrobial compound from improved strain". 2010-2013. Dr. Rajesh Kumari Manhas. Rs. 16.56 Lac.
    - DBT Project "Developing Strategies for Biological Control of *Spodoptera litura* (Fab.) by Understanding the Role of Gut Microflora in its Survival and Fitness". 2012-2015. Dr. H.S. Saini. 36.0 Lac.

- DBT Project "Screening of Bio-molecules from Microbial diversity collected from different ecological niches." 2007-2011. Dr. B.S. Chadha Rs.100.9 Lac.
- CSIR Project "Statins from novel soil and endophytic fungal isolates: Production and strain development" 2006-2011. Dr. B.S. Chadha Rs.14.7 Lac.
- DBT Project "Molecular techniques for studying the diversity of the xylanase producing fungi" 2005-2008 . Dr. B.S. Chadha Rs. 25.9 Lac.
- DBT Project "Possible Role of Host Genetics in relation to Infection, progression and pathogenesis of HIV" 2009- 2013. Dr. Sajid Husain Rs.23 Lac.
- DBT "Enzymatic deinking using cellulolytic enzymes from novel thermophilic fungal strain: Purification and strain development". Dr. B.S. Chadha 2004-2008. Rs. 42.0 Lac.
- UGC Project "Evaluation of antagonistic potential of endophytic and rhizosphere actinomycete isolates and their secondary metabolites against fungal phytopathogens". 2009-2012. Dr. Rajesh Kumari Manhas Rs. 10.56 Lac.
- UGC Project "Screening of bacteria for novel carbonyl reductases catalyzing asymmetric reduction of ketones" 2009-2012. Dr. H.S. Saini Rs. 9.848 Lac.
- DBT Project "Structure-activity relationship of biosurfactant produced by bacterial isolates and their role in bioremediation of sites polluted with organic pollutants". 2005-2009. Dr. H.S. Saini Rs. 20.0 Lac.
- CSIR Project "Novel cholinesterase inhibitors from soil and endophytic fungal isolates: production, purification and characterization". 2010 -2013. Dr. Amarjeet Kaur Rs. 15.0 Lac.
- Biological control of *Spodoptera litura* (Fab). using entomopathogenic fungi : Exploring fungal diversity for novel biocontrol agents. 2009-2012. Dr. Amarjeet Kaur (As CO PI) Rs. 10.25 Lac.
- ICAR (NAIP) World Bank Project "Novel biotechnological processes for production of high value products from rice straw and bagasse". 2009-13. Dr. B.S. Chadha. Rs.207 lac.

b) **International**: None

c) **Total grants received:** Rs. 576.321/- Lac

18. Inter-institutional collaborative projects and associated grants received

a) National collaboration:

- National Environmental Engineering Research Institute, Nagpur;
- Indian Institute of Technology, New- Delhi;
- Indian Institute of Technology, Mumbai;

- Institute of Microbial Technology, Chandigarh;
- Indian Toxicology Research Centre, Lucknow;
- Piramal Life Sciences, Mumbai,
- National Institute of Immunology, New-Delhi

b) International collaboration:

i) University of Guelph.
ii) University of British Columbia.
iii) South Dakota, School of Mines and Technology

19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.**
    DRS I (2007-2012) Rs. 33.0 Lac under UGC-SAP
    DRS II (2013-2018) Rs. 55.0 Lac under UGC-SAP
20. **Research facility/centre with:** None
    • State recognition
    • National recognition:
    • International recognition
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national/ International)**: 72
    - **Monographs**
    - **Chapters in Books**: 2
    - **Edited Books**: None
    - **Books with ISBN with details of publishers**: None
    - **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCO host, etc.):** 50
    - **Citation Index – range / average** 20-662/ 279
    - **SNIP** 0.445- 8.58
    - **SJR** 0.235-13.747
    - **Impact Factor – range / average** 0- 4.8
    - **h-index**: 26
23. **Details of patents and income generated**: None
24. **Areas of consultancy and income generated**: None
25. **Faculty selected nationally /internationally to visit other laboratories / Institutions / industries in India and abroad:**
    Dr. B.S. Chadha visited:
    i) University of Guelph Nov 28 to Dec, 10 2009 under aegis of NAIP World Bank Project
    ii) University of British Columbia, 22-23,Dec 2009
    iii) Lignol, Burnaby, B.C. 20, Dec 2009

26. **Faculty serving in**

a) National committees:

Dr. D. S. Arora:

Member UGC Task Force on Microbiology

UGC nominated subject expert on the SAP advisory committee, Department of Microbiology, PU Chandigarh

Dr. B.S. Chadha:

Selection and promotion committees of DBT and CSIR

b) International committees: None

c) Editorial Boards:

Dr. B.S. Chadha Member Editorial Board Indian Journal of Microbiology from 2009-2011.

d) any other (please specify): None

27. **Faculty recharging strategies (UGC, ASC, Refresher / orientatation programmes, workshops, training programs and similar programs).**

- Participated in the National Seminar on Integrating Human Values in Technical Education organized by Punjab Technical University, Jalandhar from 11-12 Dec 2010. **Dr. D. S. Arora**
- Attended a DST sponsored Indo-Taiwan International Workshop on "Drug development for cancer and infectious diseases: from basic to industry" during 14-15 Dec 2011. **Dr. D. S. Arora**
- Attended a workshop on Academic and Administrative Reforms organized by Guru Nanak Dev University, Amritsar. **Dr. D. S. Arora**
- DST sponsored brain storming workshop on " Promoting Extramural Research in Punjab". Feb 12, 2013. Organised by Department of Botany and Environmental Sciences, Guru Nanak Dev University, Amritsar. **Dr. R. K. Manhas, Dr. Amarjeet Kaur & Dr. Sukhraj Kaur**
- General Orientation Course organized by Academic Staff college Guru Nanak Dev University, Sep 20 to Oct 17, 2008. **Dr. Amarjeet Kaur**
- "Refresher Course in Bio Sciences organized by Academic Staff college Guru Nanak Dev University, Feb 18 to Mar 10, 2011. **Dr. Amarjeet Kaur**
- UGC sponsored short term course in "Statistics". Aug 27-29, 2013. Organised by Academic Staff College, Guru Nanak Dev University, Amritsar. **Dr. Amarjeet Kaur & Dr. Sukhraj Kaur**
- Refresher Course: Attended Refresher Course- Health and Life sciences held at Academic Staff College, Guru Nanak Dev University, Amritsar from 23rd Dec, 2011 to 12th Jan., 2012. **Dr. Sukhraj Kaur**
- Special Winter School – 2008-09, Nanosciences and Nanotechnology, held at Academic Staff College, Guru Nanak Dev University, Amritsar from 23rd, Dec., 2008 – 12th, Jan., 2009. **Dr. Sukhraj Kaur**

28. **Student projects**
    - **Percentage of students who have done in-house projects including inter- departmental projects:** 100%
    - **Percentage of students doing projects in collaboration with other universities / Industry / institute:** 50%
29. **Awards / recognitions received at the national and international level by**

    • Faculty:

    Dr. Sukhraj Kaur
    - BOYSCAST Fellowship by Department of Science and Technology, India to do one year of advanced research on 'Role of environmental Mycobacteria in modulating the efficacy of BCG vaccine', at Seattle Biomed, Seattle, Washington, USA. The project was done from July, 2010 to July, 2011.

    • Doctoral / post doctoral fellows:

    Best Poster Awards:
    - Best poster award for presenting poster on "Response surface methodology highlights the positive effects of inoculums level and soyabean meal on lovastatin production by *A.terreus"* in the 49 th AMI conferencence in 2008.(Harleen Kaur).
    - "Effect of fungal ligninolysis on nutritional value and antioxidant activity of wheat straw" awarded 1st Prize during ISMPP national conference on Microbial Diversity and Bio-prospecting, 29-30 Oct 2010, University of Jammu, Jammu. (Rakesh Kumar Sharma).
    - Best poster award for presenting poster on "Evaluation of glycosyl hydrolases in the secretome of *Aspergillus fumigatus* and saccharification of alkali treated rice straw" in the International Conference on Genomic Sciences held at Madurai from 12th -14th November 2010. (Manju Sharma).
    - Best poster award (2nd) for presenting poster on "Biocontrol potential of *Streptomyces* spp." UGC sponsored National Seminar on Environmental Analysis and Remediation. (March 21-22, 2011). Department of Botanical and Environmental Sciences, G.N.D.U. Amritsar. (Talwinder Kaur)
    - **Students**: None
30. **Seminars/Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.**
    - Organized Motivational Programme for Talented Students of Punjab from 7-13 July 2008 under the aegis of PSCST Chandigarh as Programme Coordinator. (Coordinated by Dr. D.S. Arora).
    - Organized a 2 day DRS SAP sponsored National Seminar on Current Scenario of Microbial technology on 17th -18th march 2010. (Coordinated by Dr. D.S. Arora).

- Organized UGC sponsored Refresher Course in Bio-Sciences for University and College teachers organized by Academic Staff College, Guru Nanak Dev University, Amritsar from 18/02/2011 to 10/03/2011. (Coordinated by Dr. D.S. Arora).
- Organised S. Jaswant Rai Memorial Lecture "Dimorphic Human Pathogenic Fungi : Are Blastomyces dermatitidis and blastomycosis endemic in India?" on 21 st April 2011. Talk was delivered by Dr. H.S. Randhawa, Emeritus Scientist & Former Director, Vallabhbhai Patel Chest Institute, Universtiy of Delhi.
- Organizing secretary of 15th Punjab Science Congress on "Science in 21st Century" organized by Guru Nanak Dev University, Amritsar during 7-9 Feb 2012. (Dr. D.S. Arora).
- Organized a 2 day DRS SAP sponsored National Seminar on Current Scenario of Microbiology on 19th-20th March, 2012. (Coordinated by D.S. Arora)
- Organised UGC sponsored Refresher course 'Trends in biological sciences' 13th June to 4th July, 2012. Academic Staff College, G.N.D.U. Amritsar. (Coordinated by Dr. B.S. Chadha)

31. Code of ethics for research followed by the departments:

The standard code of ethics is being observed in research. The integrity and sanctity of research are being maintained in the lab. It is ensured that scientific misconduct like fabrication, falsification, duplication or plagiarism is not committed. In regard to the publications and presentations made at conferences and workshops, the ethical standards that pertain to the publications are observed. The research methodologies are followed as per International Standards. Only reproducible data is reported. The references are given, the funding agencies are duly acknowledged and authorship is given as per contribution.

32. Student profile programme-wise:

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
M.Sc. (Hons.) Microbiology Session 2008-2009	-	05	25	100	100
Session 2009-2010	-	03	27	100	100
Session 2010-2011	-	05	37	60	100
Session 2011-2012	191	12	63	100	100
Session 2012-2013	193	19	72	94.7	98.4
M.Sc. (Hons.) Fermentation & Microbial Technology Session 2008-2009		05	20	100	100
Session 2009-2010		05	22	100	100
Session 2010-2011		08	35	100	100

Session 2011-2012	81	11	47	100	100
Session 2012-2013	70	12	42	100	98.4

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M.Sc.(Hons.) Microbiology				
Session 2008-2009	87.5%	6.25%	6.25%	None
Session 2009-2010	93%	7.0%	None	None
Session 2010-2011	54%	32%	14%	None
Session 2011-2012	51%	38%	11%	None
Session 2012-2013	75.1%	22.7%	2.2%	None
M.Sc.(Hons.) Fermentation & Microbial Technology				
Session 2008-2009	70%	23%	7%	None
Session 2009-2010	86%	7.0%	7.0%	None
Session 2010-2011	73%	17%	10%	None
Session 2011-2012	52.7%	37%	10.3%	None
Session 2012-2013	53%	44%	3.0%	None

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.**

NET : 05

GATE : 06

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	54%
P.G. to M.Phil.	NA
P.G. to Ph.D.	4%
Ph.D. to Post-Doctoral	8/11
Employed • Campus selection • Other than campus recruitment	 25% 0
Entrepreneurs	-

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	28.57
from other universities within the State	28.57
from universities from other States	42.85
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None
38. **Present details of departmental infrastructural facilities with regard to**
    a) **Library:** The department accesses the library facility which is combined with other life sciences department and a central library.
    b) **Internet facilities for staff and students:** All the staff and students have access to internet facilities
    c) **Total number of class rooms:** 3
    d) **Class rooms with ICT facility:** -
    e) **Students' laboratories:** 3
    f) **Research laboratories:** 8
39. **List of doctoral, post-doctoral students and Research Associates**

a) **from the host institution/university:** 11

S. No.	Name	Funding Agency	University /Institute
1	Pratapbir Singh	DBT/CSIR	GNDU
2	Manju Sharma	NAIP	GNDU
3	Suman		GNDU
4	Harleen Kaur	DST (WOS A)	GNDU
5	Talwinder Kaur	UGC-UPE	GNDU
6	Baljit Kaur	NAIP	GNDU
7	Amandeep Kaur Monga	DBT	GNDU
8	Jyoti Bhagat	UGC	GNDU
9	Sunil Biala	DBT	GNDU
10	Preet Kanwal Kaur	Maulana Azad Fellowship	GNDU
11	Jemimah Gesare	Govt of India [ICCR]	GNDU

b) **from other institutions/universities**: 9

S.No.	Name	Funding Agency	University /Institute
1	Harpreet Kaur	UGC	SBSPGI HNB Garhwal Univ
2	Rakesh Kumar	CSIR	Rajiv Gandhi College, Barkatullah University.
3	Rohit	NAIP	SBSPGI HNB Garhwal Univ
4	Asiya	CSIR	SBSPGI HNB Garhwal Univ
5	Bhagwati	UGC-UPE	SBSPGI HNB Garhwal Univ
6	Bahadarjeet Singh	CSIR	Punjab University, Chandigarh.
7	Chhavi Mahajan	NFBSFARA	Punjabi University, Patiala.
8	Priyanka Lal	Rajiv Gandhi Fellowship	Kanpur University, Kanpur
9	Deepika Sharma	DST (WOS-A)	Guru Kul University, Haridwar

40. **Number of post graduate students getting financial assistance from the university:** 10%
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.** No
42. **Does the department obtain feedback from?**
    a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?:
    Suggestions given by faculty members are incorporated for the upgradation of the curriculum and teaching –learning-evaluation keeping in view the recent developments in the relevant topics.
    b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? The feedback of the students is taken through personal interactions in all the subjects and is used to improve teaching learning process.
    c. alumni and employers on the programmes offered and how does the department utilize the feedback? None
43. **List the distinguished alumni of the department (maximum 10):**
    - Dr. Manju Sharma, DBT-ICT Centre for Energy Biosciences, Institute of Chemical Technology, Mumbai,
    - Dr. Asiya Nazir, Lecturer, College of Research & Graduate Studies, Abudhabi, UAE
    - Dr. Ajay Kumar Badhan, NSERC Visiting Fellow, Lethbridge Research Centre, Albert, Canada.
    - Dr. Sonia Ghatora, Post Doctoral Fellow, Mechanical Engineering, University of Alberta, Edmonton, Canada.
    - Dr. Jatinder Kataria, Clinical Lab Scientist operations (Supervisor), Modesto, California.
    - Dr. Paramjeet Gill, Post doc fellow, University of Guelph, Canada.
    - Dr. Rakesh Sharma, UGC Nominated Kothari fellow, MS University, Vadodra
44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts. Special lectures were organised:**
    - Professor Manju Kapoor, Department of Biological Sciences, Calgary, Canada delivered lecture on Stress proteins and Molecular chaperones. Feb 2009.
    - Professor Hung Lee, Co-Scientific Director, NSERC Bioconversion Network University of Guelph, Ontario Canada visited in Dec 2009 for three days for having interaction with Ph.D. students and faculty on possibility of collaborations
45. **List the teaching methods adopted by the faculty for different programmes.**
    Use of blackboard, PowerPoint presentations, tutorials, interactive

discussions.

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
The syllabi are finished in time. Learning outcome is monitored through written examinations, quizzes, viva voce conducted regularly under continuous evaluation system. Practical training is monitored through groupwise practical assignments and viva voce.

47. **Highlight the participation of students and faculty in extension activities**.
The faculty members are involved in delivering lectures at various platforms (schools, colleges etc.) to disseminate the information derived from microbiology for the welfare of society. Socially relevant lectures like spreading awareness on AIDS are delivered, The faculty members also deliver lectures in various courses organized by Academic Staff Colleges of various universities. Members of BOS of various universities. Faculty members are associated as subject experts and external examiners for the conduct of practicals and viva voce of Ph.D. as well as P.G. students.

48. **Give details of "beyond syllabus scholarly activities" of the department.**
The students are provided exposure to the latest techniques and technologies by taking them to visit various institutes and industries.

49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details.:** No

51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

Strengths

- Faculty members are committed to pursue high quality research & dedicated to maintain high standard of teaching.
- All the faculty members have secured funding from different funding agencies and maintain active interaction with reputed research institutes and industries for exchange of ideas.
- The department has been approved and recognized for independent funding by UGC (DRS I & II) and DST-FIST.
- The alumni of the department are well settled in overseas research institutes/industries as well as within the country.
- The students are exposed to hands on training through practicals and visits to industries.

Weaknesses

- Lack of adequate infrastructure mainly space which is hampering the maximum exploitation of the potential of the department. This is proving road block for the development of department.

- The non-availability of grants from Institute for repair of instruments purchased from research projects, which are regularly used for teaching and research, leads to loss of working hours of the machines.
- The vacant faculty positions in the department put a lot of pressure on faculty for catering to basic courses, which takes away the opportunity to design more application oriented teaching courses.
- Lack of proper supporting staff (technical as well as office).
- Entrance examination for entrance to various courses is not conducted, leading to deterioration in the standards.

Opportunities

- The improvement of the overall infrastructure and maintenance of equipments could lead to significant improvement in the working potential of the faculty and research scholars.
- The recruitment of fresh faculty and technical staff against vacant posts would open new avenues for improving teaching and research level of the department.
- Re-introduction of entrance test for admission would improve the teaching and learning.

Challenges

- The process of auditing needs to be streamlined. The delay in adjustments of grants (advances) due to inadvertent objections is highly demoralizing and is acting as a determent to the enthusiasm for research of faculty.
- The increase in uptake of students and insufficient infrastructure is significantly affecting the level of practical training being imparted to students.
- Providing proper infrastructure to the students.
- Managing the department with insufficient staff

52. Future plans of the department.

The department is committed to becoming recognized for research, especially where research can empower the student's potential in service to science and society in positive way. We intend to extend and diversify our strength to create research environment that would foster excellence and competence and inspire students to become competitive for faculty appointments at peer or better departments or equivalent industry positions.

It is proposed to further extend research work on bioprospecting of bioactives molecules and enzymes from natural sources (fungi, bacteria, actinobacteria and plants). The strain development using molecular approaches and process validation at fermenter level to be carried out for the transfer of technology. The use of system biology approaches for strain improvement to be used. Development of process optimization for mineralization of aromatics amines under different fermentation conditions and immunomodulatory studies of antimicrobials.

1. **Name of the Department**: Molecular Biology & Biochemistry
2. **Year of establishment**: 1990
3. **Is the Department part of a School/Faculty of the University?** : Yes
4. **Names of programmes offered:** M.Sc. (Honours), Ph.D.
5. **Interdisciplinary programmes and departments involved**: 2 (Molecular Biology & Genetics, Fundamentals of Biochemistry)
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** M.Phil.
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:** Yes
10. **Number of teaching posts sanctioned, filled and actual (Professors/ Associate Professors/Assistant Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	3	3
Associate Professors	1	0	0
Assistant Professors	3	3	3
Others	-	-	-

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designa-tion	Specialization	No. of Years of Experi-ence	No. of Ph.D./M.Phil. students guided for the last 4 years
Sukhdev Singh	Ph.D.	Professor	Immunology	28	3
P.K. Sehajpal	Ph.D.	Professor	Molecular Biology and Human Diseases	33	5/1
Jatinder Singh	Ph.D.	Professor	Protein Biochemistry (Lectinology)	24	10

Rachna Hora	Ph.D.	Assistant Professor	Molecular Biology and Biochemistry, Structural Biology, Protein Biochemistry, Malaria Biology	3.9	-
Anup Kumar Kesavan	Ph.D.	Assistant Professor	Molecular Microbiology, Infectious Disease	2.6	-
Gagandeep Kaur Gahlay	Ph.D.	Assistant Professor	Reproductive Biology, Glycobiology	0.8	-

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None
13. **Percentage of classes taken by temporary faculty – programme-wise information**: None. Biostatistics and Computer Application (Teachers from other departments)
14. **Programme-wise Student Teacher Ratio**: 50:3
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**: Technical= (Sanctioned 7, Filled 3, Actual 3) Administrative Staff: (Sanctioned 2, Filled 2, Actual 2)
16. **Research thrust areas as recognized by major funding agencies**: Human Diseases
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.**

Name	Funding Agency	Project Title	Amounts
Dr. Sukhdev Singh	UGC, New Delhi	Association of mannose binding lectin polymorphism and serum protein levels in Chronic Obstructive Pulmonary Disorder (COPD) and Rheumatoid Arthritis patients in Punjab	12.30 Lakh
	CSIR, New Delhi	Neuroprotective effects of *Nardostachys jatamansi* against rotenone induced *in vitro* and *in vivo* Parkinson model	35.00 Lakh

	UGC, New Delhi	Response Of Antioxidant Enzymes To Nickel Stress in *Coleus blumei* Employing *in vitro* techniques	12.00 Lakh
Dr. P.K. Sehajpal	UGC	Molecular heterogeneity in mycobacterium tuberculosis clinical isolates prevalent in Punjab	10.5 Lakh
	DBT (Multi centric project)	Analysis of Genetic determinants of T2DM and their role in its susceptibility in some North-West Indian population groups.	59 lakhs
Dr. Jatinder Singh	UGC, New Delhi	Association of mannose binding lectin polymorphism and serum protein levels in Chronic Obstructive Pulmonary Disorder (COPD) and Rheumatoid Arthritis patients in Punjab	12.30 Lakh
	DST-SERC, New Delhi	Molecular cloning and expression of two insecticidal lectins.	40.00 Lakh
	CSIR New Delhi	Neuroprotective effects of *Nardostachys jatamansi* against rotenone induced *in vitro* and *in vivo* Parkinson model	35.00 Lakh
Dr. Rachna Hora	DST-SERC, New Delhi	Molecular cloning and expression of two insecticidal lectins.	
	DBT	Brain plasticity associated with cereberal Malaria	
	DBT	Structure-function analysis of an exported parasite protein	43.00 Lakh
Dr. Anup Kumar Kesavan (Mentor) Seema M Thayil (PI)	DST	Comparison of Phenotypic and Genotypic Resistance in TB AND HIV isolates from previously treated and treatment naïve coinfected individuals.	25.00
PI	CSIR	Functional characterization of the iron regulatory negative repressor gene *sirR* in *Mycobacterium smegmatis*.	30.00 lakh

18. **Inter-institutional collaborative projects and associated grants received**

    a) National collaboration:

    - Dr PK Sehajpal had a Multicentric DBT sponsored project "Analysis of Genetic determinants of T2DM and their role in its susceptibility in some North-West Indian population groups" between Department of Molecular Biology and Biochemsitry with Department of Human Genetics, GNDU, Amritsar; School of Life Sciences, JNU and Jammu University, Jammu.
    - A Joint UGC sponsored project "Molecular heterogeneity in clinical isolates of *M. tuberculosis* in Punjab" between our Department and Sri Guru Ram Das Institute of Medical Sciences.

    b) International collaboration: None

19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:**
    DST-FIST: 60.00 lacs
20. **Research facility / centre with:** Nil
    - **State recognition**
    - **National recognition**
    - **International recognition**
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications**:
    - **Number of papers published in peer reviewed journals (national / International) -** 36
    - **Monographs -** Nil
    - **Chapters in Books -** Nil
    - **Impact Factor – range / average -0 – 3.73**
23. **Details of patents and income generated**: None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad**: None
26. **Faculty serving in a) National committees b) International committees c) Editorial Boards d) any other (please specify)** None
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs)**: UGC ASC, Refresher / orientation programs
28. **Student projects**

    • Percentage of students who have done in-house projects including inter- departmental projects: None

    • Percentage of students doing projects in collaboration with other universities / Industry / institute: None
29. **Awards / recognitions received at the national and international level by**

• **Faculty**: Association of Molecular Pathologist, Washington DC, USA awards five International Membership Grants each year to scientist working in the field of Molecular pathology outside USA. Dr PK Sehajpal was awarded this award for two consecutive years of 2010 and 2011.

• **Doctoral / post doctoral fellows:** NET

• **Students** NET/GATE

30. **Seminars/ Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.** None

31. **Code of ethics for research followed by the departments:** As per the University rules

32. **Student profile programme-wise**:

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
M.Sc. (Hons.) in Molecular Biology & Biochemistry	97	4	40	100	
Ph.D.	14	1		100	

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M.Sc.(Hons.) Molecular Biology & Biochemistry	86	9	5	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.** NET: Six , GATE: Ten

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	-
P.G. to M.Phil.	-
P.G. to Ph.D.	4
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	4 - -
Entrepreneurs	NA

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	2
from other universities within the State	1
from universities from other States	3
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None
38. **Present details of departmental infrastructural facilities with regard to**
    a) Library: Life Sciences Library
    b) Internet facilities for staff and students: Computer Centre
    c) Total number of class rooms: Three
    d) Class rooms with ICT facility: None
    e) Students' laboratories: Two
    f) Research laboratories: Three
39. **List of doctoral, post-doctoral students and Research Associates**
    a) from the host institution/university: Dr. Seema Madhumal Thayil Scientist-WOS-A DST WOMEN SCIENTIST
    b) from other institutions/universities None
40. **Number of post graduate students getting financial assistance from the university**: 8%
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:** None
42. **Does the department obtain feedback from**?
    a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?: Refresher and General Orientation Courses
    b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? Modifying existing curricula.
    c. alumni and employers on the programmes offered and how does the department utilize the feedback?: No feedback obtained on this account although informal discussions do happen.
43. **List the distinguished alumni of the department (maximum 10):**
    Dr Alka Dwivedi nee Chaubey, presently Director, Cytogenetics laboratory, Greenwood Genetic Centre, Greenwood, South Carolina, USA.
44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.** None
45. **List the teaching methods adopted by the faculty for different programmes:** Black Board and LCD projector

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?** Involvement of all stakeholders in the development of curriculum
47. **Highlight the participation of students and faculty in extension activities**. None
48. **Give details of "beyond syllabus scholarly activities" of the department**. Discussions
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details.** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.** Basic Research through project
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**
    S: Student strength, quality of faculty, research infrastructure.
    W: Teaching/research space (lack of), electricity issues
    O: Research projects
    C: Student strength, imparting practical training in limited space
52. **Future plans of the Department:** To have more research funding and infrastructure in order to generate good quality research.

1. **Name of the Department**: Pharmaceutical Sciences
2. **Year of establishment** :1995
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered:** B.Pharm., M.Pharm., Ph.D.
5. **Interdisciplinary programmes and departments involved:** Department offers one interdisciplinary course of 3.0 Credits for P.G. students.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc**. : Indian Institute of Integrative Medicine (Jammu), IIT (Roorkee) and IHBT (Palampur) are our research collaborators as per the MOU.

   The Post graduate and Ph. D. students of our Department are utilizing the facilities of these national laboratories for completion of their dissertation./ Ph. D. thesis work. Apart from these CSIR labs, a reputed institute IIT, Roorkee also involved in interinstitutional research.
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System: Annual/Semester/Trimester/Choice Based Credit Syste**m

   For academic sessions 2008-09; 2009-10 Annual

   For academic sessions 2010-11; 2011-12 and 2012-13 Choice Based Credit System
9. **Participation of the department in the courses offered by other departments**

   Students opt for interdisciplinary courses offered by other departments of the University as per their curriculum (B. Pharm. 6.25% and M. Pharm. 3.33 % of their total credits for the course)
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	1	1
Associate Professors	2	2	2
Assistant Professors	6	5	5+06*
Others	-	-	-

*06 Assistant Professors on Contract Basis

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designation	Specialization	No. of years of experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr. M.P.S. Ishar	Ph.D.	Professor	Pharmaceutical Chemistry	22	04
Dr. P.M.S.Bedi	Ph.D.	Associate Professor	Pharmaceutical Chemistry	16	0
Dr. Subheet Jain	Ph.D.	Associate Professor	Pharmaceutics	12	04
Ms. Neena Bedi	M. Pharmacy	Assistant Professor	Pharmaceutics	16	0
Ms. Rajbir Bhatti	M. Pharmacy	Assistant Professor	Pharmacology	13	0
Mr. Balbir Singh	M. Pharmacy	Assistant Professor	Pharmacognosy	12	0
Mr. Amritpal Singh	M. Pharmacy	Assistant Professor	Pharmacology	4.5	0
Mrs. Sarabjit Kaur	M. Pharmacy	Assistant Professor	Pharmacognosy	10	0
Mr. Vishal Sharma	M. Pharmacy	Assistant Professor	Pharmaceutical Chemistry	3.0	0
Mr. Gurpreet Singh	M. Pharmacy	Assistant Professor	Pharmaceutics	3.0	0
Dr. Kunal Nepali	Ph.D.	Assistant Professor	Pharmaceutical Chemistry	5.0	0
Ms. Ritu Ojha	M. Pharmacy	Assistant Professor	Pharmaceutical Chemistry	1.0	0
Mr. Mohit Mahajan	M. Pharmacy	Assistant Professor	Pharmaceutics	1.0	0
Mr. Sahil Sharma	M. Pharmacy	Assistant Professor	Pharmaceutical Chemistry	0.2	0

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professor**s – Professor Harpal S. Buttar: D.V.M, M.Sc., Ph.D. Senior Scientist and Assessment Officer (Retd) Therapeutic Products Directorate, Health Canada Adjunct Professor, University of Ottawa (School of Medicine)

13. **Percentage of classes taken by temporary faculty – programme-wise information**

B. Pharm : 8.2 %
M. Pharm : None
Ph. D. : None

14. **Programme-wise Student Teacher Ratio**

For total (B. Pharm. + M. Pharm.) : 17:1
For B. Pharm : 75:12
For M. Pharm : 33:4

15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**

Year	Sanctioned	Filled	Actual
2008	10	10+1*	10+1*
2009	10	10+2*	10+2*
2010	10	10+1*	10+1*
2011	10	10	10
2012	10	10+1*	10+1*
2013	10	10+1*	10+1*

* on contract basis or daily wages

16. **Research thrust areas as recognized by major funding agencies**
    - Design, synthesis and evaluation of anti-cancer and anti-microbial agents
    - Mechanistically interesting and synthetically useful intramolecular photocycloadditions
    - Development and evaluation of novel drug delivery systems based formulations
    - IPR and technology transfer
    - Pharmacological screening of natural products and herbal formulations for biologically active molecules.
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.**

Total ongoing projects

a. National : 07
b. International : None
c. Total grant received : 76.54 Lakhs

Principal investigator	Funding Agency	Title of project	Amount	Duration
Mrs Rajbir Bhatti	UGC (Minor)	Pharmacognostic and Phytochemical standardization and anticancer studies on the leaves of Aegle marmelos corr.	1,55,000/-	2011-13
Mr. Amritpal Singh	UGC (Minor)	Investigation of the Role of mast cells in models of pathological and physiological cardiac remodeling.	1, 90,000/-	2011-13
Professor M.P.S. Ishar	UGC (Major)	Design, synthesis and evaluation of novel isoxazolidine analogs of nicotine	15,00000/-	2012-2015
Professor M.P.S. Ishar	CSIR	Design, Synthesis, Conformational Studies and Evaluation of Some Novel Rigid Scaffold for Peptidomimetics	12,00000/-	2012-15
Dr. Subheet Jain	DST (Under Fast track Scheme for young scientist)	Development and Characterization of carrier based formulation	17,00000/-	2012-15
Dr. Subheet Jain	UGC (Major)	Development and Characterization of Vitamin E TPGS based Nanoemulsion Formulation for Sustained and Targeted Delivery of Anti-fungal Agent	10,59,000	2013-16

Dr. Subheet Jain	AICTE (Under MODROBS)	Modernization of Pharmaceutical Research Laboratory	18, 50,000	2013-14

18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration** : None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**: None
20. **Research facility / centre with**
    - State recognition : None
    - National recognition : None
    - International recognition : None
21. **Special research laboratories sponsored by / created by industry or corporate bodies** : None
22. **Publications**:
    - **Number of papers published in peer reviewed journals (national/ International)** : 88
    - **Monographs** : None
    - **Chapter in books** : 03
    - **Edited Books** : None
    - **Books with ISBN with details of publishers** : None
    - **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCO host, etc) :**
    - **Citation Index – range / average** : 1766 (Total) (Source Scopus) 1766/167 (10.57) Average
    - **Citations of papers published from 2008-2013 (Listed journals)** – 311
    - **Citation range of individual papers** : 0 to 134
    - **Average citation of the papers published per year** : 62
    - **SNIP** : 30.798
    - **SJR** : 28.194
    - **Impact Factor – range / average** : 0 to 5.42(Range) / 1.44 (Average) (Source Scopus)
    - **h-index** : 23.0 (Source Scopus)
23. **Details of patents and income generated**

    Patents filed : 03

    Income generated : None

    a) Ishar M.P.S.; Singh L.; Singh R.; Saxena A.K.; Monde D.M.; Agarwal S.K.; Pal H.C.; Novel substituted 2,2,6-Trimethyl-7,9,10-

trioxa-tricyclo[6.2.2.$0^{1,6}$]dodec-11-enes (Anticancer Endoperoxides) (Submitted to IPMD vide: 0033NF2009)

b) Nepali K.; Bedi P.M.S.; Dhar K.L.; A solid phase synthesis of deoxyvasicinone and fused quinazolone compounds Indian patent : 449/DEL/2012

c) Bedi, P.M.S.; Kaur C.; Nepali, K.; Sharma, S.; An Efficient microwave assisted one pot synthesis of 4-aryl/heteroaryl-(1,3)-diazepino[4,5-b]indole-2(10H)-one and diazepino[4,5-b]indol-2(10H)-imine. Indian patent : 2318/DEL/2012

24. Areas of consultancy and income generated: None

25. Faculty selected nationally / internationally to visit other laboratories / Institutions / industries in India and abroad: None

26. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

a) National committees

1. Professor. M. P. S. Ishar presently serving as a Vice-Chancellor of the University of Jammu
2. Dr. P.M.S. Bedi, Dr. Subheet Jain, Mr. Balbir Singh and Mr. Amritpal Singh are members of the Inspection committee for PTU, Jalandhar.
3. Dr. P.M.S. Bedi is serving as a PCI inspector
4. Dr. Subheet Jain is a Member of board of Studies of Faculty of Pharmaceutical Sciences, Chitkara University, Punjab. (July-2011 to till)
5. Dr. Subheet Jain is a Member board of Studies**,** Faculty of Pharmaceutical Sciences, Lovely Professional University, Jalandhar **(**July-2012 to till)
6. Dr. Subheet Jain is a Member of selection committee of Baba Farid University of Health Sciences, Faridkot, Punjab.
7. Dr. Subheet Jain is a Member of Inspection committee for AICTE, New Delhi
8. Mr. Balbir Singh is an external member of Institutional Animal Ethics Committee of Lovely Professional University, Jalandhar.

b. International committees- None

c) Editorial Boards – None

d) Any other

Many faculty members are serving as a Reviewer for journals published by the American Chemical Society (ACS), American Association of Pharmaceutical Scientists; Taylor and Francis; Elsevier science, Bentham Science; Springer and Wiley

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

Total Refresher course attended	:	03
Total orientation course attended	:	01
Total Workshop attended	:	02

28. **Student projects**
    - **Percentage of students who have done in-house projects including inter- departmental projects : 100%**
    - **Percentage of students doing projects in collaboration with other universities / Industry / institute : None**
29. **Awards / recognitions received at the national and international level by**
    - **Faculty : 03**

    a) Dr. Subheet Kumar Jain awarded with Bharat Jyoti Award for the year 2012 by Indian International Friendship Society, New Delhi

    b) Dr. PMS Bedi received the award of best educationist by International institute of management and education, New Delhi, 2012

    c) Mr. Amritpal Singh received Saroj V N Sharma Award for Best paper published in cardiovascular pharmacology conferred by Indian Pharmacological Society in year 2011 for paper "Impact of obesity on hypertension-induced cardiac remodeling: role of oxidative stress and its modulation by gemfibrozil treatment in rats.
    - **Doctoral / post doctoral fellows : None**
    - **Students : None**
30. **Seminars/Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any**: None
31. **Code of ethics for research followed by the departments**: Yes
    Plagiarism is strictly avoided
    Good laboratory practices followed
32. **Student profile programme-wise:**

In 2008

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
B. Pharmacy	From Coordinator U.G.	12	21	100%	100%
M. Pharmacy	54	4	4	100%	100%

In 2009

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
B. Pharmacy	From Coordinator U.G.	12	15	100%	100%
M. Pharmacy	106	2	4	100%	100%

In 2010

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
B. Pharmacy	From Coordinator U.G.	13	21	100%	100%
M. Pharmacy	156	12	20	100%	100%
Pre. Ph. D.	Information Not available	4	3	-	-

In 2011

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
B. Pharmacy	From Coordinator U.G.	08	21	100%	100%
M. Pharmacy	156	06	24	100%	100%
Pre. Ph. D.	13	5	1	-	-

In 2012

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
B. Pharmacy	From Coordinator U.G.	18	37	100%	100%
M. Pharmacy	62	08	18	100%	100%
Pre. Ph. D.	19	4	1	-	-

In 2013

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
B. Pharmacy	From Coordinator U.G.	22	34	100%	100%
M. Pharmacy	64	08	18	100%	100%
Pre. Ph. D.	7	1	0	-	-

33. Diversity of students

In 2008

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M. Pharmacy	83	27		

In 2009

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M. Pharmacy	83	27	0	0

In 2010

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M. Pharmacy	9.32	78.12	12.5	0
Pre Ph.D. Course	16.0	84.0	0	0

In 2011

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M. Pharmacy	33.33	56.66	10	0
Pre. Ph.D. Course	33.0	77.0	0	0

In 2012

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M. Pharmacy	42.30	50	7.69	0
Pre Ph.D. Course	20.0	40.0	40.0	0

In 2013

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M. Pharmacy	26.92	3.84	69.23	0
Pre-Ph.D. Course	0	0	100	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise. (GATE/ GPAT - Graduate Pharmacy Aptitude Test new name of GATE/GPAT [Graduate Pharmacy Aptitude Test conducted by AICTE, New Delhi for admission and fellowship in P.G. courses in Pharmacy for)

Category Name	Number of students
General Category	2008 [02]; 2009 [06]; 2010 [0]; 2011 [08]; 2012 [04]; 2013 [14] **Total Number [34]**
SC/SCT	2008 [0]; 2009 [01]; 2010 [0]; 2011 [02]; 2012 [01]; 2013 [03] **Total Number [07]**

35. Student progression

Student progression U.G. to P.G.	Percentage against enrolled
2008	83
2009	83
2010	9.32
2011	33.33
2012	42.30
2013	26.92

Student progression P.G. to Ph.D.	Percentage against enrolled
2008	-
2009	-
2010	16.0
2011	33.0
2012	-
2013	-

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	14.29
from other universities within the State	71.42
from universities from other States	14.29
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period** : One,
Dr. Abdul Faruk, Assistant Professor, Department of Pharmacy, G.N.D.U., Amritsar.

38. **Present details of departmental infrastructural facilities with regard to**
a) Library books: 4720**;** Journals: 24 **(hard copy)**
b) Internet facilities for staff and students : Yes
c) Total number of class rooms : 3
d**) Class rooms with ICT facility** : None
e) Students' laboratories : 8
f) Research laboratories : 4

39. **List of doctoral, post-doctoral students and Research Associates**
a) from the host institution/university :15 (Ph. D. students)
b) from other institutions/universities : 06 Ph. D. students)

40. **Number of post graduate students getting financial assistance from the university**.
10 % of the total seats

41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.**
No new programme started during the assessment period

42. **Does the department obtain feedback from?** Yes
a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?**
Yes used to improve syllabus and teaching related activities as per university norms.
b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**
Yes used to improve syllabus and teaching related activities as per university norms.
c. **alumni and employers on the programmes offered and how does the department utilize the feedback?**
Department regularly get feedback from the alumni and employees from industry/academia and includes the suggestions during the curriculum design and revision.

43. **List the distinguished alumni of the department (maximum 10)**
I. Gurmit S. Gill, Ph.D., Scientist, Research & Development, Co-founder of Akal Pharma La Trobe University, Bundoora, VIC – 3086, Australia
II. Navdeep Girdhar, Principal Scientist, Naeja Pharmaceutical Inc., Edmonton, AB T6E 5V2 Canada
III. Dr. Rajinder Singh, Senior Scientist at Bionomics Limited, Adelaids Area, Australia

IV. Dr. Kamal Kumar, Scientist(Group Leader), Max Planck Institutfür molekulare Physiologie, Otto-Hahn Strasse 11, 44227 Dortmund (Germany)
V. Mr. Harjinder Singh (Drug Inspector, Punjab)
VI. Mr. Sukhdeep Singh (Drug Inspector, Punjab)
VII. Ms. Sonia Gupta, (Drug Inspector, Punjab)
VIII. Mr. Radhey Shyam, PerkinElmer, New Delhi
IX. Ms. Jyotsna Sehajpal, (Analytical Research and Development Chemists, New Jersey, U.S.A)
X. Ms. Tohina Sehajpal, (Analytical Research and Development Chemists, New Jersey, U.S.A)

44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.**
Dr. Harpal Singh Buttar, Senior Research Scientist and Assessment Officer, Therapeutic Products Directorate, Health Canada (Retired) has been appointed as Visiting Professor to the department for three years.

45. **List the teaching methods adopted by the faculty for different programmes.**
Black Board method
Power point presentation
Interactive learning/tutorials
Workshop
Laboratory practical

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Students are being continuously evaluated.
- Regular tests are conducted in classes and practical work of students is continuously evaluated, and graded; these grades are utilized for calculating internal evaluation marks in each subject.
- Two formal internal tests and one quiz are conducted for theory papers.
- Regular seminars are organized in classes, besides, students are made to complete assignments in advanced aspects of their curriculum, which are evaluated for awarding internal assessment marks in various subject.
- Grading of the seminars delivered by students is done by the faculty members on regular basis.
- Feedback obtained from the students

47. Highlight the participation of students and faculty in extension activities.

- Sport activities at Departmental and University level
- Cultural activities at Departmental and University level
- Active participation in youth festival and other activities organized by University

48. **Give details of "beyond syllabus scholarly activities" of the department.**
Students regularly participate in conferences, quiz competition, industrial training, visit and organizing educational trip
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details:** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
    1. Work on design, synthesis and biological evaluation of anti-cancer agents has widely been published in Journals of International repute and constantly referred and cited by the Scientific community
    2. Proficiency in Intellectual property management
    3. Work related to development of novel drug delivery system based formulations have also been accepted and published in international journals of repute.
    4. Isolation and characterization of Phytoconstituents
    5. Pharamcological evaluation of bioactive extracts
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

Strength

1. Motivational teaching
2. Congenial Atmosphere
3. Hard Efforts by young faculty
4. All laboratory facilities accessible to students for pursuing research work
5. Initiative by students are always welcomed and considered

Weaknesses

1. Unavailability of trained manpower for handling of sophisticated instruments
2. Funds for maintenance of instruments
3. Increasing Faculty student ratio
4. Lack of multimedia facilities
5. Lack of seminar/conference room in the department

Opportunities

1. Offers wide scope of knowledge to broaden the scientific horizon of the students
2. Curriculum designed and regularly revised as per the need of Pharmaceutical Industry so students get easily employed
3. Exposure and in hand training to modern sophisticated instruments
4. MOU with leading research institutes
5. Research opportunities for young faculty and research students

Challenges

1. To create awareness among the students about current market requirements
2. Declining the quality of students

3. Growing competitions with students of related science disciplines
4. Frequent changes in demand as well as regulatory requirements of Pharma Sector
5. To sustain the quality of teaching and research with increasing faculty student ratio

52. Future plans of the department.

- To apply for funding from UGC, DST and AICTE under SAP; DRS, FIST; MODROBS programmes to equipped department with sophisticated instruments and facilities
- To establish Department as Centre for Excellence in Pharmaceutical Research.
- To develop Industry-academia interaction.
- A modern approved drug-testing laboratory shall be established which shall take care of all testing related consultancy jobs.
- To promote research in the area of development of novel drug delivery based formulations specially in the field of Nanomedicine
- A facility for standardization and evaluation of herbal drugs/products shall be established.
- To promote research in the area of drug designing with emphasis on anticancer, antimicrobial and antimalarial agents.
- A molecular biology laboratory for *in-vitro* screening shall be established

1. **Name of the Department:** Zoology
2. **Year of establishment:** 1991
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered**:
   - Ph.D.
   - M.Phil. (2008 and 2009 only)
   - M.Sc. (Hons)
   - B.Sc. (Hons) (2010 only)
5. **Interdisciplinary programmes and departments involved:-** Interdisciplinary courses at U.G. & P.G. level, for all departments.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**: None
7. **Details of programmes discontinued, if any, with reasons:**
   B.Sc (Hons) Zoology:- Kept in abeyance due to less number of candidates.
   M.Phil. (Zoology):- Emphasis was given on more number of Ph.D. scholars.
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments**:-
   Participation in Interdisciplinary Courses.
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	-	2
Associate Professors	2	2	2
Assistant Professors	4	4	2
Others(Assistant Professor on contract basis fixed Pay)		1	-

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance: - (2009-2012)**

Name	Qualifi-cation	Designa-tion	Specialization	No. of Years of Experience	No. of Ph.D./M.Phil. students guided for the last 4 years
Satwinder Kaur	Ph.D.	Professor	Entomology	19	Ph.D. – 02 M.Phil.-- 05

Anish Kumar Dua	Ph.D.	Professor	Aquatic Biology & Fish & Fisheries	17½	Ph.D.-- 03 M.Phil.-- 02
Sanehdeep Kaur	Ph.D.	Associate professor	Entomology	16	M.Phil.-- 06
Arvinder Kaur	Ph.D.	Associate Professor	Aquatic Biology & Fish & Fisheries	17	Ph.D.--- 01 M.Phil.—04
Pooja Chadha	Ph.D.	Assistant Professor	Cytogenetics	7	M.Phil.—04
Puja Ohri	Ph.D.	Assistant Professor	Nematology	9	M.Phil.-- 03

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None
13. **Percentage of classes taken by temporary faculty – programme-wise information**

(2012)

B.Sc.(Hons.School) Zoology 3rd Yr - 24 .00
M.Sc.(Hons) Zooogy 1st Yr - 19.56
M.Sc.(Hons) Zoology 2nd Yr - 13.72

14. **Programme-wise Student Teacher Ratio:**
M.Sc. (Hons) Zoology-1st Semester: 8:1
Teacher (01) - M.Sc.(Hons) Zoology-3rd Semester: 6:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Sr. Tech. Assistant	1	0	-
Sr. Tech	1	1	-
Tech	3	3	-
Jr. Tech	2	0	-
Sr. Assistant	1	1	-
Peon	1	1	-
Safai Karamchari	1	1	-

16. **Research thrust areas as recognized by major funding agencies:-** Environmental Management
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.**

1. Dr. Puja Ohri: Evaluation of stress protective properties of 24-

epibrassinolide in plants during nematode infection (2012-2015) (UGC) Rs. 13,37,800

2. Dr. Sanehdeep Kaur: Developing strategies for biological control of *Spodoptera litura* (Fab.) by understanding the role of gut microflora in its survival and fitness (2012-2015) (DBT) (Rs. 35,35,400)

18. **Inter-institutional collaborative projects and associated grants received** a) National collaboration b) International collaboration: -- None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.**
    DST-FIST Rs. 39,00,000/-
20. **Research facility / centre with: --**None
    - **State recognition**
    - **National recognition**
    - **International recognition**
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**

National and International journals:	78
∗ **Edited Books:**	Nil
∗ **Books with ISBN with details of publishers**:	Nil
∗ **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCO host, etc.):**	19
∗ **Citation Index – range / average**	2- 40
∗ **SNIP**	0.219- 2.410
∗ **SJR**	0.159-2.112
∗ **Impact Factor – range / average**	0.310-4.750
∗ **h-index**	

23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories** / Institutions / industries in India and abroad: None
26. **Faculty serving in:** None
    a) National committees b) International committees c) Editorial Boards d) any other (please specify)
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs):-**
    Refresher Courses, Workshops
28. **Student projects**
    - **Percentage of students who have done in-house projects including inter- departmental projects:** None
    - **Percentage of students doing projects in collaboration with other universities / Industry / institute:** None
29. **Awards / recognitions received at the national and international level by:** None

- **Faculty**
- **Doctoral / post doctoral fellows**
- **Students**

30. **Seminars/Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any.**

Workshops organised:-

1. Workshop on Scientific explainatin of miracles 21st – 24th July, 2008, Funded by PSCST, Chandigarh
2. Seminar on climate change 12th March 2009. PSCST, Chandigarh & DST, New Delhi
3. Seminar on world wetland day 28th- 29th March, 2009. GNDU, Amritsar and Nature Care Society, Harike

31. **Code of ethics for research followed by the departments:-**

Research work is carried out as per the guidelines of Institutional Animals & Ethics Committee and Human Ethical Committee.

32. **Student profile programme-wise:**

Name of the Programe	Applicatios received	Selected		Pass percentage	
		Male	Female	Male	Female
M.Sc.(Hons) Zoology (2008)	85	04	15	100	95
M.Phil.(Zoology) (2008)	35	03	06	100	100
M.Sc. (Hons) Zoology (2009)	91	05	15	100	100
M.Phil.(Zoology) (2009)	30	00	08	100	
B.Sc.(Hons) Zoology (2010)	Common Application All Science Department	01	09	100	77.77
M.Sc(Hons) Zoology (2010)	117	05	24	100	87.5
M.Sc(Hons) Zoology (2011)	165	06	40	100	95
Ph.D.(Zoology) (2011)	25	04	05	75	100
M.Sc(Hons) Zoology (2012)	177	04	45	100	91.1
Ph.D.(Zoology) (2012)	19	01	05	100	80

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M.Sc.(Hons) Zoology (2008)	52.64	0	47.36	0
M.Phil.(Zoology) (2008)	77.78	11.11	11.11	0
M.Sc.(Hons) Zoology (2009)	55	5	40	0
M.Phil.(Zoology) (2009)	87.5	12.5	0	0
B.Sc.(Hons) Zoology (2010)	0	0	0	0
M.Sc.(Hons) Zoology (2010)	31.03	0	68.97	0
M.Sc.(Hons) Zoology (2011)	43.48	4.35	52.17	0
Ph.D. (Zoology) (2011)	66.67	0	33.33	0
M.Sc.(Hons) Zoology (2012)	46.94	4.08	48.98	0
Ph.D. (Zoology) (2012)	66.67	16.66	16.67	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

NET - 6

GATE - 3

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	----
P.G. to M.Phil.	77.78 (2008) 87.5 (2009)
P.G. to Ph.D.	66.67(2011) 66.67(2012)
Ph.D. to Post-Doctoral	-----
Employed • Campus selection • Other than campus recruitment	----- -----
Entrepreneurs	NA

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	33.33
from other universities within the State	50.00
from universities from other States	16.67
from universities outside the country	0

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: NA

38. Present details of departmental infrastructural facilities with regard to

a) **Library:** Common library facility for the faculty of Life Sciences.
b) **Internet facilities for staff and students:** Well equipped Computer lab from DST-FIST grant.
c) **Total number of class rooms**: 2
d) **Class rooms with ICT facility:** None
e) **Students' laboratories:** 3
f) **Research laboratories:** 6

39. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university: 7 (2008 – 2012)
b) from other institutions/universities:- 1 (2008 – 2012)

40. Number of post graduate students getting financial assistance from the university: 2(Two**)**

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology: No

42. Does the department obtain feedback from?

a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?:-** The syllabi are updated by the concerned teachers & discussed in the BOC before finalization.

b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?** Feedback Performa are got filled from the students.

c. **alumni and employers on the programmes offered and how does the department utilize the feedback?**

43. List the distinguished alumni of the department (maximum 10):-

1.	Dr. Rabinder Kaur	PAU, Ludhiana
2.	Dr. Chander Parkash	PTU, Jalandhar
3.	Dr. Neeraj Gupta,	DAV College, Amritsar.
4.	Dr. Manpreet Kaur	Department of Human Genetics, GNDU, Amritsar
5.	Dr. Rajni	DAV College, Amritsar

6.	Dr. Amandeep Singh	Khalsa College, Amritsar.
7.	Dr. Manu Kalyani	Scientist, Miami University, U.S.A.
8.	Dr. Kamal Mehta	DAV College, Dasuya.
9.	Ms. Avneet Kaur	Assistant Commissioner (PCS, Executive)

44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts:**
    1. Workshop on Scientific explanation of miracles 21st – 24th July, 2008.
    2. Seminar on climate change 12th March 2009.
    3. Seminar on world wetland day 28th- 29th March, 2009.
    4. A lecture on Developmental Biology with special reference to Hydra: Delivered by Dr. Surendra Madukar Ghaskabdi, Scientist F & Head of Animal Sciences, Agarkar Research Institute, Pune (28.10.2012)
45. **List the teaching methods adopted by the faculty for different programmes:-** Multimedia, over head Projector and Black board.
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored? :-** Through examination feedback Performa.
47. **Highlight the participation of students and faculty in extension activities.** None
48. **Give details of "beyond syllabus scholarly activities" of the department:-** Visit to Fish farms, apiaries, sericulture units, piggery etc for exposure of student to practical applied aspects of zoology.
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details:** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
    Educational excursions are regularly organised to PAU Ludhiana, Harike Wet Land, so as to update the students regarding the practical aspects of Zoology.
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department:-**
    <u>Strengths:-</u>
    - All faculty members are committed towards maintaining high standards of research & teaching.
    - All faculty members participate equally in the process of decision making in the department.
    - Collective as well as individual efforts are made by all faculty members in securing funds from different agencies for the progress of department.
    - The department has been recognized under DST-FIST program.

Weaknesses:-

- The building infrastructure is not suitable towards the need of differently abled persons.
- Electricity power back up needs improvement.
- Inadequate grants from the institute for repair of instruments purchased from research projects/other grants.

Opportunities:-

- Entrance test for admission to M.Sc would help in improving the standard of the University.
- Disbursement of funds from the institutional grants can be of better efficacy if equal opportunities are provided to departments.

Threats:-

- The time taken for the adjustment of grants (advance) adversely affects the enthusiasm of the faculty members for procuring grants from various agencies.
- The increase in the number of students has affected their practical training due to inadequate infrastructure and the teacher student ratio.
- In the changed times where technology & quality are the key words dictating the success of an institution, there is a need to upgrade, enhance and maintain the infrastructure so as to attract good students in the years ahead.

52. Future plans of the department:-

Keeping in view the environmental degradation imparted by anthropogenic activities, the main thrust area of the department in the coming years would be Environmental management employing sound ecological practices. In this regard efforts shall be made to screen and explore the natural plant and animal products for their biopesticidal potential. Studies will also be carried out to monitor the genotoxic and cytotoxic effects of pollutants using fish and mammals as experimental models. The ecological status of rivers and wetlands of Punjab will be ascertained by monitoring the faunal diversity and prevailing threats.

FACULTY OF PHYSICAL EDUCATION

==/ 29 /==

1. **Name of the Department**: Physical Education
2. **Year of establishment**: 1980
3. **Is the Department part of a School/Faculty of the University? :** Yes
4. **Names of programmes offered:** B.P.Ed., M.P.Ed., Ph.D.
5. **Interdisciplinary programmes and departments involved:** Interdisciplinary course in collaboration with the Department of Psychology.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc. :** None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Annual for U.G. and P.G.
9. **Participation of the department in the courses offered by other departments:** Department of Psychology
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

Designation	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	-	--
Associate Professors	1	1	1
Assistant Professors	5	2	2
Part time and Contract	--	--	6

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designation	Specialization	No. of Years of Experi-ence	No. of Ph.D./M.Phil. students guided for the last 4 years
Sukhdev Singh	Ph.D.	Associate Professor	Training Methods of Psychology Athletics	21	4
Amandeep Singh	Ph.D.	Assistant Professor	Training Methods of Psychology Athletics	15	--
Baljinder Singh	Ph.D.	Assistant Professor	Research Methodology, Kinesiology & Biomechanics	13	--

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None
13. **Percentage of classes taken by temporary faculty – programme-wise information:**
    P.G.-60%
    Ph.D. - None
14. **Programme-wise Student Teacher Ratio:** B.P. Ed.20: 1, M.P.Ed.: 20:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:**
    Sanctioned: 5
    Filled: 5
16. **Research thrust areas as recognized by major funding agencies:** Physical, Physiological & Anthropometrical parameters of Sportpersons.
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.**

Name	Project	Funding Agency	Amount	Title of Project
Dr. Baljinder Singh	**Major Research Project**	**UGC**		

18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received. :** None
20. **Research facility / centre with:**
    • **State recognition:** Nil
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national /International)**
    - **Monographs**
    - **Chapters in Books**
    - **Edited Books**
    - **Books with ISBN with details of publishers**
23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad:** None

26. **Faculty serving in**
a) National committees b) International committees c) Editorial Boards d) Any other (please specify): None
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs). :** UGC, ASC, Refresher/Orientation Programmes and Workshops, Seminars Conferences etc. are attended by faculty.
28. **Student projects:** None
    - Percentage of students who have done in-house projects including inter- departmental projects
    - Percentage of students doing projects in collaboration with other universities /Industry / institute
29. **Awards / recognitions received at the national and international level by:** None
    • Faculty: None
    • Doctoral / post doctoral fellows: None
    • Students: None
30. **Seminars/Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any:** None
31. **Code of ethics for research followed by the departments:** As per the University rules
32. **Student profile programme-wise:**

2010-11

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
B.P.Ed.	64	23	28	100%	
M.P.Ed. 1st Year	58	14	31	100%	
M.P.Ed. 2nd Year	-	09	21	100%	
Ph.D.	13	-	-	-	-

2011-12

Name of the Programme	Applications received	Selected		Pass Percentage
		Male	Female	
B.P.Ed.	84	34	44	97.44
M.P.Ed. 1st Year	65	33	28	100
M.P.Ed. 2nd Year	-	11	29	100
Ph.D.	17	01	-	-

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.P.Ed	70	20	10	0
M.P.Ed-1st Yr	75	15	10	0
M.P.Ed-2nd Yr	-	-	-	-
Ph.D.	50	30	20	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise:** UGC NET: 12

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	80
P.G. to M.Phil.	None
P.G. to Ph.D.	15
Ph.D. to Post-Doctoral	---
Employed • Campus selection • Other than campus recruitment	90 None 90
Entrepreneurs	

36. **Diversity of staff**

Percentage of faculty who are graduates	Percentage
of the same university	80
from other universities within the State	10
from universities from other States	10
from universities outside the country	None

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None

38. **Present details of departmental infrastructural facilities with regard to**

a) Library: None
b) Internet facilities for staff and students: Available
c) Total number of class rooms: 03
d) Class rooms with ICT facility: None
e) Students' laboratories: None
f) Research laboratories: NA

39. **List of doctoral, post-doctoral students and Research Associates**
    a) from the host institution/university
    b) from other institutions/universities: None

Sr. No	Name of the Candidate	Name of the Supervisor	Year
1	Pritam Singh	Dr. Gurpreet Singh Kang	2008
2	Harmanpreet Kaur	Dr. Sukhdev Singh	2009
3	Balwinder Kaur	Dr. Daljinder Singh Kahlon	2009
4	Karanjit Singh	Dr. Sukhdev Singh	2010
5	Manu Sood	Dr. Kanwaljeet Singh	2012
6	Gurpreet Singh	Dr. Kanwaljeet Singh	2012
7	Ramandeep Kaur	Dr. Sukhdev Singh	2012
8	Vishaw Gaurav	Dr. Sukhdev Singh	2012
9	Satinder Kumar	Dr. Kanwaljeet Singh	2013
10	Daljeet Singh	Dr. Kanwaljeet Singh	2013
11	Shashe Bhushan	Dr. Kanwaljeet Singh	2013

40. **Number of post graduate students getting financial assistance from the university:** None
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:** No
42. **Does the department obtain feedback from? :** No
    a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
    b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
    c. alumni and employers on the programmes offered and how does the department utilize the feedback?
43. **List the distinguished alumni of the department (maximum 10):**
    1. Ms. Suman Sharma, (Arjuna Awardee – Basket Ball), Associate Professor, S.R. Govt. College for Girls, Amirtsar.
    2. Dr. Sukhdev Singh, (Associate Professor & Head, Department Of Physical Education (T), Guru Nanak Dev University, Amritsar)
    3. Dr. Gurmej Singh Dhaliwal, (Associate Proefessor & Head, NIT College, Jalandhar)
    4. Dr. B.B. Yadav, (Head, Department of Physical Education, DAV College, Amritsar)
    5. Dr. Jaspal Singh, (Head, Department of Physical Education, LKC, Jalandhar)
    6. Dr. Manjit Singh, (Head, Department of Physical Education, Ramgaria College, Phagwara)

7. Dr. Mannu Sood, (Head, Department of Physical Education, DAV College, Jalandhar)
8. Dr. Karamjit Singh (Head, Department of Physical Education, Baba Budha College, Bir Sahib.)
9. Dr. Inderjit Singh (Head, Department of Physical Education, Guru Nanak National College, Nakodar)
10. Dr. Daljeet Singh (Head, Department of Physical Education, Khalsa College, Amritsar.)

44. Give details of student enrichment programmes (special lectures/ workshops/seminar) involving external experts: Special Lectures organized by external experts.

45. List the teaching methods adopted by the faculty for different programmes.

- Class Room Teaching
- Power Point Presentations
- Demonstrations
- Group Discussions
- Lectures etc.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?
100% placement of pass out students.

47. Highlight the participation of students and faculty in extension activities:

- Faculty& Students constantly participated in officiating Inter-College, Inter-University and other sports competition.
- Faculty & Students constantly participated in National/International Level Conferences/Workshop and seminars etc.

48. Give details of "beyond syllabus scholarly activities" of the department: None

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details: No

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied: Research

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department:

Sr. No.	Strength	Weakness	Opportunity	Challenges
1	100% Placements	Rooms Lacking	-	To meet with Global Trends
2	Research Promotions	No Department Library	-	-

3	**Physical Fitness & Special Coaching**	**-**	**-**	**-**
4	**Guidance & Counselling**	**-**	**-**	**-**

52. Future plans of the department.

- To Start M.Phil. Physical Education.
- To Start D.P. Ed. (Two Years) Course.
- To establish Departmental Library
- To establish Physiology lab.

FACULTY OF PLANNING AND ARCHITECTURE

==/ 30 /==

1. **Name of the Department:** Architecture
2. **Year of establishment:** 1986
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered (U.G., P.G., M. Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt. etc.):**
   U.G.: Bachelor of Architecture five years (ten semesters) integrated degree course
   P.G.: Masters of Architecture (Urban Design): Two years (four semesters) degree course
   Ph.D. in Architecture
5. **Interdisciplinary programmes and departments involved:**
   At present department runs following U.G. and P.G. inter disciplinary courses:
   Inter-Disciplinary Courses U.G.

S. No.	Course Code	Course Title	Semester
1	ARL-001	Residential Architecture	Autumn
2	ARL-002	History of Architecture	Spring

Inter-Disciplinary Courses P.G.

1	ARL-051	Socio Economic Aspects of Urban Environment	Autumn
2	ARL-052	Understanding the City Form	Spring

6. **Courses in collaboration with other universities, industries, foreign institutions etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:**
   Students of our department opt for Inter disciplinary courses offered by the other departments of the University i.e. Social Sciences, Computer Science, Economics, Foreign Languages, Psychology, Political Science, Hindi, History, Sociology, Business Management, Sanskrit etc.
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/ Assistant Professors/others)**

Designation	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	2	-	2
Associate Professors	5	2	3
Assistant Professors	11	10	7
Others: (Contract basis for one year)	6	4	4

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designa-tion	Specializa-tion	No. of Years of Experience	No. of Ph.D./M.Phil. students guided for the last 4 years
S.S. Behl	P.G.	Professor	Architecture	26	-
P.S. Mahoora	U.G.	Associate Professor	Architecture	24	-
K.S.Chahal	Ph.D.	Associate Professor	Construction Management	18	2
Dr. Sandeep Dua	Ph.D.	Associate Professor	Architecture and Urban Design	18	4
Meenakshi	P.G.	Associate Professor	Architecture	18	-
Ranbir Kaur	P.G.	Assistant Professor	Housing	18	-
Renu Mehta	P.G.	Assistant Professor	Urban Planning	13	-
Pinto Emerson	P.G.	Assistant Professor	Construction Management	13	-
Pankaj Chhabra	P.G.	Assistant Professor	Architecture	12	-
Harvinder Kaur	U.G.	Assistant Professor	Hospital Architecture	12	-
Nitin Batra	P.G.	Assistant Professor	Bldg.Sc. & Construction Management	12	-
Rawal Singh Aulukh	P.G.	Assistant Professor	Architecture	2	-

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:**
    - Dr.(Ms.) Francoise Dasques
    - Rajeev Kadam
    - Baldeep Singh
    - Merdekindred, (Architect from Germany)
13. **Percentage of classes taken by temporary faculty – programme-wise information:** B.Arch.: 14%, M.Arch.: None
14. **Programme-wise Student Teacher Ratio:**
    B.Arch. 16:1, M.Arch: 1.5: 1

15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual.**

Post	Sanctioned	Filled	Actual
Technical	6	5	5
Administrative Staff	2	2	2
Others; Peon, Water woman, Safai Karamchari)	5	5	5

16. **Research thrust areas as recognized by major funding agencies:** Urban form & Architecture

17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.**:

The Department has leapfrogged in the areas of research and consultancy by securing research projects from UGC, AICTE and providing Architectural Consultancy to the State Govt., the University itself and other institutions. A few of our Consultancy projects are:

The department has conducted comprehensive research in the field of Regional Architecture as also Sikh Architecture. The research projects undertaken by the Faculty are:

Professor Sarbjot Singh Behl - Glossary of Elements of Sikh Architecture (UGC Project),

Dr. Karamjit Singh Chahal - Sikh Architecture: The Perception of Space in Architecture and Philosophy (UGC Project),

Dr. Sandeep Dua - An Analytical Approach towards integration of Urban Form and Architecture through Proportional Harmonies (AICTE Project)

Consultancy Projects:

- District Administrative Complex, Amritsar (in progress-Rs. 40 crore)
- General Sham Singh Attariwala Memorial Gate route to Wagha Border, G.T. Road, Amritsar (Project Cost Rs. 3.00 crore)
- Electronics Block, GNDU Campus, Amritsar (Rs.1.50 crores).
- Working Women Hostel, GNDU Campus, Amritsar (Rs.50 lakhs).
- University Shopping Complex, GNDU Campus, Amritsar (Rs.3 crores)
- Recreational and Commercial Development at Harike, Distt. Amritsar
- Bus Stand at Talwandi Sabo
- Revival and Restoration of Ram Bagh Gardens, Amritsar (Rs.10 crores).
- Open Air Theatre
- Parking at GNDU Campus, Amritsar
- Department of Architecture, GNDU Campus, Amritsar (Rs.1.75 crores).
- Department of Social Sciences, GNDU Campus, Amritsar

- Detail Project Reports of Construction, Widening and Improvement of Roads for Municipal Corporation Amritsar (M.C.A.).
- Department of Applied Chemistry, Guru Nanak Dev University, Amritsar
- Planning for Valtoha Block

18. **Inter-institutional collaborative projects and associated grants received**
    a) National collaboration b) International collaboration: N. A.
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received** UGC 6.5 (approx.)
    UGC-SAP 48 + 20 lacs
    AICTE – 3.5 lacs
20. **Research facility / centre with** None
    - State recognition
    - National recognition
    - International recognition
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** N.A.
22. **Publications:**
    * **Number of papers published in peer reviewed journals (national/ International)**: 17
23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated:** Architecture Rs. 7,00,000/-
25. **Faculty selected nationally / internationally to visit other laboratories/ Institutions / industries in India and abroad:** None
26. **Faculty serving in-**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify)
    Our Senior Faculty members have acted as Jury members / Advisors in many Architectural competitions and made value addition by virtue of their academic strengths
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).**
    Faculty members frequently participate in Quality improvement programmes, short-term courses, national and international conferences, seminars, symposiums organized in the various parts of the country.
28. **Student projects**
    As part of degree programme all students pursuing their U.G./P.G. degree have to undergo training of six months and during training period they actively participate/complete projects assigned to them by their respective trainers .

29. **Awards / recognitions received at the national and international level by**
    - **Faculty:** None
    - **Doctoral / post doctoral fellows:** None
    - **Students:** Our students often get prizes for their outstanding performances in the events organized by various Architectural Colleges, National Association of Students of Architecture, (NASA), National Institute of Advanced Studies in Architecture (NIASA).
30. **Seminars/ Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.**
    - Coordinated a zonal event for National Awards in Architectural Thesis 2009 promoted by COA-NIASA held at Department of Architecture, Guru Nanak Dev University, Amritsar for conducting Zonal juries zone-1 from September 3-5, 2009.
    - Dr. Sandeep Dua and Dr. Karamjit Singh Chahal acted as resource persons twice for two Mason Training Programmes each of 44 day duration on Multi Hazard Resistance Construction Technologies organized by Amritsar District Administration during 01/12/2009 - 04/12/2009 and 24/02/2010 - 27/02/2010.
31. **Code of ethics for research followed by the departments:** As per University norms.
32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
B.Arch	80	25	52	71%	67%
M.Arch	06	03	03	66%	66%
Ph.D.	04	-	01	-	-

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.Arch*	NA	NA	NA	0%
M.Arch	25%	50%	25%	0%
Ph.D.	100%	0%	0%	0%

* as qualification for admission to B.Arch course is Senior Secondary Examination (12th grade) with Mathematics as one of the subjects with at least 50% marks in aggregate or equivalent so students are from school and not from University)

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.**
GATE QUALIFIED: 1. Meenakshi, 2. Ravi Inderjit Singh, 3. Loveleen, 4. Mitali, 5. Swati, 6. Kaushal Kishore

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	25
P.G. to M.Phil.	-
P.G. to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	-
Entrepreneurs	-

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	42%
from other universities within the State	8%
from universities from other States	50%
from universities outside the country	0%

37. **Number of faculty who were awarded Ph.D. during the assessment period:** 2
38. **Present details of departmental infrastructural facilities with regard to:**
a) **Library:** Departmental library, equipped with 6200 books is located in the Main Library of the University. 25 National Journals are also subscribed for our department.
b) **Internet facilities for staff and students:** Available
c) **Total number of class rooms:** 08
d) **Class rooms with ICT facility:** 03
e) **Students' laboratories:**
Arts & Graphics Lab Phototolab, Carpentary Workshop, Material Testing Lab, Museum, Computer Lab.
f) **Research laboratories:**
39. **List of doctoral, post-doctoral students and Research Associates**
a) from the host institution/university : Architect: Meenakshi, Rawal Singh Aulukh, Pankaj Chhabra, Ankur Parbhakar, Kuldip Singh, and Ranbir Kaur.
b) **From other institutions/universities:** None

40. **Number of post graduate students getting financial assistance from the university**. - 1
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.**
Yes, a proper procedure was adopted before starting Masters Programme M.Arch (Urban Design) and it was finalized after deliberations in the Board of Control's meetings.
42. **Does the department obtain feedback from?**
a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? Yes, department utilizes the feedback by positive approach and modified syllabus accordingly.
b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? Yes, department utilize the feedback by positive approach and grievances are resolved accordingly.
c. alumni and employers on the programmes offered and how does the department utilize the feedback? No
43. **List the distinguished alumni of the department (maximum 10):**

Sr.No.	Name of Alumni member
1.	Aarti Grover, Faculty in Landscape Arch., SPA, Delhi
2.	Uttam Pal Singh
3.	Dr. Sandeep
4.	Dr. Karamjit Singh
5.	Nitin
6.	R.S. Aulukh
7.	Pankaj
8.	R P Singh
9.	Mandeep Rawal
10.	Janhwij Sharma

44. **Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.**
Department often arranges special lectures by renowned experts.
45. **List the teaching methods adopted by the faculty for different programmes:**
Teaching Methods for B. Arch and M. Arch programme: Teachers use all modern techniques like power point presentation, Auto CAD drawings using digital podium and mikes.
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
Well maintained and disciplined atmosphere in the department, feed back by the students /teachers and quality architectural education help ensuring/

achieving objectives by the students. Board of control meetings are held from time to time to assess the ongoing activities and to make future action plans.

47. **Highlight the participation of students and faculty in extension activities.**

Students often participate in national architectural events organized by various Architectural Colleges, NASA, NIASA. Our teachers are often invited by various Universities/Institutions/National bodies as Experts in their field of specialization.

48. **Give details of "beyond syllabus scholarly activities" of the department:**

Students are also involved in the various research consultancy projects which gives them confidence and spirit to do hard work in their profession. They participate in various student competitions of State/National levels.

49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details. :** No

50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied:**

Students are encouraged to interact with teachers to demonstrate their proficiency and endeavours for their design and building construction exercises.

In order to provide maximum exposure to the students as regards the practices of the architectural profession, the department invites the input of the Practising Architects/Professionals (as co-teachers, external examiners, etc.) from the building industry, thus developing a balanced and pragmatic view of the theory and practice.

The interlude of practical training during the 7th semester further helps the students in gaining practical knowledge, professional maturity and confidence that prepare them for their final plunge into the professional life.

The students are exposed to contemporary /historical/ traditional/ international styles of Architecture and Urban design through Project oriented Study Tours to different regions.

Constant efforts are made by the faculty to make the teaching – learning process more effective.

The students are put to rigorous exercises of observation, sketching, documentation, analysis, study of building services, etc.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Five major Strengths,	Weaknesses	Opportunities	Challenges
• Updated Computer labs. with latest CADD software, • Arts and Graphics Lab, • Surveying lab • Building Material Testing Lab, Material and Museum. • Courses hold strong validity in the region since it has produced architects whose quality professional inputs have greatly improved the architectural awareness as also influenced the quality of the built environment in the region. • A large number of the alumni of the department are successful professionals spread and settled in the various parts of the world.	Lower teachers – students ratio. Required more Audio/Vedio labs	Employment opportunity on regular/ adhoc/ part time basis	The challenge for this department is to develop a holistic vision of the students towards various issues of physical environment by evolving an integrated design approach incorporating understanding of different disciplines that come together in conceptualization of a creative idea. To produce quality Architects for the society and Teachers for Architectural Education.

52. Future plans of the department.

The department is continuously upgrading itself since its inception. However, scope for improvement is always present and the institute is continuously striving to upgrade itself and become more effective in its existence in the future. Our future vision is:

To promote the highest quality teaching-learning environment in the classrooms and studios in tune with the latest trends by generating enough resources and facilities

To provide maximum exposure to the faculty and students

Through on-campus academic interactions with the experts from practice and other academic institutes;

Promoting "semester away/study abroad" programs for the students

Developing new outreach and/or continuing education programs

To establish effective communication network & increased interactions with our alumni so as to gather enough critical inputs for the development of the department

To create better and more effective means of publicizing the Department's activities & academic achievements to increase our visibility worldwide

To improve easy access to web initiated resources, provide international standard Journals for the benefit of the students and the faculty.

To create a central University Building Design and Planning Centre that would establish processes by which academic units can add or renovate spaces for short, medium, and long-term needs.

1. **Name of the Department:** Guru Ramdas School of Planning
2. **Year of establishment:** 1972
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.):** U.G. (B. Tech. (Urban & Regional Planning), P.G. (M. Tech. (Urban Planning), Master in Planning (Infrastructure), Ph.D. (Planning) part-time
5. **Interdisciplinary programmes and departments involved:** The students of the department are free to opt any elective or inter disciplinary course in other departments of the University and vice-versa.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** No
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments**: Lectures in other departments being delivered on the requirement.
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

Designation	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	--	0
Associate Professor	5	1	5
Assistance Professor	12	7	7
Part-time	1	4	4

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifica-tion	Designa-tion	Specialization	No. of Years of Experi-ence	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr. Balvinder Singh	MA (Soc.), B.Lib. Sc.(Medalist),MCRP, Ph.D.	Reader & Head	Urban Design & Conservation, Social & Demographic Studies, Environment Planning	28	0

Dr. Ashwani Luthra	M.Sc.(Hons.) Eco. MCRP DTEM, Ph.D.	Associate Professor	Traffic & Transportation Planning, Urban Planning, Environment Planning, Statistics & Economics	22	0
Ms. Kirandeep Sandhu	M.A. (Geo.), MCRP, M.Sc.(Housing) UK	Lecturer (Senior Scale)	Housing, Environment Planning, Regional Planning, Infrastructure Planning	18	0
Mr. Gopal K Johari	M.A. (Geo.), MCRP	Associate Professor	Research Methodology, Project Management, GIS	18	0
Dr. B S Sekhon	B.E. (Civil), MCRP, Ph.D.	Lecturer (Senior Scale)	Metropolitan Planning, GIS/Remote Sensing, Infrastructure Planning	17	0
Mr. Kuldip Singh	B.E. (Civil), MUP	Associate Professor	CAD/GIS, Planning for Utilities	19	0
Mr. K S Sandhu	M.Sc.(Hons.) Eco., MCRP	Associate Professor	Rural & Regional Planning, Urban Land Economics	19	0
Mr. Ravi Inder Sngh	B. Arch., M. Tech. (Urban Planning)	Assistant Professor	CAD, Building Construction, Project Management	1	0
Ms. Ritu Raj Kaur	B. Tech. (URP), M. Tech. (Environment)	Assistant Professor	Environment Planning	1	0

Ms. Gursharan Kaur	B. Tech. (URP), M. Tech. (Urban Planning)	Assistant Professor	Urban Land Management, Housing	1	0
Ms. Sakshi Sahni	B. Tech. (URP), M. Tech. (Infrastructure)	Assistant Professor	Infrastructure Planning, Management	1	0
Mr. Sandeep Kumar	M.A. Geography, M. Tech. (Urban Planning)	Assistant Professor	Housing, Environment	2	0
Mr. Rahul Singla	M.A. Geography, M. Tech. (Urban Planning)	Assistant Professor (contract basis)	Legislation, Professional Practice	4	0
Ms. Sunanda Sharma	M.A. Geography, M. Tech. (Urban Planning)	Assistant Professor (contract basis)	Peri Urban Development, Physical Infrastructure, Project Formulation	4	0
Ms. Pooja Guleria	M.A. Geography, M. Tech. (Urban Planning)	Assistant Professor (contract basis)	Conservation, Urban History	4 months	0
Ms. Ramandeep Kaur	B. Tech. (URP), M. Tech. (Urban Planning)	Assistant Professor (contract basis)	Urban & Regional Planning, Project Management, Utilities	4 months	0

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:**
    (1) Sh. Rajiv Sharma, Deputy Chief (Projects), New Delhi
    (2) Professor J.S. Ghuman, Chief Town Planner (Retd.), Chandigarh
    (3) Dr. S.N. Misra,Visiting Professor, SPA, New Delhi
    (4) Dr. D.S. Meshram, President, ITPI, New Delhi
    (5) Sh. S.K. Sharma, Additional Director General Police, Punjab, Chandigarh

(6) Dr. S.S. Bhatti, Former Principal, Chandigarh College of Architecture, Chandigarh
(7) Mr. K.K. Kaul, (Former Chief Town Planner- Punjab), Chandigarh

13. Percentage of classes taken by temporary faculty – programme-wise information

Sr. No.	Programmes	Percentage
1	B. Tech. (Urban & Regional Planning)	35.8
2	M. Tech. (Urban Planning)	23.5
3	Master in Planning (Infrastructure)	23.0

14. **Programme-wise Student Teacher Ratio:**

Sr. No.	Programmes	Total No. of Students	Ratio
4	B. Tech. (Urban & Regional Planning)	120	6:1
5	M. Tech. (Urban Planning)	39	3:1
6	Master in Planning (Infrastructure)	28	3:1

15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:**

Designation	Sanctioned	Filled	Actual
Stenographer	1	-	-
Senior Assistant	2	2	2
Senior Technician	1	1	1
Senior Technician (Workshop)	1	-	-
Senior Technician (Photography Instruction)	1	-	-
Technician	8	2	2
Data Entry Operator	1	-	-
Clerk/ Junior Assistant	2	-	-
Azo Operator	1	-	-
Peon-cum-Ferrow-Khalasi	1	-	-
Peon	2	-	1
Studio Attendant	1	-	-
Safai Karamchari	1	-	1

16. Research thrust areas as recognized by major funding agencies:

- Block & District Planning
- Site Planning
- Infrastructure Development Plans
- Institutional Plans
- Heritage & Conservation
- GIS Application

17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.:** None
18. **Inter-institutional collaborative projects and associated grants received:**

    a) National collaboration:

    1. UGC Sponsored _ Village Geographic Information System in Collaboration with Deptt of Computer Sc. KMC, Jalandhar

    2. State Govt Sponsored: Comprehensive Devlopment Plan : Valtoha Block

    3. Master Plan: Guru Angad Dev Veterinary University, Ludhiana

    b) International collaboration:

    1 (Augmentation of Sewerage System Faizpura, Amristar – A Pilot Project for JBIC (Japan Bank of International Corporation)
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.** 01 (UGC-Innovative Programme)
20. **Research facility / centre with:** None
    - State recognition:
    - National recognition:
    - International recognition:
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    - **Number of papers published in peer reviewed journals(National/ International)**: 44
    - **Monographs**:
    - **Chapters in Books**: 4
23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad:**

    1. Mr. Balvinder Singh

    a. Geographic National Institute – Paris, France

    b. GETTY Conservation Institute, Los Angles, USA

    2. Ms. Kirandeep Sandhu: Ethopian Civil Service University (Addis Abbaba) for Capacity Building, Sponsored by World Bank.
26. **Faculty serving in**

    a) National committees: 5 (Mr. Balvinder Singh, Dr. Ashwani Luthra, Ms. Kirandeep Sandhu, Mr. Gopal K Johari, Dr. B S Sekhon)

    b) **International committees:** None

    c) **Editorial Boards:** 03

    1. Mr. Balvinder Singh – THAAP Journal,
    2. Ms. Kirandeep Sandhu – Sri Lanka Journal of Real Estate

3. Ms. Kirandeep Sandhu - International Journal of Urban Sustainable Development

d) Any other (please specify): None

27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs):** 4 (Mr. Balvinder Singh, Dr. Ashwani Luthra, Mr. Gopal K Johari, Dr. B S Sekhon)
28. **Student projects**
    - **Percentage of students who have done in-house projects including inter- departmental projects**: None
    - **Percentage of students doing projects in collaboration with other universities /Industry / institute**: None
29. **Awards / recognitions received at the national and international level by**

    • **Faculty:** National: 4, International: 2

    1. **Mr. Balvinder Singh,**

    i. Award of Honour "For the Services of Preserving and Bringing Awareness about the Heritage of Amritsar", given on 14th March, 2010 by Amritsar Vikas Manch.

    ii. Award of Honour for Bringing Awareness about Heritage by Rotary Club Civil Lines in connection with Teachers Day celebrations on 10.09.2010 in Hotel Alistonia, Amritsar.

    iii. The SSSS Parivar proudly presents "The SSS Purskar to SSSSian Professor Balvinder Singh- an embodiment of intelligent, hard work and sincerity to Profession" given on 13th May, 2011.

    iv. Appreciation in the Syndicate meeting Guru Nanak Dev University, Amritsar, held in Dec., 2011 for the nomination as non official member of Heritage Advisory Committee of Himachal Government for the year 2011-12

    2. **Ms. Kirandeep Sandhu**: Honour by Federal Transport Authority-Ethopia for Setting up training curriculum for capacity building of Ethopian Transport Professional.
    3. **Mr. Gopal K Johari: Awarded Best Poster at International Seminar on** Decentralised Wastewater Management in Asia "Meeting Urban Sanitation Challenges at Scale", Organised by International Water Association, November, Nagpur, India

    • **Doctoral / post doctoral fellows**: None

    • **Students**: None
30. **Seminars/ Conferences/ Workshops organized and the source of funding (National / international) with details of outstanding participants, if any:** 6

    List of Workshops/Conferences/Seminars

    1. Seminar on "Planning Education at Cross-Roads" in February 2008.
    2. Workshop on "Integrated Index in Planning" in March 2009.

3. National Seminar on "Sustainable Lifelines : Transportation Planning & Management", March 2010
4. Workshop on "Planning & Development Strategies for Walled City Amritsar" in October, 2010.
5. Workshop on "Draft Policy for Housing in Urban Development – 2013**",** in March 2013.
6. Seminar on "Celebration of Foundation Day of Amritsar", in July 2013

31. **Code of ethics for research followed by the departments:** The department follows the guidelines issued by University time to time.

32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
B. Tech. (Urban & Regional Planning)	52	28	14	57%	36%
M. Tech. (Urban Planning)	60	14	5	55%	45%
Master in Planning (Infrastructure)	36	13	3	71.4%	29%
Ph.D. (Planning) part-time	6	4	None	100	None

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B. Tech. (Urban & Regional Planning)	None	22	78	0
M. Tech. (Urban Planning)	28	28	44	0
Master in Planning (Infrastructure)	46	8	46	0
Ph.D. (Planning) part-time	100%	0	0	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.:** Five students of department cleared GATE examinations.

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	98
P.G. to M.Phil.	None
P.G. to Ph.D.	2
Ph.D. to Post-Doctoral	None
Employed • Campus selection • Other than campus recruitment	 None 95
Entrepreneurs	5

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	68.75
from other universities within the State	0
from universities from other States	18.75
from universities outside the country	12.50

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: None

38. Present details of departmental infrastructural facilities with regard to

a) Library: Department is having its own library in addition to the central library of the University.

b) Internet facilities for staff and students: Each faculty member and students are provided with the facility of internet.

c) Total number of class rooms: 16 (8 class-rooms and 8 studios)

d) Class rooms with ICT facility (Interactive Board and LCD Projectors): 05

e) Students' laboratories: 05 (Computer Labs (GIS & CAD)-2, Survey Lab- 1, Model Making Lab- 1, Photography Lab- 1)

f) Research laboratories: Same as above Serial No. 38 (e).

39. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university: 5

b) From other institutions/universities: None

40. Number of post graduate students getting financial assistance from the university: 10% of each class is getting financial assistance from the University as per University rules.

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

It is guided by Institute of Town Planners, India and AICTE as well as feedback from various alumni and subject experts in the field, suggested the market requirement of specialised courses.

42. **Does the department obtain feedback from?**

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? Feedback from faculty members regarding various subjects and programmes from time to time is taken and upgradation of syllabus and schemes is done accordingly.

b. **Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?** Feedback from the students by individual faculty member is incorporated in the sylabus.

c. **Alumni and employers on the programmes offered and how does the department utilize the feedback?** Important and useful feedback from alumni and their employers is incorporated in the curriculum at various stages by revising the schemes and syllabus accordingly.

43. **List the distinguished alumni of the department (maximum 10):**

1. Sh. Rajinder Sharma, Chief Town Planner, Punjab
2. Sh. Kuldip Singh Dhaliwal, Chief Town Planner, Punjab
3. Sh. Harnek Singh, Chief Town Planner, Punjab
4. Sh. A. K. Sankhyan, Chief Town Planner, Himachal Pradesh
5. Sh. A. N. Gautam, Chief Town Planner, Himachal Pradesh
6. Kr. Surjit Singh, Chief Town Planner (HSIIDC), Haryana
7. Sh. J. S. Redhu, Chief Town Planner, Haryana
8. Sh. N. R. Verma, Chief Town Planner, Uttar Pradesh
9. Sh. R. K. Kaul, Chief Town Planner, J&K
10. Sh. M J S Aujla, Chief Town Planner, Local Bodies, Punjab.

44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts:**

The department organises special lectures of prominent personalities and experts in the field of planning at regular intervals.

45. **List the teaching methods adopted by the faculty for different programmes:**

Modern methods of teaching are adopted i.e. Multimedia, OHP Projectors, Interactive Board & Audio Visual aid for teaching student with presentations and reviews, use of imageries / map demonstrations, field visits etc.

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?** Through regular faculty meetings and interaction with subject experts, students as well as alumni.

47. **Highlight the participation of students and faculty in extension activities.** Students are encouraged to participate in various cultural and literary activities such as NOSPLAN, Youth Festival and Inter Departmental cultural and Sports activities of the University.

48. **Give details of "beyond syllabus scholarly activities" of the department:** Participation of students to various national competitions e.g. debate, quiz, paper presentation etc.

49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details:** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.** Various case studies have been during the course of B. Tech. (URP), M. Tech. (UP) and Master in Planning (Infrastructure) has been conducted as live examples, to generate real time database, which is used not only by the School but also various Development Authorities and Town & Country Planning Departments of different states respectively.
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

STRENGTHS

- Expertise in various Sectors
- Transparent System of Evaluation
- Decision making process is participatory through BOC & Faculty Meetings

WEAKNESSES

- Sometimes there is slow movement of files for financial approval
- There is less adequate funds to the Department
- Various Budget Heads must be allowed

OPPORTUNITIES

- Alumni in different companies can make placement procedure easier
- Internship helps in Placement
- Workshops Seminars
- Teaching Training Programmes

CHALLENGES

- Beginning New Courses considering Market Demand
- Upgradation of The softwares- GIS and Cad
- Consultancy and Research projects

52. **Future plans of the department.**

Planning for new specialised courses, short term as well as degree courses are under process such as GIS & Remote Sensing, Real Estate Management, Rural Development, Heritage & Conservation.

1. **Name of the Department:** Chemistry
2. **Year of establishment:** 1971
3. **Is the Department part of a School/Faculty of the University:** Yes
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.):**
   U.G. Courses: B.Sc. (Hons. School)
   P.G. Courses: M.Sc. (Hons. School); and M.Sc. (Hons.)
   Ph.D.
5. **Interdisciplinary programmes and departments involved:** In all U.G. and P.G. programmes under "Choice Based Credit System", all students have the choice to choose interdisciplinary course. Various departments of university such as Departments of physics and mathematics, various disciplines of life sciences, languages and music departments are involved.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** M.Sc. (Instrumental Analysis), M.Sc. (Oils, Soaps and detergents), M.Sc. (Pharmaceutical Chemistry) were closed and a new course in M.Sc. (Hons.) Chemistry was started. The placement of the students in these areas was decreased and in consultation with pharmaceutical industries, who are the major recruiting institutions for the students, a new course M.Sc. (Hons.) Chemistry was started.
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:** The Department offers basic chemistry courses for the undergraduate students of the Department of Physics and Life Sciences Departments *viz*. Human Genetics and B.Tech. Electronic, B.Tech. Computer Sciences and B. Pharmacy.
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	19	02	12
Associate Professors	11	0	1
Assistant Professors	14	10	10
Others (Assistant Professors on Adhoc basis)	00		02

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualifi-cation	Designa-tion	Specializa-tion	No. of Years of Experi-ence	No. of Ph.D./M.Phil. students guided for the last 4 years
T.S. Lobana	Ph.D.	Emeritus Scientist	Inorganic Chemistry	38	5
M.S. Hundal	Ph.D.	Professor	X-ray crystallography	31	3
R.K. Mahajan	Ph.D.	Professor	Analytical Chemistry	31	5
Subodh Kumar	Ph.D.	Professor	Organic Chemistry	28	5
B.S. Randhawa	Ph.D.	Professor & Head	Material Chemistry	30	7
Kamaljit Singh	Ph.D.	Professor	Organic Chemistry	22	12
T.S. Banipal	Ph.D.	Professor	Physical Chemistry	26	5
Geeta Hundal	Ph.D.	Professor	X-ray crystallography	20	3
Manoj Kumar	Ph.D.	Professor	Supramolecular Chemistry	25	13
Sukhprit Singh	Ph.D.	Professor	Organic Chemistry	20	4
S.S. Chimni	Ph.D.	Professor	Organic Chemistry	23	10
Sumanjit Kaur	Ph.D.	Professor	Analytical Chemistry	22	01
Damanjit Kaur	Ph.D.	Professor	Theoretical Chemistry	19	3
Palwinder Singh	Ph.D.	Professor	Organic Chemistry	13	3
Paramjit Kaur	Ph.D.	Professor	Inorganic Chemistry	20	6
Dr. Parampaul Kaur	Ph.D.	Associate Professor	Physical Chemistry	13	3
Er. Swapna Mishra	M. Tech	Assistant Professor	Textile Chemistry	18	-
Er. A.K. Sood	M.Tech	Assistant Professor	Material Science	15	-

Er. Varinder Kaur	M. Tech	Assistant Professor	Textile Chemistry	13	-
Dr. Vandhna Bhalla	Ph.D.	Assistant Professor	Supramolecular Chemistry	14	8
Dr. Inderpreet kaur	Ph.D.	Assistant Professor	Analytical Chemistry	9	-
Dr. Vipan Kumar	Ph.D.	Assistant Professor	Organic Chemistry	9	-
Dr. Ritu Bala	Ph.D.	Assistant Professor	Inorganic Chemistry	6	-
Er. Parambir Singh Malhi	M. Tech	Assistant Professor	Textile Chemistry	4	-
Dr. Prabhpreet Singh	Ph.D.	Assistant Professor	Organic Chemistry	2	-
Er. Sachin Kumar	M. Tech	Assistant Professor	Textile Chemistry	2	-
Dr Tejwant Singh	Ph.D.	Assistant Professor	Physical Chemistry	1	-

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** Professor Harjit Singh – Professor Emeritus.
13. **Percentage of classes taken by temporary faculty – programme-wise information:** 6.89 %
14. **Programme-wise Student Teacher Ratio**:
    Keeping in view, the students of the Department attend classes in part in the other Departments and number of students of other Departments come to attend classes in the Department of Chemistry. For defining student-teacher ratio, this aspect has been taken care of and hence the student/teacher ratio is approximately 225:11.
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**

Designation	Sanctioned	Filled
Technical Satff	38	16
Administrative Staff	06	03
Others	05	02

16. **Research thrust areas as recognized by major funding agencies:**
    - ❖ Supramolecular Chemistry:- Design, synthesis, molecular recognition, characterization, and physiochemical aspects.
    - ❖ Material Chemistry
    - ❖ Organocatalysis
    - ❖ Chemical and Molecular recognition Sensing
    - ❖ Organic Medicinal Chemistry
    - ❖ Thermodynamic Aspects of Bioconjugates nanocrystals

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

Funding Agency	**Number of Faculty**
National	**19**
International	**-**
Total grants received (INR)	**389.48 lakhs**

S. No.	Funding Agency Period	Title	Grant Received (lacs)
1.	CSIR 2010-2013	Fluorogenic Sensors and Molecular Switches based on thiacalix[4]arenes and Calix[4]arenes	17.5
2.	UGC 2010-2013	Organocatalytic Approach to Stereoselective Friedel-Crafts Alkylation Reaction	9.7
3.	DST 2010-2013	Synthesis and biological evaluation of structural chimeras of 2-azetidinones and 7-chloroquinoline: a novel approach in malaria chemotherapy,	16
4.	DST 2010-2012	Photoresponsive Polyaromatics for LED and Solar cell applications	25
5.	DST 2010-2012	Photoresponsive Molecular Chemosensors and Chemionics based on (Hetero)aromatics	35
6.	DST 2010-2013	Synthesis and Evaluation of Photophysical Properties of Discotic Materials	35
7.	DST 2010-2013	Synthesis of some new cationic amphiphies and evaluation of their surface and biological properties	36.76
8.	CSIR 2010-2013	Intramolecular Amidolysis of Functionalized Monocyclic □-Lactams: Convenient Access to Novel Heterocyclic Scaffolds	15.82
9.	CSIR New Delhi	Metal Mediated Chemical Reactivity of Heterocyclic thiones	18
10.	DBT 2012-2015	Biotransformation of epoxides by recombinant epoxide hydrolase	81.93
11.	DST 2012-2015	Development of applications of cinchona alkaloids derived organocatalysts for asymmetric transformations	46.85

12.	CSIR 2012-2014	Development of organocatalysts for enantioselective Michael Reactions	21.92
13.	UGC 2012-2015	Multi channel recognition of ionic analytes using ferrocence based sensors	12
14.	CSIR 2012-2015	Electrospectrophotometric chemosensors and their application to reconfigurable logic gates	18

18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration**

Inter-Institutional Collaborations:

- Professor Sukhprit Singh has intra-institutional collaborations with Dr. Saroj, Department of Botany and Dr. Gurcharan Kaur, Department of Biotechnology.
- Dr. Subodh Kumar has intra-institutional collaboration with Dr. Aman Mahajan, Department of Physics and Dr. Vanita Kumar, Department of Human Genetics and Dr. Dr. Satminderjeet Kaur, Department of Botanical & Environmental Sciences.

National Collaborations:

- Indian Institute of Technology, Kanpur
- Indian Institute of Technology, Delhi
- Indian Institute of Technology, Mumbai
- Delhi University
- Panjab University, Chandigarh
- Indian Institute of Integrative Medicine, Jammu
- Kurukshetra University
- Himachal Pradesh University, Shimla
- Aligarh Muslim University, Aligarh
- CSIR, Palampur
- Bhaba Atomic Research Centre, Mumbai

International collaboration:

- University of Cape Town, South Africa
- Rega institute, Belgium
- Chinese academy of sciences, Beijing
- Department of Medicine, University of California, San Francisco, CA, USA
- Department of Biological Sciences, University of the Pacific, Stockton, CA 95211, USA
- CNRS, UMR 8576, F-59650 Villeneuve d'Ascq, France
- Osaka City University, Osaka, Japan
- Tokyo University of Science, Japan
- CSIC, Roccasolano, Madrid, Spain
- Institute of Pharmaceutical Chemistry, University of Vienna, Austria

19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.**

- ❖ DST-FIST: 2.58 Crores
- ❖ UGC-SAP: 1.36 Crores

20. Research facility / centre with

- **State recognition**
- **National recognition**: Centre for Advanced Studies (UGC)
- I**nternational recognition**

21. Special research laboratories sponsored by / created by industry or corporate bodies: None

22. Publications:

- ∗ **Number of papers published in peer reviewed journals (national /International)**: 415
- ∗ **Monographs**:
- ∗ **Chapters in Books**:
- ∗ **Edited Books**:
- ∗ **Books with ISBN with details of publishers**:
- ∗ **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCO host, etc.):**
- ∗ **Citation Index – range / average**: 10036 (Total Citation between 2008 - 2013)
- ∗ **SNIP**:
- ∗ **SJR**:
- ∗ **Impact Factor – range / average**: 3
- ∗ **h-index**: 30

23. Details of patents and income generated: None

24. Areas of consultancy and income generated: None

25. Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad:

Professor Geeta Hundal

- ❖ Brainpool scientist by the Korean Government in the Korean Research Institute of Chemical Technology (KRICT) at Daejeon, South Korea for one year from Dec 2011 to 2012.

Professor Rakesh Mahajan

- ❖ Visiting professor at Seoul National University, Seoul (South Korea) from 3.11.08 to 31.10.2009. (with Brainpool Award)

Dr. Inderpreet Kaur

- ❖ BOYSCAST fellowship 2009-10 awarded by Department of Science and Technology, New Delhi to carry out advance research/ training in the area of "Chemical aspects of nano-materials and nano-technology" under the guidance of Dr. Ritu Kataky, Department of Chemistry, Durham University, Durham, United Kingdom

Dr. Vandana Bhalla

- ❖ Under INSA-Exchange Programme Visiting Scientist, Durham University, United Kingdom from March 27, 2009 to June 25, 2009 under INSA-Exchange Programme.

- ❖ Visited Durham University, Unted Kindom from Sept. 21, 2013 to Dec. 20, 2013 under Commonwealth Academic Fellowship programme.

26. Faculty serving in

a). National committees b) International committees c) Editorial Boards d) any other (please specify)

Professor B.S. Randhawa

- ❖ UGC Nominee for SAP Programme for Jammu University

Professor Palwinder Singh

- ❖ UGC Nominee for SAP-DSA-1 Programme

Professor Geeta Hundal

- ❖ Member, UGC national selection committee for awarding major research projects in Chemistry in 2012-2013

Professor Subodh Kumar

- ❖ Member DST-PAC organic Chemistry 2012-2015
- ❖ Council Member – National Organic Symposium Trust 2007-2010
- ❖ Joint-Secretary, CRSI, Bangalore 2008-2011
- ❖ Member board of studies, National Institute of Pharmaceutical Education and Research (NIPER), Mohali 2012-2015
- ❖ Member, CSIR Committee for JRF/RA selection (2012)
- ❖ UGC Expert Nominee for SAP, Department of Chemistry, Baba Ambedkar University, Aurangabad.
- ❖ UGC Expert Nominee for UGC's SAP CAS-1, Department of Chemistry, NEHU, Shillong

Dr. Vandana Bhalla

- ❖ Nominated as member of the council, CRSI, Bangalore 2014-2016

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs):

- ❖ National Workshop on Usage of some sophisticated instruments was held in GNDU Campus from 12^{th}-15^{th} September 2012

Professor B.S. Randhawa

- ❖ Co-ordinator, Refresher course on Material Sciences, held on 6^{th}-26^{th} December 2011

Professor Manoj Kumar

- ❖ Co-ordinator, Refresher course on Material Science and its applications, held on 28^{th} November-18^{th} December 2012

Dr. Vandana Bhalla

- ❖ Attended winter school on Nanoscience and Technology between Dec. 23, 2008 to Jan. 12, 2009 held at Academic Staff College, Guru Nanak Dev University, Amritsar
- ❖ Attended a refresher course in Chemistry between Dec. 18, 2010 to Jan. 8, 2011 held at Academic Staff College, Guru Nanak Dev University, Amritsar

Dr. Ashwani Sood

- Attended winter school on Nanoscience and Technology between Dec. 23, 2008 to Jan. 12, 2009 held at Academic Staff College, Guru Nanak Dev University, Amritsar
- Attended short course on Research Methodology at Guru Nanak Dev University, Amritsar

Dr. Vipan Kumar

- Attended refresher course in Chemistry between Nov. 28, 2008 to Dec. 18, 2008 at Academic Staff College, Guru Nanak Dev University, Amritsar

Dr. Geeta Hundal and Professor Sukhprit Singh

- Attended 3-day workshop on Higher Education and Administration held at Academic Staff College, Guru Nanak Dev University, Amritsar from 21-23 Jan., 2014

Dr. Tejwant Singh

- Attended General Orientation Course from Dec. 11, 2013 to Jan. 7, 2014 at Academic Staff College, Guru Nanak Dev University, Amritsar

Dr. Inderpreet Kaur

- Attended Refresher Course in Chemistry organized by Academic Staff College, Guru Nanak Dev University, Amritsar from Dec. 6, 2011 to Dec. 26, 2011
- Attended "Special Summer School-2012" organized by the Academic Staff College, Guru Nanak Dev University, Amritsar from June 15, 2012 to July 5, 2012
- Attended Refresher Course in Environmental Studies organized by the Academic Staff College, Guru Nanak Dev University, Amritsar from Nov. 19, 2013 to Dec. 9, 2013

Dr. Prabhpreet Singh

- Attended Refresher Course organized by Academic Staff College, Guru Nanak Dev University, Amritsar from May 15, 2014 to June 4, 2014

Dr. Ritu Bala

- Attended Refresher Course organized by Academic Staff College, Guru Nanak Dev University, Amritsar from Dec. 6, 2011 to Dec. 26, 2011
- Attended General Orientation Course from May 13, 2014 to June 9, 2014 at Academic Staff College, Guru Nanak Dev University, Amritsar

Er. Parambir Singh Malhi

- Attended Refresher Course organized by Academic Staff College, Guru Nanak Dev University, Amritsar from May 15, 2014 to June 4, 2014

- ❖ Attended General Orientation Course from May 2, 2013 to May 29, 2013 at Academic Staff College, Guru Nanak Dev University, Amritsar

Er. Sachin Kumar

- ❖ Attended General Orientation Course from Dec. 11, 2013 to Jan. 7, 2014 at Academic Staff College, Guru Nanak Dev University, Amritsar

28. Student projects

• Percentage of students who have done in-house projects including inter- departmental projects: 100 %

• Percentage of students doing projects in collaboration with other universities / Industry / institute: None

29. Awards / recognitions received at the national and international level by

• Faculty:

Professor Rakesh Mahajan

- ❖ Awarded Professor P. K. Bose Memorial Award -2009 by Indian Chemical Society at the annual convention of Chemists-2010 at Raipur during Dec. 23-27, 2010.
- ❖ Awarded CRSI Bronze Medal by Chemical Research Society of India, 2014.

Professor Subodh Kumar

- ❖ Bhagya Tara National Award for excellence in Organic Synthesis-2008
- ❖ Professor M.S. Wadia endowment Lecture Award -2009
- ❖ CNR Rao Education Foundation award for excellence in research-2009

Professor Kamaljit Singh

- ❖ Bronze Medal, Chemical Research Society of India, 2009.
- ❖ Member Editorial board of referees, ARKIVOC (ARKAT, USA).

Professor Manoj Kumar

- ❖ Bronze Medal, Chemical Research Society of India, 2011.

• Doctoral / post doctoral fellows

INSPIRE Faculty

i. Dr. Abhimneu Dhir, selected as INSPIRE faculty and joined as faculty at Department of Chemistry, IIT, Mandi.

ii. Dr. Vijay Luxami, selected as INSPIRE faculty by DST and joined faculty at Department of Chemistry, Thapar University, Patiala.

iii. Dr. Vimal Bhardwaj, selected as INSPIRE faculty by DST and joined as faculty at Department of Chemistry, IIT, Ropar.

Conference Recognitions

i. Mr. Ankush Gupta received best poster award at CRSI, BHU, Varanasi (2013) sponsored by Royal Society of Chemistry, London.

ii. Miss Sharanjeet Kaur received best poster award at CRSI, held at IIT, Bombay (2014) sponsored by Royal Society of Chemistry.
iii. Mr. Varun Vij was invited to delivere a lecture at NOST Symposium, held at Agra (2012).
iv. Mr. Naresh Kumar was invited to deliver a lecture at RSC-CRSI Symposium held at BHU, Varansi (2010).
v. Ms. Roopa received best Ph.D. Thesis award (US $1000) sponsored by Eli-Lily (2013).
vi. Miss Vijay Luxami was nominated by DST for "Nobel Laureate Inter-disciplinay Meeting" held at Lindan, Germany (2010).

• Students

30. Seminars/Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any: 5 seminars and workshops organised.

Some of the Key Senior Speakers during these conferences/workshops were:-

i. Professor R.N. Mukherjee, Director, IISER, Calcutta
ii. Professor P. Balram, Director, IISC, Bangalore
iii. Professor C.L. Khetrapal, Director, CBMR, Lucknow
iv. Professor T. Chakrabarti, Director, CDRI, Lucknow
v. Dr. Ganesh Pandey, Deputy Director, NCL, Pune
vi. Dr. S. Chandrasekhar, Deputy Director, NCL, Pune
vii. Professor A. Nangia, University of Hyderabad, Hyderabad
viii. Professor Satya Murthy, Director, IISER, Mohali
ix. Professor J.N. Murthy, IIT, Kanpur
x. Dr. Amitava Dass, IICT, Hyderabad
xi. Professor A.K. Chakrobaty, Head, Medicinal Chemistry, NIPER, Mohali

31. Code of ethics for research followed by the departments: All faculty members and research scholars of Department of Chemistry follow general code of ethics for their research. Faculty members make their research scholars aware about the ethical code of conduct, especially plagiarism from time to time.

32. Student profile programme-wise:

Name of the Programme		Applications received	Selected		Pass percentage	
			Male	Female	Male	Female
2012	B.Sc. Hons.	367	13	62	84	95
	M.Sc. Hons.	204	06	55	83	91
2011	B.Sc. Hons.	348	12	38	82	96
	M.Sc. Hons.	208	04	46	83	95
2010	B.Sc. Hons.	298	07	43	86	89
	M.Sc. Hons.	196	18	62	84	92
2009	B.Sc. Hons.	322	06	44	88	90
	M.Sc. Hons.	198	20	44	91	88

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
P.G.	91 %	6 %	3 %	0
Ph.D.	90.1%	4.9%	4.9%	0
Post-doc	50%	50%	0	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise**. Twenty Three

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	75
P.G. to M.Phil.	0
P.G. to Ph.D.	8-15
Ph.D. to Post-Doctoral	10
Employed • Campus selection • Other than campus recruitment	 20 80
Entrepreneurs	

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	84.7 %
from other universities within the State	11.5 %
from universities from other States	3.8 %
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None

38. **Present details of departmental infrastructural facilities with regard to**

a) **Library:** The department has a separate library with ample space with the provision of having around 18000 books, 6500 issues of various journals, and 8000 periodicals.

b) **Internet facilities for staff and students:** Each faculty member is provided with a computer with broadband internet connectivity. For the use of students the department has a separate computer lab with internet connectivity. The total number of computers in computer lab is 30.

c) **Total number of class rooms:** 10

d) **Class rooms with ICT facility:**

e) **Students' laboratories:** 07

f) **Research laboratories**: 19

39. **List of doctoral, post-doctoral students and Research Associates a) from the host institution/university**
    - **Doctoral students from Host University:** 73
    - **Doctoral students from other institutes/universities:** 8
    - **Post-doctoral students from Host University:** 2
40. **Number of post graduate students getting financial assistance from the university:** 175
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology**.
    - Discussions are carried out amongst faculty members to access the need and usefulness of new programme.
42. **Does the department obtain feedback from?**

    a. **Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?** Yes, department obtain feedback from faculty on curriculum as well as teaching-learning-evaluation. Scheduled faculty meetings are arranged and their views about curriculum etc. are considered and discussed in group. The suggestions found good unanimously are adopted for consideration in future.

    b. **Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?:** None

    c. **Alumni and employers on the programmes offered and how does the department utilize the feedback?**: None
43. **List the distinguished alumni of the department (maximum 10)**
    1. Dr. Nand Kishore, Professor, Department of Chemistry, IIT Bombay, Powai, Mumbai.
    2. Dr. Amarjit Singh Sarpal, Associate Director, National Institute of Metrology Laboratory of Motors and Fuels, Reo de Janeiro, Brazil.
    3. Dr. Ravinder J. Singh, Associate Professor, Department of Laboratory Medicine and Pathology, Mayoclinic, Minnesota, USA.
    4. Mr. Inder Raj Singh Bains (P.C.S), Chief Executive Cum Vigilance Officer, The Jalandhar Central Coperative Bank Ltd., Jalandhar.
    5. Dr. Kulbhushan Kohli, ONGC, Dehradun.
    6. Dr. Sarvjit Kaur Brar, Principal, Khalsa College Public School, Amritsar.
    7. Dr. Vinay Bhatia, Bhabha Atomic Research Centre, Mumbai.
    8. Dr. Satbir Singh, Bhabha Atomic Research Centre, Mumbai.
    9. Dr. Narinder Singh, Faculty member at IIT, Ropar.
    10. Mr. Rajesh Sodi, Chief Commissioner, Excise and Taxation.
44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.**
    - National Workshop on Usage of some sophisticated instruments was held in GNDU Campus from 12th-15th September 2012
    - Well known scientists deliver lectures

- ❖ Seminars are given by M.Sc. students for the defence of their project reports which is a pre-requisite for the master's programme.

45. **List the teaching methods adopted by the faculty for different programmes:** Multimedia and conventional methods of teaching.
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
    To ensure the quality of programme objectives and to achieve those objectives, continuous choice based credit based evaluation system has been adopted. Credit based evaluation system has been introduced from the session 2010-2011 to evaluate the performance of the students continuously and effectively throughout the year to meet the standard of examination and education with the global requirements. The system remarkably decreases the pressure on the students and makes the study inter-disciplinary that widens the mental prospect of students. Under the system, few tests are conducted for each papers taught in the semester. The tests comprise two minors, one quiz and one major test carrying 20%, 20%, 10% and 50% weightage respectively. After evaluation the candidates are shown their answer booklets where they are free to discuss the evaluation criteria or any other related aspect. If there exists, any disparity, it is resolved at the same time efficiently. This makes the students satisfied with the evaluation. Results are announced before the start of the next semester.
47. **Highlight the participation of students and faculty in extension activities**: Faculty members and students participate in guest lectures by the eminent professors in Chemistry from other universities, IITs and central research laboratories. Besides this students participate in the quiz etc. based on their respective syllabus.
48. **Give details of "beyond syllabus scholarly activities" of the department**.
    Research scholars of the department are continuously encouraged to participate in the national and international conferences. They are encouraged to present their research work via medium of posters or oral presentations at these meetings. For that they are provided with the allowances.
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details.** None
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
    - ❖ The Department has been recognized as the Centre for Advanced Studies by UGC in the field of Supramolecular Chemistry.
    - ❖ The Department contributed towards the design of new molecular probes for qualitative and quantitative estimation of various targets of environmental and medicinal interest. Most of the results are published in high impact journals with Impact Factor of average 3.5.
    - ❖ Most of the faculty is involved in consonance with the area mentioned

which makes a significant impact.

- ❖ Further, Department has also contribution in the synthesis of organic molecules with their potential applications in medicinal chemistry. The physicochemical aspects of new scaffolds are inferred on the basis of molecular modelling and X-ray crystallographic studies.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths

(a) The department has been consistently participating in national academic and research support programmes and become the first department in the University to attain the status of "Centre for Advanced Studies" By UGC and has also received funds under FIST-programme from DST.

(b) The department has consistently increased the in-take of students at B.Sc. (Hons School) & M.Sc. level. This has increased the number of U.G. and P.G. students to ~450.

(c) The department faculty has got research grants from national funding agencies viz. CSIR, DST, DBT, BRNS etc. and as a result the availability of funds for research activities has increased. The number of research students has increased to ~80.

(d) Choice Based Credit System has increased the discipline amongst the students and also the faculty.

Weakness

(a) The infrastructure and instrumentation facilities in the students' laboratories have not improved, in accordance with increased strength of the U.G. & P.G. students.

(b) The number of sutdents from engineering sciences has really burdened the system.

Opportunities

(a) With the increase in instrumental facilities under SAP, FIST, UPE, PURSE, CPEPA and other programmes in the University, the opportunities to venture into the research programmes with inter-disciplinary nature and direct applications to the real problems are available.

Challenges

(a) With the increasing number of Research Projects and funds, and indifferent behaviour of auditors, the timely purchase of equipments and chemicals has become difficult.

(b) For facilitating the students, visits to the departments from Institutions of Higher learning within India and also abroad, the minimum standards of safety environment protection and Laboratory work culture need to be influential.

52. Future plans of the department.

- ❖ To provide skilled manpower to the professional, industry and service sectors so as to meet global demands

- To create an environment that would foster the spread of higher education
- To provide infrastructure for differently-abled students
- To provide multimedia facilities with up-gradation of class rooms
- Modernization of research labs
- Strengthen the research factor by improving the quality of publications

1. **Name of the Department:** Food Science and Technology
2. **Year of establishment:** 1994
3. **Is the Department part of a School/Faculty of the University?**
   Yes, Faculty of Sciences
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.):**
   B.Tech. (Food Tech.)
   B.Tech. (Sugar and Alcohol Tech.) - *(discontinued from the session 2013-14)*
   M.Sc. (Food Tech.)
   Ph.D. (Food Tech)
5. **Interdisciplinary programmes and departments involved:**
   Yes, following interdisciplinary courses are offered to all the University departments.
   U.G. Level
   FTL-001: Food Hygiene and Sanitation
   FTL-002: Introduction to Food Science and Nutrition
   P.G. Level
   FTL-051: Introduction to Food Processing
   FTL-052: Technology of Processed Foods
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:**
   B. Tech. (Sugar & Alcohol Technology) is discontinued from the session 2013-14 because of low admission.
8. **Examination System:** Choice Based Credit System:
9. **Participation of the department in the courses offered by other departments:**
   The students of the department are undertaking the Interdisciplinary Courses offered by other University Departments.
10. **Number of teaching posts sanctioned, filled and actual (Professors/ Associate Professors/Assistant Professors/others).**

Teaching Posts	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	4	1	5
Associate Professors	6	4	3
Assistant Professors	8	6	3
Others	-	-	2 (Part-time Lecturers)

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designation	Specializa-tion	No. of Years of Experi-ence	No. of Ph.D./M.Phil. students guided for the last 4 years
Narpinder Singh	Ph.D.	Professor	Food Sci. & Tech.	26	2 – Ph.D.
Satindar Kaur	Ph.D.	Professor (Re-employed)	Chemistry, Sugar Tech., Fermentation Tech.	29	None
D.S. Sogi	Ph.D.	Professor	Fruits & Vegetables Technology	20	1* – Ph.D.
H.S. Gujral	Ph.D.	Professor	Food Sci. & Tech.	15	1+1** – Ph.D.
N.S. Sodhi	Ph.D.	Professor & Head	Food Engineering	15	1+1** – Ph.D.
Er. Harkamaljit Singh	B.E., ANSI (Sugar Engg.)	Associate Professor (Re-employed)	Material handling, cane milling boiler & co-generation	35	None
R.S.S. Kaler	Ph.D.	Associate Professor	Rheology, Clarification & Refining	22	None
B.S. Gill	Ph.D.	Associate Professor	Food Sci. & Tech.	15	None
Amritpal Kaur	Ph.D.	Assistant Professor	Food Sci. & Tech.	12	None
Maninder Kaur	Ph.D.	Assistant Professor	Food Sci. & Tech.	12	None
Bhavnita Dhillon	Ph.D.	Assistant Professor	Food Engineering	3.5	None

**submitted; *co-supervisor

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None

13. **Percentage of classes taken by temporary faculty – programme-wise information**:

Programme	%age of temporary faculty
B.Tech. (Food Tech.)	48.65
B.Tech. (Sugar & Alcohol Tech.)	28.57

M.Sc. (Food Tech.)	40.91
Ph.D. (Food Tech.)	None

14. Programme-wise Student Teacher Ratio:

Programme	Student Teacher Ratio
B.Tech (Food Tech.)	6.6
B.Tech (Sugar & Alcohol Tech.)	4.3
M.Sc. (Food Tech.)	3.7
Ph.D. (Food Tech.)	1.2

15. Number of academic support staff (technical) and administrative staff:

Academic Support Staff	Sanctioned	Filled	Actual
Technician	4	4	4
Technician (Lab)	1	1	1
Jr. Technician (Lab)	5	1	1

Administrative Staff	Sanctioned	Filled	Actual
Sr. Assistant	1	1	1
Steno-Typist	1	1	1
Clerk / Jr. Assistant	1	-	-
Peon	2	1	1
Safari Karamchari	1	1	1

16. Research thrust areas as recognized by major funding agencies:

- Starch characterization and modification.
- Cereal and pulse processing.
- Solid waste utilization of fruit and vegetable processing industry.
- Functional properties and characterization of plant proteins.
- Integrated processing of waste to produce multiple byproducts.
- Engineering properties of food materials.

17. Number of faculty with ongoing projects from

a) National: 5

S. No.	Title of project	Funding Agency	Amount (Rs)	Faculty member
1.	Chemical, rheological and processing quality of fractions produced by successive size reduction milling of different wheat varieties.	DST	69.2 lakh	Dr. Narpinder Singh
2.	Modification of Starches from different botanical sources.	UGC	9.71 lakh	Dr. Narpinder Singh

3.	Diversity in processing quality amongst corn genotypes grown in Indian Himalaya.	DST	55 lakh	Dr. Narpinder Singh
4.	Evaluation of genetic diversity in kidney bean and field pea germplasm for some important traits.	DBT	58 lakh	Dr. Narpinder Singh
5.	J.C. Bose Fellowship Grant (2011-2015)	DST	68 lakh	Dr. Narpinder Singh
6.	Functional and film forming properties of selected cereals and legume grain proteins (2011-2014)	CSIR	19 lakh	Dr. Narpinder Singh
7.	Ascertaining Immunoreactivity of gliadin isolated from North Indian wheat cultivars, probiotic fermented dough and gluten free products.	DBT	44.5 lakh	Dr. D.S. Sogi
8.	Processing and value addition of hulless barley by extracting β-glucans, polyphenols and antioxidants for utilization in functional foods.	CSIR	16.12 lakh	Dr. H.S. Gujral
9.	Factor governing the quality of baked, extruded and indigenous products: role of wheat constituents and improving agents (2011-2014)	CSIR	20 lakh	Dr. Amritpal Kaur
10.	Characterization and Utilization of banana flour in different products (2012-2015)	UGC	12 lakh	Dr. Amritpal Kaur
11.	Quality characterization and utilization of durum wheat cultivars (2012-2015)	DST	24.22 lakh	Dr. Amritpal Kaur
12.	Characterization and modificationof starch and protein form tamarind *(Tamarindus indica* L.) kernel	UGC	11.12 lakh	Dr. Maninder Kaur

b) International funding agencies: None
c) Total grants received in 2012: Rs. 77,67,922/-
Total grant sanctioned to the Department for the ongoing projects: Rs. 4,06,87,000/-

18. **Inter-institutional collaborative projects and associated grants received**

a) National collaboration: One

- Dr. Rajarathnam Ezekiel, Central Potato Research Institute, Shimla 171001, India.

b) International collaboration: Nine

1. Professor Katsuyoshi Nishinari, Department of Food and Human Health Sciences, Graduate School of Human Life Science, Osaka City University, Sumiyoshi, Osaka 558-8585, Japan
2. Professor Naoyoshi Inouchi, Department of Applied Bioscience, Fukuyama University, Fukuyama 729-0297, Japan
3. Dr. H. S. Guraya, Research Food Technologist, USDA ARS SRRC, PO BOX 19687, 1100 Robert E Lee Building, New Orleans LA 70179-0687, USA
4. Takahiro Noda, National Agricultural Research Center for Hokkaido Region, Memuro, Hokkaido 082-0071, Japan
5. Dr. Peter S. Belton; Dr. DMR Georget; Dr. S. Barker, School of Chemical Sciences and Pharmacy, University of East Anglia, Norwich, Norfolk, NR4 7TJ, United Kingdom
6. Dr Sajid Alavi, Department of Grain Science and Industry, Kansas State University, Manhattan,Kansas 66506, USA
7. Dr. A.C.Smith; Dr. V.J. Morris, Institute of Food Research, Norwich, Norfolk, United Kingdom,
8. Mr Neil Frame, Research Center, APV Bakers, United Kingdom
9. Dr. Seung-Taik Lim, School of Life Sciences and Biotechnology, Korea University, 5-1 Anam-dong, Sungbuk-ku, Seoul 136-701, South Korea

19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:** Rs. 147 lakhs

S. No.	Title of project	Funding Agency	Amount (Rs)
1.	Special Assistance Program (2012-2017)	University Grants Commission	75 lakh
2.	Creation of infrastructure facilities (2011)	Ministry of Food Processing Industries, Govt. of India	24 lakh
3.	DST-FIST (2007-2012)	DST, New Delhi	48 lakh

20. **Research facility / centre with**

• State recognition: None
• National recognition: None
• International recognition: None

21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None

22. **Publications:**
    - Number of papers published in peer reviewed journals (national/ International): 100
    - Monographs: None
    - Chapters in Books: 08
    - Edited Books: None
    - Books with ISBN with details of publishers:
    - Citation Index – range / average: Range: 0 – 285: Average: 13.20
    - Impact Factor – range / average: Range: 0.45 – 4.814; Average: 2.052
    - h-index: 35
23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated:**
    Income generated by testing the samples of Sugar and Food Industries of the region in the departmental labs namely Sugar Industry Service Centre (SISC) and Food Industry Service Centre (FISC). Income generated: Rs. 1,04,500/-
25. **Faculty selected nationally / internationally to visit other laboratories / Institutions / industries in India and abroad:**
    Dr. D.S. Sogi
    1. International Training Programme, Biotechnology in Agriculture in a World of Global Environment Changes, Faculty of Agriculture, Food and Environment, The Hebrew University of Jerusalem, Rehovot, Israel (10-05-2010 to 8-06-2010).
    2. Fulbright-Nehru Senior Research Fellowships, Functional properties of mango cultivars marketed in USA, Department of State, Government of United States, Washington at Department of Food Science and Human Nutrition, Michigan State University, Mi, USA (10-01-12 to 09-08-12).

    Dr. N.S. Sodhi
    1. JSPS Postdoctoral Fellowship for Foreign Researchers by Japanese Society for the Promotion of Science (JSPS) to conduct research at Food Physics Lab, National Food Research Institute, Japan (20-11-2008 to 14-11-2010).
26. **Faculty serving in**
    a) National committees:
    Dr. Narpinder Singh
    - Member of the "Plant Science Research Committee" of Council of Scientific & Industrial Research (CSIR), (1.4.2008 to 31.3.2011).
    - Member of Expert Committee, "Programme Advisory Committee" on Plant Sciences under Scientific Engineering Research Board (SERB) Department of Science and Technology (2012-2015).
    - Member of Sectional committee (Agricultural Sciences) of "Indian National Science Academy (INSA)", 2011-2013.

- Member of Sectional committee (Agricultural Sciences) of "National Academy of Agricultural Sciences (NAAS)", 2012-2015
- Member of Apex Committee for the Task Force on "Biotechnology Approaches for Food and Nutritional Security" of Department of Biotechnology, Govt. of India (2009-2012).
- Member of Approval Committee for the Task Force on "Biotechnology Approaches for Food and Nutritional Security" of Department of Biotechnology, Govt. of India (2009-2012).

Dr. Satindar Kaur

- Member of National Sugar Advisory Committee, Krishi Bhavan, Delhi.

b) International committees:

Dr. Satindar Kaur

- Appointed Referee of the International Commission of Uniform Methods of Sugar Analysis (ICUMSA) U.K. in Plantation White Sugar (GS9) and S-7 in December, 2011.
- Member of the International Sugar Organization, a body which approves new innovations related to Sugar Industry.

c) Editorial Boards

Dr. Narpinder Singh

- Member of Editorial Board of International Journal of Food Science and Technology published by Institute of Food Science and Technology (Blackwell Publisher) - 2004-to-date.
- Member of Editorial Board of Food Research International, Journal of the Canadian Institute of Food Science and Technology (CIFST) published by Elsevier - 2012-to-date.
- Member of Editorial Board of Dairy Foods International published by Dairy Technology Society of India.

Dr. D.S. Sogi

- Member of Editorial Board of Journal of Stored Products and Post Harvest Research published by Academic Journals.

d) any other (please specify): None

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

Dr. D.S. Sogi

1. Short course "Administrative and Academic Initiatives" at Academic Staff College, Guru Nanak Dev University, Amritsar, Punjab, India (15-12-2010 to 17-12-2010).
2. Workshop for Senior Faculty Members on "The Methodology of Organizing the Refresher Course" at Academic Staff College, Guru Nanak Dev University, Amritsar, Punjab, India (5-10-2012 to 6-10-2012).

Dr. N.S. Sodhi

1. Workshop for Senior Faculty Members on "The Methodology of Organizing the Refresher Course" at Academic Staff College, Guru Nanak Dev University, Amritsar, Punjab, India (5-10-2012 to 6-10-2012).

Dr. Maninder Kaur

1. Organized 2nd student research convention, ANVESHAN-2009, held at Guru Nanak Dev University, Amritsar (2-4 February, 2009).
2. Special Winter School in "Nano Science and Technology" at Guru Nanak Dev University, Amritsar from 23-12-2008 to 12-01-2009.

28. Student projects

- **Percentage of students who have done in-house projects including inter-departmental projects**: 100%
- **Percentage of students doing projects in collaboration with other universities/Industry/institute:** None

29. Awards / recognitions received at the national and international level by

• **Faculty**

Dr. Narpinder Singh

- "Certificate of Appreciation" by Punjab Agricultural University, Ludhiana-2012.
- "Fellow" Association of Food Scientists and Technologist (AFSTI)-2012.
- "S. Bishan Singh Samundri Memorial Lectureship Award-2012" by Guru Nanak Dev University, Amritsar.
- "The Rafi Ahmed Kidwai Award" by Indian Council of Agricultural Research for outstanding contribution in Natural Resource Management and Agricultural Engineering-2010.
- "The J.C. Bose National Fellowship" by Department of Science and Technology, Ministry of Science & Technology, Govt. of India-2011.
- "Fellow" National Academy of Sciences, India (NASI)-2011.
- "Fellow" of the Indian National Science Academy (INSA)-2010.

Dr. N.S. Sodhi

- Awarded "Excellent Poster Briefing Award" at United States Japan Natural Resources (UJNR) – Food and Agriculture Panel's 38th Annual Meeting, October 4-9, 2009 held at Tsukuba Epochal, Tsukuba, Japan.

Dr. Amritpal Kaur

- Young Scientist award (2012) in 15th Punjab Science Congress held in Amritsar.

Dr. Maninder Kaur

- Young Scientist Award-2010 by Association of Food Scientists and Technologists (India).

- Award for Best poster (Food Science)-2010 by Association of Food Scientists and Technologists (India).

• **Doctoral / post doctoral fellows:** None

• **Students**

- "Best Research Paper Student Award" to Varun Aggarwal from STAI for the paper "Saccharification of bagasse and saw-dust for the production of cellulosic ethanol" at the 71st STAI Convention held at Hyderabad in July, 2012.
- "Third Prize for Poster Presentation" to Kirti Goel at National Seminar on Post-harvest packaging, cold-chain logistics and instrumentation techniques for quality and safety of perishables, Dec 19-20, 2011 at Central Institute of Post Harvest Engineering & Technology, PAU Campus, Ludhiana.

30. Seminars/ Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.

1. Organized a Seminar entitled "Waste management in Food Processing Industry" on 29.03.2013 under the UPE grant of UGC.
2. Organized a Seminar entitled "Technicalities and Recent Developments in Ethanol and Energy Management by Sugar Industry" on 30.03.2013 under the UPE grant of UGC.
3. Organized a Seminar entitled "Achieving Food Security in times of Crisis" on 10.02.2010 sponsored by UGC.
4. Organized a Seminar entitled "Safety concerns of genetically modified" on 09.03.2010 in collaboration with Kheti Veerasat Mission, Jaito.
5. Organized a Conference entitled "New Trends in Sugar & Alcohol Industries" on February 22-23, 2010 sponsored by UGC.
6. Organized a Seminar and discussion on "Rheology - A new perspective in Food, Sugar and Pharmaceutical Research" on 3.12.2010 – a joint seminar and discussion by Guru Nanak Dev University and Thermo Scientific (a part of Thermo Fisher Scientific).

31. Code of ethics for research followed by the departments

- Research students are guided to take necessary safety precautions.
- Research students are advised to give due acknowledgements in their published work.
- The research students are advised to keep every day records of their research activities.
- Research students regularly submit their reports to their respective Supervisors.

32. Student profile programme-wise:

Name of the Programme	Applications received	Selected Male	Selected Female	Pass percentage Male	Pass percentage Female
M.Sc (Food Tech.)					
Batch 2008	JET	3	13	100 %	100 %
Batch 2009	JET	3	13	100 %	100 %
Batch 2010	114	7	23	100 %	100 %
Batch 2011	99	6	22	100 %	100 %
Batch 2012	112	12	15	100 %	100 %
Batch 2013	85	5	24	100 %	100 %

Name of the Programme	Applications received	Selected Male	Selected Female	Pass percentage Male	Pass percentage Female	Year wise
B.Tech. (Sugar and Alcohol Tech.)						
Merged with Food Sci. & Tech. Department in 2011						
Batch 2011	Through +2 Merit Base	14 09 09	05 05 05	64 % 100 % Continue	100 % 100 % Continue	In Ist year In IInd year In IIIrd year
Batch 2012	Through +2 Merit Base	20 19	06 05	95 % Continue	83 % Continue	In Ist year In IInd year
Batch 2013	**Discontinue**					

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M.Sc. (Food Tech.)				
2008	37.5	6.25	56.25	0
2009	68.75	6.25	25.00	0
2010	60.00	13.33	26.67	0
2011	75.00	0.00	25.00	0
2012	66.67	18.52	14.81	0
2013	48.28	20.69	31.03	0
Ph.D. (Food Tech.)				
2010	42.86	14.29	42.86	0
2011	0.00	33.33	66.67	0
2012	40.00	40.00	20.00	0
2013	58.33	8.33	33.33	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.**

Examination	No.
NET	4
GATE	2

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	10
P.G. to M.Phil.	N.A.
P.G. to Ph.D.	9
Ph.D. to Post-Doctoral	12.5
Employed • Campus selection • Other than campus recruitment	 29 35-40%
Entrepreneurs	0.6

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	45.45
from other universities within the State	45.45
from universities from other States	9.09
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** One faculty member completed Ph.D. in 2008.
38. **Present details of departmental infrastructural facilities with regard to**
    a) Library: 405 books
    b) Internet facilities for staff and students: All the faculty members are having internet facilities in their rooms. One Internet Lab in the department is for students.
    c) Total number of class rooms: 8
    d) Class rooms with ICT facility: 2
    e) Students' laboratories: 6
    f) Research laboratories: 17
39. **List of doctoral, post-doctoral students and Research Associates (2008-13)**
    a) From the host institution/university: 18
    b) From other institutions/universities: 16
    (c) Post-doctoral student: One

40. **Number of post graduate students getting financial assistance from the university:**

All Ph.D. students are getting fellowships as per information provided at point no. 39.

For M.Sc. students – 10% of the students are getting fee concession.

41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:**

N.A. as no course was started during the assessment period.

42. **Does the department obtain feedback from?**

a. **Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?**

Yes, the department gets faculty feedback on curriculum regularly. The syllabi are revised every year to improve the course material in order to meet the needs of the industry and the science world. The suggestions related to the improvement of teaching, learning and evaluation related issues are welcomed in the department faculty meetings and are implemented as per the university rules and guidelines.

b. **Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**

Yes, the students' feedback on faculty and curriculum is taken by each faculty member for course he/she teaches. This is done in the middle of the semester and also at the end of the semester. The feedback is used by the faculty members to improve the course material and their teaching process.

c. **Alumni and employers on the programmes offered and how does the department utilize the feedback?**

Alumni and employers are invited and welcomed from time to time to share their views about the programs and curriculum. They interact with our faculty and students during various industrial visits organized by the department and their suggestions are incorporated while improving the curriculum.

43. **List the distinguished alumni of the department (maximum 10)**

S.No.	Name	Present Status
1.	Blossom Dhaliwal	Food Safety Manager, Cinnaroll Bakeries Limited, Calgary, Alberta, Canada.
2.	Vineet Aggarwal	Astt. Manager - QA at PepsiCo India Holdings Pvt. Ltd. (FritoLay Division) Patiala Area, India.
3.	Allsama Basar	Manager Quality Assurance-India Region at PepsiCo Gurgaon, Haryana, India.
4.	Abhinav Bhalla	Deputy Manager at TAFE Chennai, Tamil Nadu, India.

5.	Jaideep Arora	Research Scientist at Parmalat, Canada.
6.	Itender Pal Singh	Manager Central Quality (NPI) at GlaxoSmithKline, Gurgaon, Haryana, India
7.	Jasmin Kalra	Quality & Operations Manager at Borges, New Delhi Area, India
8.	Kanika Bhargava, Ph.D.	Assistant Professor at University of Central Oklahoma, Edmond, Oklahoma, USA.
9.	Ravi Sharma	Food Technologist at Subway, South West Delhi, Delhi, India.
10.	Prabhjot Singh	Product Development Scientist II, Green Mountain Coffee Roasters, Burlington, Vermont Area, USA.

44. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

1. Organized a Seminar entitled "Waste management in Food Processing Industry" on 29.03.2013 under the UPE grant of UGC.
2. Organized a Seminar entitled "Technicalities and Recent Developments in Ethanol and Energy Management by Sugar Industry" on 30.03.2013 under the UPE grant of UGC.
3. Organized a Seminar entitled "Achieving Food Security in times of Crisis" on 10.02.2010 sponsored by UGC.
4. Organized a Seminar entitled "Safety concerns of genetically modified" on 09.03.2010 in collaboration with Kheti Veerasat Mission, Jaito.
5. Organized a Conference entitled "New Trends in Sugar & Alcohol Industries" at Guru Nanak Bhawan, GNDU, Amritsar on February 22-23, 2010 sponsored by UGC.
6. Organized lectures on 25th February, 2011
   - Mr Mayank Sood, Manager, United Breweries, Ludhiana on Modernization in Brewery Industry.
   - Dr Kaman Singh, Professor, B.R. Ambedkar Central University, Lucknow on the Role of ICUMSA in Sugar Industry.
7. Organized lectures on 6th April, 2012
   - Dr DK Sahoo, Professor, IMTECH, Chandigarh on Advances in Fermentation Technology
8. Organized lectures on 18th September 2012
   - Mr P.K. Shravat,, Consultant, Simbhaoli Sugars, on Milling and Boilers
   - Mr Rajesh Kumar, Technical Manager, Simbhaoli Sugars on Distillation Columns.

45. List the teaching methods adopted by the faculty for different programmes.

The faculty combines the blackboard teaching with power point presentations, group discussions, industrial tours, practical experiments,

and shares knowledge about latest advancements in the field in India and abroad.

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
    Regular meetings of HOD with the Class Representatives (CRs), Department Representative (DR) and the respective Class Coordinators (faculty members) to monitor learning outcomes and to ensure that the program objectives are met.
47. **Highlight the participation of students and faculty in extension activities.**
    Participation of the faculty and students in national and international conferences/workshops to disseminate the basic and applied knowledge generated in the department through their research work (detail provided at point no. 27).
    In addition, the faculty members have also given several guest lectures /invited talks.
48. **Give details of "beyond syllabus scholarly activities" of the department.**
    - The students regularly attend and present their research work in national and regional conferences.
    - Students are regularly given on the job training and demonstration to acquaint them with the latest technologies/innovations in the industry by taking their industrial/educational tours.

49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details.** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
    - Latest advanced techniques have been used in different areas of research to generate information regarding composition and functionality of various food materials and their important components.
    - The information thus generated has been published in journals of national and international repute which have led to addition of knowledge in the area of food science and technology.
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**
    Strengths:
    1. Annual update of syllabi and study material.
    2. Use of modern techniques for teaching like projectors.
    3. Availability of teachers after the class hours also.
    4. Organization of industrial/educational tours.
    5. Efforts for training and placement.

    Weaknesses:
    1. Sometimes electricity cuts interrupt the research work/classes.

2. Sometimes poor water supply interrupts the research work/ practical classes.

Opportunities:

1. Seminars and guidance for preparation of interviews.
2. Library with books and theses.
3. Project work and thesis writing for B.Tech. & M.Sc. students.
4. In-plant training for B.Tech. & M.Sc. students.
5. Guidance for the preparation of GATE, GRE, NET exams and future planning.
6. Hand on experience on sophisticated equipments during practical and project works.
7. Opportunity to do Ph.D. in the department

Challenges:

1. As the strength of students is increasing day by day so there is a need to develop infrastructural facilities to accommodate the additional students.
2. Introduction of more sophisticated instruments in the labs in order to compete the international level research activities.

52. Future plans of the department.

- To be the leading department in Food Science and Technology for human resource development.
- Interaction with the food industry to promote food processing in the region.
- To ensure good placements of students.

1. **Name of the Department:** Mathematics
2. **Year of establishment:** 1970
3. **Is the Department part of a School/Faculty of the University?:** Yes
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt. etc.):** M.Sc. (Hons.) Mathematics: Ph.D.
5. **Interdisciplinary programmes and departments involved:** None
6. **Courses in collaboration with other universities, industries, foreign Institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:**
   M.Sc. (Statistics) discontinued w.e.f. July 2010 due to insufficient response for admission.
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:**
   Faculty teach Mathematics/Statistics based courses of Other departments of this university, e.g. the departments of Computer Science, Electronics, Physics, Chemistry, All life sciences, Food Science, Pharmaceutical Sciences, etc.
10. **Number of teaching posts sanctioned, filled and actual Professors/Associate Professors/Assistant Professors/others):**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professors	2	-	2*
Associate Professors	4	3	1+2*= 3
Assistant Professors	8	6	4
Others	-	-	-

* Promoted under CAS

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
T.D. Narang (Retd)	Ph.D.	Professor	Approximation Theory	40	3
Pammy Manchanda	-Do-	Professor	Wavelet Analysis	28	2

Om Parkash	-Do-	Professor	Information Theory	28	2
Parminder Singh	-Do-	Associate Professor	Ranking and Selection	22	2
Charan Jeet Singh	-Do-	Associate Professor	Queuing Theory	15	-
Lovleen Kumar Grover	-Do-	Associate Professor	Sampling Theory	15	-
Jatinder Kumar	-Do-	Assistant Professor	Wavelet Analysis	15	-
Jitender Singh	-Do-	Assistant Professor	Fluid Dynamics	04	-
Harpreet Kaur	-Do-	Assistant Professor	Algebra	03	-
Surinder Pal Singh	-Do-	Assistant Professor	Real Analysis	02	-

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:**
Professor T.D. Narang (Emeritus Fellow, UGC: 2010-2012)
13. **Percentage of Classes taken by temporary faculty-programme-wise information:** NA
14. **Programme-wise Student Teacher Ratio:**
M.Sc. (Hons.) Mathematics –11:1 (Excluding all subsidiary courses)
15. **Number of academic support staff (technical) and administrative staff, Sanctioned, filled and actual:**

Designation	**Sanctioned**	**Filled**	**Actual**
Steno-Typist	**1**	**None**	**Sr. Assistant**
Jr. Technician	**1**	**None**	**Filled on Contract Basis**
Peon	**1**	**1**	**--**

16. **Research thrust areas as recognized by major funding agencies**
Wavelet and Gabor Analysis
Information Theory
Approximation Theory
Fixed Point Theory
Statistical Inference
Queuing Theory
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.**

Project Title	**Duration**	**Funding agency**	**Amount**
Approximation & Fixed Point in Abstract Spaces	**01-01-2005 to 31-12-2008**	**UGC**	**4,21,000/-**

Some Contributions to Multiple Comparisons & ranking & Selection Procedures	**2008**	**UGC**	**1,00,000/-**
Certain Problems in wavelet and Gabor Analysis	**01-02-2009 to 31-01-2012**	**UGC**	**6,82,800/-**
Statistical Inference under order restrictions	**01-02-2009 to 31-01-2012**	**UGC**	**7,25,800/-**
Performance Analysis of Some Queuing models for manufacturing system	**01-02-2010 to 31-01-2013**	**UGC**	**6,70,800/-**
Approximation in Abstract Spaces	**01-02-2011 to 31-01-2014**	**UGC**	**10,98,000/-**
A study of some approximation and fixed point problem	**01-01-2011 to 31-12-2012**	**UGC**	**Emeritus Fellowship**

18. **Inter-institutional collaborative projects and associated grants received**
    a) National collaboration: None
    b) International collaboration: None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:** None
20. **Research facility / centre with**
    • State recognition: None
    • National recognition: None
    • International recognition: None
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    - **Number of papers published in peer reviewed journals National/International)**: 109
    - **Monographs**: None
    - **Chapters in Books/Conference Proceedings**: 12
    - **Edited Books/Conference Proceedings**:
    - **Books with ISBN with details of publishers**:
    - **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCO host, etc.):** SCOUPUS= approximately 70
    - **Citation Index – range / average** --
    - **SNIP** --
    - **SJR** --
    - **Impact Factor – range / average**: 0.1 to 2.5
    - **h-index** --
23. **Details of patents and income generated:** None

24. **Areas of consultancy and income generated:**
Many researchers of this region consult our faculty members regarding mathematical modelling and statistical analysis of the data related to their research problems. Such type of Consultation is totally free of cost and hence generates no income.

25. **Faculty selected nationally /internationally to visit other laboratories /Institutions / industries in India and abroad:**
Dr. Jitender Singh, visited ISI, Calcutta, India and University of Warwick, U.K.

26. **Faculty serving in**

a) ***National committees***

Professor Pammy Manchanda is Managing editor for Indian Journal of Industrial and Applied Mathematics. She is also Joint Secretary of "Indian Society of Industrial & Applied Mathematics" (ISIAM). Professor Pammy Manchanda and Professor Om Parkash were also members of various selection committees of neighbouring universities.

b) ***International committees***

Professor Pammy Manchanda also represented ISIAM in International Council of Industrial and Applied Mathematics

c) ***Editorial Boards***

Professor Om Parkash, Professor Pammy Manchanda are the members of editorial board of various Indian Journals.

d) ***any other (please specify)*** None

27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).**
Department is regularly organising the refresher courses in the subjects of Mathematics at ASC of this university.

28. **Student's projects**

• Percentage of students who have done in-house projects including inter- departmental projects: None

• Percentage of students doing projects in collaboration with other universities /Industry / institute: None

29. **Awards / recognitions received at the national and international level by**

• Faculty

i) Professor Om Parkash received an "award of excellence" in 2009 by Indian society of Information Theory and Application.
ii) Professor T.D. Narang, received Emeritus fellowship from UGC, New Delhi, India
iii) Dr. Jitender Singh, Assitant Professor received post doctoral fellow from National Board of Higher Mathematics (NBHM).

• Doctoral / post doctoral fellows: None

• Students: None

30. **Seminars/Conferences/Workshops organized and the source of funding (National/ International) with details of outstanding**

participants, if any.

None

31. **Code of ethics for research followed by the departments**

Faculty members and research scholars of this department are committed to produce original research in the various fields of Mathematical Sciences. They also try their best to publish the research work in the quality journals. All the faculty and research scholars are expected to follow all the internationally accepted code of ethics for research.

32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected Male	Female	Pass percentage Male	Female
M.Sc. (Hons.) Mathematics					
2008-09	151	11	16	100 %	100%
2009-10	207	09	20	100 %	100%
2010-11	135	07	31	100 %	100%
2011-12	135	06	44	100 %	100%
2012-13	141	06	47	100 %	100%

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M.Sc. (Hons.) Mathematics	Approx. 95% every year	Approx. 5% every year	0	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.**

Every year approx. 4-5 students of our department clear NET/SET/GATE, etc. Examination.

35. **Student progression**

Student pprogressionStudent progression	Percentage against eeenrolled
U.G. to P.G.	Not applicable
P.G. to M.Phil.	Not applicable
P.G. to Ph.D.	5-6% every year
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	 - 15-20% every year
Entrepreneurs	Data Not Available

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	55%
from other universities within the State	34%
from universities from other States	11%
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** Three faculty members completed Ph.D. Degree
38. **Present details of departmental infrastructural facilities with regard to**

    a) Library: No departmental Library

    b) Internet facilities for staff and Students:

    Each faculty member has the access to Internet Facility in their official cabins. The students of this department regularly visit departmental computer laboratory for the internet facility.

    c) Total number of class rooms:

    There are four class rooms in the department with sitting capacity 30 students each.

    d) Class rooms with ICT facility: No Class room with ICT Facility

    e) Students' laboratories: This department has one computer lab, provided with internet facility for all the students. A LCD projector is installed in this Computer **Laboratory**.

    f) Research laboratories: None
39. **List of doctoral, post-doctoral students and Research Associates:**

    a) from the host institution/university: None

    b) from other institutions/universities: None
40. **Number of post graduate students getting financial assistance from the University:**

    Approximately 8-10 students get financial assistance, every year, under the scheme "Poor student aid fund" of this university.
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:** No
42. **Does the department obtain feedback from?**

    a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?**

    As faculty members regularly visit other institutions and interact there with teachers and students so they shared their experience and knowledge, so gain, with the other members of this department.

b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**
Each student of the department is asked to fill two feedbacks Performa (a) Mid semester Feedback (b) Complete Semester Feedback Performa during each Semester. This feedback is taken in to account while updating the course contents.

c. **alumni and employers on the programmes offered and how does the department utilize the feedback?**
The department also remains in touch regularly with the old students of the department. Some of our students, who are in good positions, advised us continuously for updating the course curricula of various programmes offered by this department.

43. **List the distinguished alumni of the department (maximum 10):** Data is not available.

44. **Give details of student enrichment programmes (special lectures/ workshops/ seminar) involving external experts:**
The Department is regularly arranging special lectures by the eminent scholars.

45. **List the teaching methods adopted by the faculty for different programmes.**
The faculty used the following methods of teaching:
(i) the traditional Blackboard Teaching,
(ii) arranging Quiz tests
(iii) interactive sessions in the classroom,
(iv) assignments given to the students
(v) PPT presentations in the class rooms, etc
In addition to these, students are encouraged to use Internet Facility in the department for research material and use the university library to enhance their knowledge.

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
The department conducts tests of the students from time to time to evaluate their understanding and comprehension of the subject. Feedback is also taken from the students to ensure satisfactory and effective teaching.

47. **Highlight the participation of students and faculty in extension activities**
The faculty has been continually participating in Conferences/Workshops/ Seminars and Refresher Courses. They presented their research work, delivered invited talks and chaired seminars in the national and International Conferences. Research Scholars also participated in conferences / workshops, etc-.

48. **Give details of "beyond syllabus scholarly activities" of the department.**

The department is regularly arranging the guest lecturers of eminent Mathematician. The resource persons interacted with the faculty, research scholars & the students of the department. Everyone gained a lot of knowledge through these interaction sessions.

49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details:** No

50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**

The faculty is regularly publishing their research articles in the quality journals of international repute. The department organizes invited lectures/talks. The faculty is encouraged to participate in the national and International Conferences/workshops and therefore learn new developments in the subject. All the teachers are expected to transmit their knowledge, so gained, to the students.

51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

Strengths:

1. The faculty of this department have a good number of publications in quality journals
2. This department takes important decisions in a democratic way.
3. The department utilized the full grant (five to six lakh rupees) every year received from NBHM for purchasing books for library.
4. The faculty is doing the research in the various diverse fields of Mathematics subject.
5. Every year 4-5 students cleared NET/SLET/GATE etc. examinations.

Weaknesses:

1. The department has poor infrastructure in terms of building, sitting arrangement of students, wash rooms, and other physical infrastructure, etc.
2. The department lacks faculty from the Applied Mathematics.
3. The department has no departmental library in its building

Opportunities:

1. The new recruitment of the teaching faculty should be from all possible diverse field of applied Mathematics.
2. The department should have modern teaching aids for the classes to make teaching of mathematics more effective.
3. The faculty of this department will try their best for improving the quality of their research articles by publishing them in the high impact factor journals.
4. The University should provide a separate building with all possible infrastructures for this department.

5. The department will try to provide some practical training of some Mathematical/Statistical Softwares to the students of the department by organizing various workshops.

Challenges:

1. To keep the pace of publishing articles in quality journals
2. To demand the good building and space for the department from the authorities
3. To promote collaborative research in the department
4. To guide the students for NET examinations,
5. To increase the academic activities in the department by organising conferences and workshops

52. Future plans of the department.

The faculty of this department is regularly working to strengthen the teaching & research activities. We plan to start a graduation course B.Sc. (Hons. School in Mathematics), to be followed by a Masters course: M.Sc. (Hons. in Mathematics). These two courses will meet the demand of the students of the region, because every year there is a large query regarding these courses during the admission days of the university. These courses will include the curriculum as per the need of researchers in allied fields and need of computational facilities in the industry. Every teacher is committed to improving himself/herself by doing quality research in the field of Mathematical Sciences.

1. **Name of the Department**: Physics
2. **Year of establishment:** 1972
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.)**: B.Sc. (Honour School), M.Sc. (Honour School), M.Sc. (Honours), and Ph.D.
5. **Interdisciplinary programmes and departments involved**
   PHL-051 Characterization Techniques (for P.G.), PHL-001 General Physics-I, PHL-002 General Physics-II (for U.G.) Departments involved – Chemistry, Human Genetics, Math, Electronics, Computer Science, Food & Technology, Social Sciences
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons**
   1. M.Sc (Nano Science & Technology): This course was run in the department of Physics and has been discontinued since 2011. The reason for discontinuing this course was that students after acquiring M.Sc degree were facing difficulty in getting appropriate jobs.
   2. M.Phil.: Keeping in consideration that candidates with M. Phil are not eligible for lectureship as per the UGC guidelines.
8. **Examination System**: Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:**
   Assisting Department of Electronics, Department of Computer Science & Engineering, Department of Chemistry, Department of Human Genetics, Department of Social Sciences in teaching courses and taking practical.
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	9	5	5
Associate Professors	10	5	5
Assistant Professors	11	4	4
Others		Contractual -3, Part-time- 5	Contractual -3, Part-time- 5

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualifi-cation	Designation	Specialization	No. of Years of Experi-ence	No. of Ph.D./M.Phil. students guided for the last 4 years
R. Thangaraj	Ph.D.	Professor	Solid State Physics	22	Ph.D.: 02 M.Phil.: 04
Mahmood Mian	Ph.D.	Professor	Theoretical Physics	27	Ph.D.:01 M.Phil.:02
B. S.Bajwa	Ph.D.	Professor	Nuclear Geophysics	24	Ph.D.:03 M.Phil.:01
Lakhwant Singh	Ph.D.	Professor	Materials Science	23	Ph.D.: 04 M.Phil.: 04
S.S. Malik	Ph.D.	Professor	Theoretical Physics	21	Ph.D.: 02
R. C. Singh	Ph.D.	Professor	Materials Science	20	Ph.D.: 04 M.Phil.:03
N. P. S Saini	Ph.D.	Associate Professor	Plasma Physics	23	Ph.D.:02 M.Phil.:01
Jaspal Singh	Ph.D.	Associate Professor	Environmental radiation	20	M.Phil.: 03
D.P.Singh	Ph.D.	Associate Professor	Materials Science	19	Ph.D.: 02 M.Phil.: 04
K.J. Singh	Ph.D.	Associate Professor	Materials Science	22	Ph.D.: 01 M.Phil.: 01
Atul Khanna	Ph.D.	Associate Professor	Solid State Physics	16	Ph.D.: 02
Aman Mahajan	Ph.D.	Assistant Professor	Materials Science	5	Ph.D.: 01 M.Phil.: 02
Bindiya Arora	Ph.D.	Assistant Professor	Atomic Physics	5	0
Anupinder Singh	Ph.D.	Assistant Professor	Materials Science	2	0
Sukhdeep Kaur	Ph.D.	Assistant Professor	Plasma Physics	2	0

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors

1. Professor T. S. Gill (GNDU, Amritsar)
2. Professor B. M. Arora (IIT Bombay)
3. Dr. Sanjay Mishra (BARC, Mumbai)
4. Professor D. K. Aswal (BARC Mumbai)

5. Dr. Krishnan (BARC Mumbai)
6. Dr. Manmeet Kaur (BARC Mumbai)
7. Professor Arvind (IISER Mohali)
8. Professor Sunone Kumar (Adelaide University, Australia)
9. Professor V.K. Aswal (BARC Mumbai)
10. Professor C. K. Das (IIT, Kharagpur)

13. **Percentage of classes taken by temporary faculty – programme-wise information**
    Under Graduation: 35%
    Post Graduation: 20%
14. **Programme-wise Student Teacher Ratio**
    Average student to teacher ratio 36:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**

Post	Sanctioned	Filled	Actual
Technical staff	21	17	17
Administrative staff	10	6	6
Others	-	Contractual -3	Contractual -3

16. **Research thrust areas as recognized by major funding agencies**
    Materials Science, Geophysics, Radiation Physics, Plasma physics
17. **Number of faculty with ongoing projects from**
    a) National b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

Projects sanctioned during 2008:

Title of Project	Investigators	Agency	Duration	Amount Sactioned
Development of metal oxides based Nanostructured Material for Device application	Dr. R. K. Bedi	BRNS-DAE	3 years	Rs.22.00 Lacs
Swift Heavy Ion induced modification and field effect characterization of some Polymeric Materials	Dr. Lakhwant Singh	DST	3 years	Rs.16.00 Lacs

Projects sanctioned during 2009:

Title of Project	Investigators	Agency	Duration	Amount Sanctioned
Study of uranium in different environmental matrices in the state of Punjab	Professor B.S. Bajwa	BRNS	3 years	Rs.77.08 Lacs
Preparation of Thin/Thick Film of Nanostructured Metal-oxide materials and their application as gas sensors	Dr. R.C. Singh	UGC	3 years	Rs.9.03 Lacs
Preoperative Programme for Indian participation in FAIR project at GSI, Darmstadi, Germany-Accelerator and detector-related R&D and Prototyping	Dr. Samarjit Sihotra	DST	3 years	Rs.40.00 Lacs

Projects sanctioned during 2010:

Title of Project	Investigators	Agency	Duration	Amount Sanctioned
Design synthesis and evaluation of Photo responsive Polyaromatic films for solar cell applications	Professor R.K. Bedi	DST	3 years	Rs. 25 Lakh
Study of Uranium in different matrics of Punjab	Professor B.S. Bajwa	BRNS	3 years	Rs. 77.86 Lakh
Study of active faults and earthquake monitoring using geochemical methods in technologically active regions of NW Himalayas joint research project funding under Indo-Tiwan S & T Programme	Professor B.S. Bajwa	DST	3 years	Rs. 8 Lakh
Design and synthesis of substituted triazoles for light emitting applications	Dr. Aman Mahajan	DST, New Delhi	3 years	Rs 17.00 Lacs

Design and development of functionalised phthalocayanine materials for light emitting and gas sensing applications	Dr. Aman Mahajan	DAE-BRNS, Mumbai	3 years	Rs.20.00 Lacs .
Quantum computing with trapped neutral atoms and cold ions: Towards fault tolerant computation	Dr. Bindiya Arora	DST	3 years	Rs. 19 Lakh

Projects sanctioned during 2011:

Title of Project	Investigators	Agency	Duration	Amount Sanctioned
Nodal Calibration Centre in the department of Physics, Guru Nanak Dev University, India to strengthen the Radon studies in Punjab, Haryana and Himachal Pradesh	Dr. B.S. Bajwa	BRNS	3 years	Rs. 25 Lacs
A follow-up study of the radon, thoron and their progeny measurements in dwellings of Himachal Pradesh and HHP regions of Tusham, Haryana using recent advance techniques	Dr. B.S. Bajwa	BRNS	3 years	Rs. 25 Lacs
Ion beam induced crystallization in metal oxide thin films	Dr. Atul Khanna	IUAC	3 years	Rs. 7 lakh
Anthracene based blue emitters for organic light emitting devices	Dr. Aman Mahajan	CSIR	3 years	Rs. 22.3 Lacs

Projects sanctioned during 2012:

Title of Project	Investigators	Agency	Duration	Amount Sanctioned
Nodal Calibration Centre in the Department of Physics, Guru Nanak Dev University, India to strengthen the Radon studies in Punjab, Haryana and Himachal Pradesh, BRNS, Mumbai	Professor B.S. Bajwa	BRNS	5 years	Rs. 25 Lacs
A follow-up study of the radon , thoron and their progeny measurements in dwellings of Himachal Pradesh and HHP regions of Tusham , Haryana using recent advance techniques, BRNS, Mumbai	Professor B.S. Bajwa	BRNS	5 years	Rs. 25 Lacs.
Nonlinear excitations and solitary structures in multi-component plasmas	Dr. N.P.S. Saini	UGC	3 years	Rs. 9.79 Lacs
Molecular Probes for Nitroaromatics Explosives	Dr. Aman Mahajan	DAE	3 years	Rs. 36.4 Lacs
Applications of state-insensitive optical trapping of species for Atomic-Optical Clocks, Quantum Computation and Ultracold Molecules	Dr. Bindiya Arora	UGC	2 years	Rs. 6 Lacs

18. **Inter-institutional collaborative projects and associated grant received**

a) National collaboration

Title of Project	Faculty	Funding Agency	Collabo-ration	Amount Sactioned
Design and development of functionalized phthalocyanine materials for light emitting and gas sensing applications	Dr. Aman Mahajan	DAE BRNS, Mumbai	Professor D. K. Aswal, BARC, Mumbai	20 lacs

Molecular probes for Nitroaromatic Explosives	Dr. Aman Mahajan	DAE BRNS, Mumbai	Dr. Manmeet Kaur, BARC, Mumbai	33 lacs
Neutron diffraction studies of oxide glasses	Dr. Atul Khanna	BARC, Mumbai	Dr. P.S.R. Krishna, BARC, Mumbai	6 lacs
Low Temperature Heat Capacity studies of oxide glasses	Dr. Atul Khanna	UGC-DAE-CSR, Indore	Dr. R. Rawat, UGC-DAE-CSR, Indore	6 lacs

b) **International collaboration:**

Title of Project	Faculty	Funding Agency	Collabo-rator	Amount Sactioned
Radon, Health and Natural Hazards, IGCP, UK	Professor B.S. Bajwa	IGCP, UK	Professor Gavin Gillmore, UK	Rs. 8 Lakh
Nanostructured Multicomponent Bismuth Borate Glasses & Glass Ceramics	Dr. Atul Khanna	DST, India	Bulgarian Academy of Sciences	Rs. 6.5 Lacs

19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**
    - UGC-SAP: Rs. 92 Lacs during 2009
    - DST-FIST: Grant Rs. 1.37 Crores during 2010
20. **Research facility / centre with**
    • **State recognition -**None
    • **National recognition**- None
    • **International recognition-** None
21. **Special research laboratories sponsored by / created by industry or corporate bodies**: None
22. **Publications**: Articles in national and international journals: 357
    Book Chapter :1
    Impact Factor: Range: 0 – 8.238**, Average:** 0.7428
23. **Details of patents and income generated-**
    "Functionalized Carbon Nanotubes and the Fabrication Method Thereof" Korean patent application No.10-2012-0076453 filed on July 13, 2012".
24. **Areas of consultancy and income generated**- None

25. Faculty selected nationally / internationally to visit other laboratories/ Institutions/ industries in India and abroad

Professor B. S. Bajwa has been awarded visiting Professorship at the National Taiwan University, Taipei, Taiwan.

26. Faculty serving in

a) National committees:

- Professor R. K. Bedi has been nominated in various committees of UGC, CSIR, NAAC and selection committees of different institutions.
- Professor S. S. Parmar has served as senior members of various scientific committees like NTS, India

b) International committees: ------

c) Editorial Boards: ------

d) any other (please specify)-----

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs)

Department is continuously involved in training the faculty members of different institutions by organising UGC sponsored Refresher/ orientation programs and workshops.

28. Student projects

• Percentage of students who have done in-house projects including inter departmental projects:98%

• Percentage of students doing projects in collaboration with other universities/ Industry / institute: 2%

29. Awards / recognitions received at the national and international level by:

Faculty

Professor B. S. Bajwa

- Appointed Guest Scientist at the Institute of Radiation Protection, GSF National Research Centre, Germany under DST-DAAD program during Nov.2007-Oct 2008
- Awarded Common Wealth Academic Staff Fellowship, 2010
- Dr.N.P.S. Saini
- Awarded Postdoc by C*entre for Plasma Physics, School of Mathematics and Physics*, Quink's University Bedfast, Northern Island, U.K. 2008-2010

Dr. K.J. Singh

- Awarded Postdoc in Nancy University, France, Feb. 2008 to sep.2010

Students:

Doctoral / post doctoral fellows

Inspire fellowship awarded by DST to six Ph.D. students

Rajiv Ghandi fellowship awarded to seven Ph.D. students

UGC minority fellowship awarded to three Ph.D. students

CSIR fellowship awarded to seven Ph.D. students

IUAC New Delhi awarded fellowship to ten Ph.D. students

BSR fellowship awarded to four Ph.D. students
UGC/JRF fellowship awarded to one Ph.D. students
UGC DAE Indore awarded fellowship to two Ph.D. students
UGC DAE mumbai awarded fellowship to one Ph.D. students
CSIR RAship awarded to Three Postdoc students
UGC/Kothari RAship awarded to one Postdoc student

30. Seminars/ Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.

1. Homi-Bhaba centenary workshop on molecular, organic and electronic devices, September 22-25, 2009 funded by BRNS, Mumbai.
2. National seminar on applications of radioisotopes and radiation technology, Feb. 7-8, 2008 funded by BRNS, Mumbai.
3. Symposium on solid state nuclear tack detectors (16^{th} SSNTD) Oct. 2009 funded by Nuclear Track Society of India.
4. DST/ PAC (program advisory committee) meeting on condensed matter physics and material science, Dec. 21-23, 2011 funded by DST, New Delhi.
5. 4^{th} Meeting of PMS NPEP, APRIL 15-16, 2011 funded by DST, New Delhi

31. Code of ethics for research followed by the departments:

- Following strict rules against plagiarism
- In favour of environment friendly research
- Discrimination of any student or faculty on the base of religion, caste, creed and sex is highly discouraged

32. Student profile programme-wise:

Name of the Programme	Session	Applications received	Selected Male	Selected Female	Pass percentage Male	Pass percentage Female
B.Sc.(H.S.)	2008-09	Information Not Available				
	2009-10	-do-	5	24	100	100
	2010-11	-do-	9	41	98	98
	2011-12	-do-	11	35	96	98
	2012-13	1200	11	39	96	98
M.Sc.(H.S.)	2008-09	Promoted From B.Sc.(H.S.)	3	9	100	100
	2009-10	-do-	4	15	100	100
	2010-11	-do-	-	-	-	-
	2011-12	-do-	-	-	-	-
	2012-13	-do-	2	19	100	100

Name of the Programme	Session	Applications received	Selected		Pass percentage	
			Male	Female	Male	Female
M.Sc.(Hons.)	2008-09	104	5	15	100	100
	2009-10	191	6	21	100	100
	2010-11	111	5	24	100	100
	2011-12	184	7	50	100	100
	2012-13	223	9	40	100	100
M.Sc.(Applied Physics)	2008-09	-	-	-	-	-
	2009-10	-	-	-	-	-
	2010-11	42	2	24	100	100
	2011-12	50	8	18	100	100
	2012-13	57	9	31	100	100
M.Phil.	2008-09	38	4	6	100	100
	2009-10	39	3	9	100	100
	2010-11	45	5	10	100	100
	2011-12	-	-	-	-	-
	2012-13	-	-	-	-	-
Ph.D.	2008-09	-	4	5	-	-
	2009-10	97	3	6	-	-
	2010-11	39	4	6	-	-
	2011-12	-	2	6	-	-
	2012-13	34	5	18	-	-

33. **Diversity of students**

Name of the Programme	Session	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.Sc.(H.S.)	2008-09	-	-	-	0
	2009-10	-	98	2	0
	2010-11	-	96	4	0
	2011-12	-	98	2	0
	2012-13	-	98	2	0
M.Sc.(H.S.)	2008-09	100	-	-	-
	2009-10	100	-	-	-
	2010-11	100	-	-	-
	2011-12	100	-	-	-
	2012-13	100	-	-	-
M.Sc.(Hons.)	2008-09	70	25	5	-
	2009-10	72	22	6	-
	2010-11	70	20	10	-

	2011-12	67	22	11	-
	2012-13	65	25	10	-

Name of the Programme	Session	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M.Sc. (Applied Physics)	2008-09	0	0	0	0
	2009-10	0	0	0	0
	2010-11	84	6	10	0
	2011-12	85	3	12	0
	2012-13	83	5	12	0
M.Phil.	2008-09	85	11	4	0
	2009-10	82	13	5	0
	2010-11	85	10	5	0
	2011-12	0	0	0	0
	2012-13	0	0	0	0
P.hd.	2008-09	69	11	20	0
	2009-10	69	11	21	0
	2010-11	66	13	21	0
	2011-12	40	20	40	0
	2012-13	75	10	15	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.**

Competitive Examination	Number of students qualified in the duration 2008-13
NET	12
GATE	10
JEST	3

35. **Student progression**

Student progression	Session/Duration	Percentage against enrolled
U.G. to P.G.	2008-09	63
	2009-10	73
	2010-11	-
	2011-12	-
	2012-13	73
P.G. to M.Phil.	2008-09	12
	2009-10	15
	2010-11	23
	2011-12	-

	2012-13	-

P.G. to Ph.D.	2008-09	10
	2009-10	12
	2010-11	15
	2011-12	10
	2012-13	28
Ph.D. to Post-Doctoral	2008-09	-
	2009-10	-
	2010-11	-
	2011-12	-
	2012-13	-
Employed •Campus selection •Other than campus recruitment	-	-
Entrepreneurs	-	-

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	50
from other universities within the State	17
from universities from other States	29
from universities outside the country	4

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None
38. **Present details of departmental infrastructural facilities with regard to**

a) Library: Department of Physics has its own library with 5209 books related to Physics, applied physics and mathematics. The library is well equipped with computational and facility and has an online catalogue for books and journals.

b) Internet facilities for staff and students: Department has well-developed internet facility which is available in every classroom, office, student labs and research labs. In addition to the LAN connectivity Wi-Fi connections are available in most of the rooms. Department has a computer lab with 19 computers where students have access to internet.

c) Total number of class rooms: 9

d) Class rooms with ICT facility: 2

e) Students' laboratories: 9

f) Research laboratories: 15

39. **List of doctoral:** 73

post-doctoral students and Research Associates

a) from the host institution/university: 4

b) from other institutions/universities: None

40. **Number of post graduate students getting financial assistance from the university.**

Session	No. Of students getting aid
2008-09	18
2009-10	14
2010-11	32
2011-12	46
2012-13	31

41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.**

The idea of the development of new programme is introduced in a board of control (BOC) consisting of faculty within the department. It is introduced depending on how useful the new programme is for students and whether it is in accordance with the University and UGC guidelines.

42. **Does the department obtain feedback from?**

a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?**

Yes, the department obtains feedback from the faculty on curriculum as well as teaching-learning evaluation in BOC and faculty meetings. The feedback is positively treated and implemented only if it follows UGC norms and is in general interests of the students.

b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**

In the middle of every semester most of the faculty take feedback on their teaching methods from students. The feedback is strictly confidential so that students can provide feedback without any hesitation. The faculty then works on their weak points to make their teaching more understandable for the students. The class representatives from each class have regular meetings with the HOD of the department and they give their feedbacks related to the staff and curriculum on behalf of their class.

c. **alumni and employers on the programmes offered and how does the department utilize the feedback?**

Department is in frequent touch with the alumni through its departmental website and other social networking sites. Useful suggestion from the alumni is entertained and implemented if feasible. Department also occasionally organizes alumni meet which enhances interaction between the past and present students of the department.

43. **List the distinguished alumni of the department (maximum 10)**

- Dr. Gurtej Singh Sandhu, Director of Advanced Technology Development at Micron Technology, Inc., Boise, ldaho, USA
- Dr. Sunone Kumar, Founder and Director, Coating Mantra Science

and Technology Consulting, Australia.

- Mr. Varinder Kumar, Inspector General of Police, Chandigarh
- Dr. Ravi Kumar, Director, Govt. Engg. College Gurdaspur
- Professor Arvind, Dean Students, IISER Mohali
- Dr. Arvinder Singh Sandhu, Assistant Professor, Department of Physics, University of Arizona, USA
- Dr. Vijay Babbar, Research Associate and APSC100 Academic Assistant, Queens University, Kingston, Canada.
- Professor Jasbir Singh Hundal, Director, Giani Zail Singh Campus, Bhathinda.
- Dr. R.C. Ramola, Professor, Department Of Physics Tehri campus, Hemwati Nandan Bahuguna Garhwal University
- Dr. Ashutosh Goel, Deputy Manager, R & D Sterlite Techologies Ltd., Sillod Area, India

44. Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.

Lecture/ workshops/seminar are organised in the department for students. A list of the experts who were invited for the lecture/ workshops/seminar is given below:

- Professor Arvind, Dean students (IISER Mohali)
- Professor Sunil Kumar (Australia)
- Professor B.M. Arora (IIT Mumbai)
- Professor C. K. Das (IIT, Kharagpur)
- Professor D. K. Aswal (Department of Physics, BARC, Mumbai)
- Professor V. K. Aswal (Department of Physics, BARC, Mumbai)
- Professor Vivek Walia (Department of Geosciences, National Taiwan University, Taipei, Taiwan)

45. List the teaching methods adopted by the faculty for different programmes.

In addition to the regular blackboard-chalk teaching, the faculty performs experiments and uses the audio-visual methods for better understanding of the topics. There are occasional lectures where students are shown short documentaries or video lectures on some topics related to the subject. In addition to this, student labs are well equipped with experimental apparatus related to the curriculum. Students perform experiments and play with various parameters in lab to understand the concepts.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

In addition to the regular examinations taken by the students, for some courses the students give class presentations on a topic related to the subject, also regular assignments are given to the students to enhance their problem solving skills. These two activities ensure that the programme objectives are met and help in monitoring the learning outcomes.

47. **Highlight the participation of students and faculty in extension activities.**

Faculty in the department has been actively involved in giving physics related talk in various colleges. Students take active participation in increasing interest in the subject among fellow mates and students in various schools.

48. **Give details of "beyond syllabus scholarly activities" of the department.**

a) Department organizes frequent lectures/seminars by eminent faculty and researchers from other institutes/Universities.

b) Department has a Physics club administered by the graduate and post graduate students of the department. The club meets twice every week and covers short lectures or numerical solving sessions by the students.

c) Ph.D. Scholars club meets every week where research scholars give presentations related to their work. The club gives an opportunity to the researchers to interact among themselves. The club also organizes activities like departmental quizzes, sports meet, etc.

49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details**. No

50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**

The students and the faculty in the department have been involved in developing basic physics experiments for schools and colleges. In the last five years, department has published papers in peer reviewed journals representing original work of the department's researchers. Some of the research papers are published in high impact journals and few have novel results which not only answer existing problems but generate new ideas and questions. Department is involved in research activities like development of efficient solar cells, better sensors, development of frequency standards, and many more which have applied applications in various industries and other research institutes.

51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

Strengths:

1) Well equipped computer and other student labs
2) Availability to world class research instruments such as SEM, XRD, PL, etc.
3) Access to international/national journals
4) Internet facility in all the classrooms
5) Separate research labs for every faculty member

Weakness:

1) Low faculty/staff to student ratio
2) less space for student labs
3) Non availability of seminar hall
4) Lack of faculty from diverse fields

Opportunities:

1) Opportunity to recruit faculty from diverse research fields
2) Opportunity to expand and recruit new office staff
3) Scope for research work in interdisciplinary areas
4) Expansion of existing building for seminar hall and student labs
5) Opportunity to introduce new specialized courses.

Challenges:

1) Preparing students for various competitive exams
2) Inculcating interests in students for science.
3) Attracting better and motivated BSc. and MSc. Students
4) Pursuing world class research

52. Future plans of the department.

The department has set goals in three different areas:

Research:

Departments goal is not just being able to excel in various research areas which will not only answer some of the unexplored issue but will also open up new topics for research. Department also plans to hire faculty and researchers from diverse research areas. Department aims to do quality research work and publish work in high impact factor journals. Moreover, the number and quality of Ph.D. Students produced every year should be increased.

Teaching activities:

Departments first and foremost plan is to be able to inculcate interests for Sciences in students. Department wants to introduce new courses such as quantum computation, material sciences, etc for the students. Department would like to start crash courses every summer and winter session for students. These crash courses can be on research related topics or can aid in preparing students for competitive exams. In addition to the use of blackboard in class we plan to teach students with aids such as online video lecture, power-point presentations and working models. For that every class will be made fully equipped with the modern teaching gadgets.

Infrastructure and other facilities: Providing basic amenities and needs to the students and faculty of the department. We intend to develop department's own website. The aim will be to increase use of website for communicating with students in the department and outside the department. The website will also provide a useful source for alumni and students to give their unbiased views on various departmental issues. The website will be informative. Department has plan to bring a cluster of its own for the for high end computing.

FACULTY OF SPORTS MEDICINE AND PHYSIOTHERAPY

==/ 36 /==

1. **Name of the Department:** Sports Medicine and Physiotherapy
2. **Year of establishment:** 1995
3. **Is the Department part of a School/Faculty of the University?:** Yes
4. **Names of programmes offered:** U.G., P.G., Ph.D., Integrated Masters.
5. **Interdisciplinary programmes and departments involved:**
   "SPL051 – Physiology of Exercise and Nutrition" and "SPL052 - Assessment and Management in Physiotherapy" of Credits Hours 3. And departments involve as under:
   Architecture, Social Sciences, Food Science & Technology, Molecular Bio & Biochemistry, Microbiology, Commerce & Business, Library & Information Sciences, Botanical & Environmental Sciences, Foreign Languages, Chemistry, and Punjabi
6. **Courses in collaboration with other universities, industries, foreign institutions:**
   - Post Graduate Institute of Medicine, University of Colombo, Sri Lanka
   - Bloomsburg University, Pennsylvania, USA.
   - Human Performance Lab, University of Graz, Austria.
   - Karl Franzens Medical University, Graz, Austria.
   - Universiti Sains Malaysia, Malaysia.
7. **Details of programmes discontinued, if any, with reasons:**
   Post Graduate Diploma in Hospital Management (P.G.D.H.M) in 2010: This P.G. course has been changed into Masters in Hospital Administration (M.H.A).
8. **Examination System: Annual/Semester/Trimester/Choice Based Credit System:**
   - **Annual System**: Bachelor of Physiotherapy (B.P.T.)
   - **Choice Based Credit System:** All Post Graduates courses
9. **Participation of the department in the courses offered by other departments:**
   Department's Students choose Interdisciplinary subjects every academic year offered by Departments of Human Genetics, Molecular Bio & Biochemistry, Punjabi, Commerce & Business, and Foreign Languages.
10. **Number of teaching posts sanctioned, filled and actual Professors/ Associate Professors/Assistant Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	01	01	01
Associate Professors	01	02	02 (CAS)
Assistant Professors	06	04	04
Others	--	--	--

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designa-tion	Specialization	No. of Years of Experi-ence	No. of Ph.D./ M.Phil. students guided for the last 4 years
Jaspal Singh Sandhu	M.B.B.S. M.S. (Orthopedics), D.S.M., F.A.I.S., F.A.S.M., F.I.A.S.M.E.S., F.A.F.S.M., F.F.I.M.S.	Professor	Sports Medicine, Sports Traumatology, Sports Rehabilitation	24	Three
Shyamal Koley	M.Sc., Ph.D.	Associate Professor	Kinantro-pometry	21	Two
Shweta Shenoy	Ph.D., B.P.T., M.S.P.T., M.I.A.P.M.S.P.T.	Associate Professor	Neuro-physiology	13	Two
Sarika	M.S.P.T.	Assistant Professor	Exercise Physiology	07	--
Maman Paul	M.S.P.T.	Assistant Professor	Neurological Sports Sciences	06	--
Archna Sharma	M.S.P.T.	Assistant Professor	Exercise Physiology	04	--
Amrinder Singh	M.S.P.T.	Assistant Professor	Sports Biomechanics	03	--

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors:

- Gulf Medical College, Ajman
- Sancheti Institute of Orthopaedics and Rehabilitation, Pune
- Department of Orthopedics & Rehabilitation, Post Graduate Institute of Medical Education & Research, Chandigarh
- Dr. H.P. Singh, M.D., Medical Superintendent, EHSSI, Amritsar
- Dr. D.P. Singh, Head, Department of Urology, Govt. Medical College, Asr
- Dr. S.P.S. Dhillon, Pediatrician, Govt. Medical College, Amritsar
- Dr. H.P. Singh, MBBS, Medical Officer, GNDU
- Dr. M.S. Gill, Department of Sociology, GNDU

- Dr. Pawan Sharma, BDS, Dental Surgeon, GNDU
- Dr. Gaurav Bahari, MBBS, Khalsa College
- Dr. Suresh Chauhan, Ayushkam, Asr.
- Mr. Sandeep Sharma, Department of Comp. Sc., GNDU, Asr.
- Ms. Savita, Department of Botanical and Environmental Sciences, GNDU, Asr.
- Dr. Kawaljit Kaur, Ph.D.
- Dr. Shelly Mahajan, BDS
- Dr. Monika Chawla, BDS
- Dr. Samridhi Chawla, BDS

13. **Percentage of classes taken by temporary faculty – programme-wise information**
    - Masters in Sports Physiotherapy/Masters in Sports Physiotherapy (Hons.) – 37.5%
    - Masters in Hospital Administration – 100%
    - Masters in Exercise Physiology & Nutrition- 40%
    - Masters in Sports Psychology – 40%
    - Bachelor of Physiotherapy – 56.25%
14. **Programme-wise Student Teacher Ratio**
    - Masters in Sports Physiotherapy /Masters in Sports Physiotherapy (Hons.) – 6:1
    - Masters in Hospital Administration – 7:1
    - Masters in Exercise Physiology & Nutrition – 7:2
    - Masters in Sports Psychology – 3:1
    - Pre-Ph.D. Course – 5:1
    - Bachelor of Physiotherapy – 7:2
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:**

Sanctioned	Filled	Actual
06	03	03

16. **Research thrust areas as recognized by major funding agencies:** Life Style Diseases by UGC
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise:**
    a) Caffeine: Time and dose related effects on physiological, physical and psychological performance parameters.
    b) U.G.C Major Project titled "Analysis of the effectiveness of physical activity protocol on the physiological & psychological parameters of patients with type 2 diabetes".

- UGC Major Project – Rs. 11,00,300/-
- DST Inspire Fellowship – Rs. 2,88,000/-
- DST PURSE Scheme – Rs. 28,59,318/-
- UGC Minor Project – Rs. 2,00,000/-

Total – Rs. 44,47,618/-

18. **Inter-institutional collaborative projects and associated grants received**
    a) National collaboration b) International collaboration: None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.**
    UGC-SAP has been sanctioned to the department.
20. **Research facility / centre with**
    • State recognition: No
    • National recognition: No
    • International recognition: No
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications**:
    - **Number of papers published in peer reviewed journals (national/ International):** 167
    - **Monographs:** None
    - **Chapters in Books:** 1
    - **Edited Books:** None
    - **Books with ISBN with details of publishers:**
    - **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCO host, etc.)**
    - **Citation Index – range / average**
    - **SNIP**
    - **SJR**
    - **Impact Factor – range / average –** 1.1714
    - **h-index**
23. **Details of patents and income generated**: None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally/internationally to visit other laboratories / Institutions/industries in India and abroad:**
    (i) Dr. Jaspal S. Sandhu,
    (ii) Dr. Shyamal Koley
    (iii) Dr. Shweta Shenoy
26. **Faculty serving in**
    1. **National committees:**
       Dr. Jaspal S. Sandhu

- Invited for the Vice Chancellors Conference organized by the Human Resources Ministry and University Grants Commission Government of India 25-26th March,2011
- Technical expert of Punjab Health System Corporation, Govt. of Punjab for setting up of Rehabilitation Centers in State of Punjab, 18th Jan,2010
- Technical Expert of National Dope Control Laboratory, Ministry of Youth Affairs and Sports, Govt. of India for International Collaborations 7th Jan,2010
- International Federation of Sports Medicine Team Physician Development Course during the 30th Annual Conference of Indian Association of Sports Medicine, Belgaum: 14th-16th Nov., 2008
- Member of the Scientific Advisory Committee in the field of Sports Medicine, NZIOACON 2008, New Delhi

2. International Committees:

Dr. Jaspal S. Sandhu

- Vice President of World Summit of Interdisciplinary Sports Medicine and Athletic Care, GERMANY 2011
- Expert foreign faculty to the IOC - NOC Sports Medicine Course , 10th, 11th and 12th September 2010.Colombo
- Invited expert for World Academy of Sports Medicine and Exercise Science (WASMES) Brainstorming meeting, April 18-20, 2010 Hong Kong
- Coordinator for Asian Federation of Sports Medicine Team Physician Development course and Asian Federation of Sports Medicine Rehabilitation course, 12th Asian Federation of Sports Medicine Congress, Amritsar India 3rd -4th December, 2009.

3. Editorial Boards:

Dr. Jaspal S. Sandhu

i. International Journal of Sports Sciences And Fitness
ii. International Journal of Physical Therapy
iii. Journal of Foot Surgery (India)
iv. International Journal of Sports Sciences and Physical Education (IJSSPE)
v. International Journal of Sports Studies
vi. International Journal of Physical Education, Fitness and Sports
vii. Physiotherapy and Occupational Therapy Journal.

Dr. Shymal Koley

i. Internet Journal of Biological Anthropology
ii. Physiotherapy and Occupational Therapy Journal
iii. The Anthropologist
iv. Indian Journal of Sports Studies

any other (please specify)

Peer reviewer for

Dr. Jaspal S. Sandhu

i. American Journal of Sports Medicine
ii. British Journal of Sports Medicine
iii. Indian Journal of Orthopaedics
iv. International Journal of Shoulder Surgery
v. African Journal of Biotechnology
vi. Journal of Datta Meghe Institute of Medical Sciences
vii. Ibnosina Journal of Medicine and Biomedical Sciences
viii. Journal of Physical Education and Sport Management
ix. Journal of Medicine and Medical Sciences
x. Heart Asia
xi. Asian Journal of Sports Medicine
xii. Gulf Medical Journal
xiii. Indian Journal of Medical Research
xiv. Member of the International Advisory Board

- Gulf Medical Journal (GMJ)
- Journal of Physical Activity, Sports & Exercise

27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).**
Various programmes such orientation and refresher programmes for the young faculty

28. **Student projects**

• Percentage of students who have done in-house projects including inter- departmental projects: 100%

• Percentage of students doing projects in collaboration with other universities /Industry / institute: None

29. **Awards / recognitions received at the national and international level by**

• Faculty:

Dr. Jaspal S. Sandhu

- OED Scholar to Universities of Salzburg, Vienna, Graz, Austria.
- Invited for the Vice Chancellors Conference organized by the Human Resources Ministry and University Grants Commission Government of India 25-26th March, 2011.
- Conferred with the title of FAFSM. for outstanding work in the field of Sports Medicine by Asian Federation of Sports Medicine, 23rd July,2011 Bangkok, Thailand
- Member, Expert Group of Government of India, Ministry of Youth Affairs and Sports for up gradation of Sports Sciences and Sports Nutrition. 2011
- Member, Expert Group of University Grants Commission to evaluate UGC Scheme of Jubilee/Centenary Grants/Women's Hostel/Sports

Infrastructure and Equipment, University Grants Commission, North Eastern Regional Office, Guwahati, Assam vide notification No.f.1/11/Policy/WH/2011(NERO)/11141 dated 9th December,2011

- Member, Expert Group in the field of Orthopaedics for the selection of candidates for the award of Commonwealth Scholarship/ Fellowship Plan, 2012 offered by the Government of United Kingdom, Ministry of Human Resource Development vide notification no. D.O No 22-1./2011-ES.4 23rd November , 2011
- Chairman of Expert Committee to evaluate the performance and academic attainments for the extension of the Autonomous Status to YMCA College of Physical education , Nandanam, Chennai, Tamil Nadu, University Grants Commission, 35 Feroze Shah Road, New Delhi vide notification No DO No F.2-25(4)/2004(AC) dated 17th November,2011
- Member, Expert Group of University Grants Commission to evaluate Manav Bharti University, Kumarhatti, Solan .Himachal Pradesh no D.O No F.8-6/2010(CPP-1/PU) dated 31st October,2011
- Member, Expert Group of University Grants Commission to evaluate "Major Research Projects of Medicine" at University Grants Commission, Bahadur Shah Zafar Marg, New Delhi Notification no DO. No.F-1-1/2011(Policy-SR/HRP) dated 19th October, 2011
- Member, Expert Group of University Grants Commission to evaluate "Innovative Programmes" at University Grants Commission, Bahadur Shah Zafar Marg, New Delhi Notification no DO. No F.1-5/2007(INNO/ASIST) dated 12th October,2011
- Chairman of Expert Committee on "Development of Sports Infrastructure and Equipment" University Grants Commission, 35 Feroze Shah Road, New Delhi vide notification No DO No F.28-1/2010(Committee/NRCB) dated30 August, 2011
- Chairman of Expert Committee on UGC Expert Committee for evaluation of proposals under the scheme of Sports Infrastructure during the period 2011-2012. Central Regional Office of UGC, Bhopal, Madhya Pradesh.vide notification No F.No. 3-1/MRP/UGC-CRO/2011-12 Date: 30.08.2011
- Chairman, UGC Expert Committee for Free Education for Commonwealth Games Medal Winners July,2011 Notification No F.2-1/2010(XI Plan) dated 26.05.11
- Member Expert Committee of UGC for assessing development of Sports Infrastructure and Equipments, UGC Eastern Regional Centre 27th and 28th June,2011 Notification No F.P.SI.01/10-11 dated 26.05.11
- Member, Working Group for CPE ,University Grants Commission(2011)

- Chairman of Expert Committee on "Development of Sports Infrastructure and Equipment" in Univerties under XI Plan University Grants Commission, Bahadur Shah Zafar Marg, New Delhi Notification No F.1.11/2010(DC) dated 28th July,2011
- Expert Member for " UGC Scheme of Jubilee/Centenary Grants/Women's Hostel/Sports Infrastructure and Equipment , University Grants Commission, North Eastern Regional Office, Guwahati Assam-25-26th August,2011
- Technical Expert of National Dope Control Laboratory, Ministry of Youth Affairs and Sports, Govt. of India for International Collaborations
- Member, Executive Board of World Academy of Sports Medicine and Exercise Science.
- Member, Board of Specialty in Sports Medicine, Medical Council of India.
- Member, Expert Group for establishing Rajiv Gandhi Central University of Youth and Sports (Nominated by Govt .of India, HRD Ministry).
- International Advisor to the WHO Collaborating Centre for Sports Medicine and Health and Department of Orthopedics and Traumatology, Faculty of Medicine, Chinese University of Hong Kong .
- Founder Member, Asia Australasia Africa Alliance for Sports Medicine.
- Member, Medical Commission, Indian Olympic Association.

• **Doctoral / post doctoral fellows:** 20

• **Students:** None

30. **Seminars/Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any.**
    1. Asian Federation of Sports Medicine Congress – December, 2009
    2. CME held in the department – October, 2011
    3. Workshop on "Exercise physiology & Kinanthropometry" – July, 2012
    4. Workshop in "Matrix Rhythum Therapy" – September, 2013
31. **Code of ethics for research followed by the departments:** Research thesis for Post Graduate courses are selected/evaluated by Ethical Committee for every academic year.
32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
M.D. (Sports Medicine)	07	01	--	100	--
Masters in Sports Physiotherapy	40	09	09	80	90

Masters in Sports Physiotherapy (Hons).	08	05	--	90	--
Masters in Hospital Administration	46	03	10	90	90
Masters in Exercise Physiology & Nutrition	13	02	09	90	90
Bachelor of Physiotherapy	90	12	45	90	95
Pre-Ph.D. Course work	07	01	--	100	--

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Ph.D.	45	5	50	0
M.D	None	33.33	66.66	0
Post Graduate	31.62	None	68.37	0
Under Graduate	None	95	5	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise: None

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	10
P.G. to M.Phil.	-
P.G. to Ph.D.	2
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	 - 95
Entrepreneurs	-

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	71.42
from other universities within the State	14.28
from universities from other States	14.28
from universities outside the country	0

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: None

38. Present details of departmental infrastructural facilities with regard to

a) Library: No Departmental Library, but all latest books regarding Sports Medicines are available in main central library of the university.

b) Internet facilities for staff and Students: The department has well equipped internet lab for the students, research fellows, teachers as well as internet facility for the staff through wi-fi facility

c) Total number of class rooms: 07 (Seven)

d) Class rooms with ICT facility: Whole of the department connected with Wi-fi.

e) Students' laboratories: Physiotherapy Centre situated at University Health Centre

f) Research laboratories:

Sr. no.	Name of Research Laboratory
1.	**Human Performance Research Lab.**
2.	**Neurological Lab.**
3.	**Isokinetic Lab.**
4.	**Biochemical Lab.**
5.	**Kinanthropometry Lab.**
6.	**Hydrostatics Water Weighing Lab.**
7.	**Exercsie Physiology Lab.**
8.	**Exercise Therapy Lab.**
9.	**Sports Psychology Lab.**
10.	**Biomechanics Lab.**
11.	**Motion Analysis Lab.**

39. List of doctoral, post-doctoral students and Research Associates

a) From the host institution/university

1. K Parveen Kumar
2. Tanushree
3. Arvinder Pal Singh
4. Archna Sharma
5. Ruchika Guglani
6. Sarika
7. Amrinder Singh
8. Jasminer Kaur Chawla
9. Deepinder Singh

b) From other institutions/universities

1. T. R Nanda Kumar
2. Upadhyay Viveknand
3. Sandipan Das Sarma
4. Dr. Anirban Mallick
5. Dr. Janvi Dande
6. Dr. Vivek Kumar

7. Mahua Chakraborty
8. Sadhna Meena
9. Simranjeet Kaur
10. Mayank Shukla
11. Dr. Kulvinder Singh

40. Number of post graduate students getting financial assistance from the university. 09 (Nine)

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.
Yes, Pilot Survey was done before the development of new programme.

42. Does the department obtain feedback from?
a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
Feedback performa were provided to the students for each course/subject.
b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
Provide the questioner.
c. alumni and employers on the programmes offered and how does the department utilize the feedback? : None

43. List the distinguished alumni of the department (maximum 10): None

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.
- 12th Asian Federation of Sports Medicine Congress – December, 2009
- CME held in the department – October, 2011
- Workshop on "Exercise physiology & Kinanthropometry" – July, 2012
- Workshop in "Matrix Rhythum Therapy" – September, 2013

45. List the teaching methods adopted by the faculty for different programmes.
Use of Black Board and Audio Visual Method (Multimedia).

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?
Through Examination and feedback method.

47. Highlight the participation of students and faculty in extension activities.:
Students take part in inter-departmental sports & cultural activity

48. Give details of "beyond syllabus scholarly activities" of the department.
Students participated in inter-departmental quiz competition in various occasion

49. State whether the programme/department is accredited /graded by other agencies? If yes, give details: No.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- The Department provided medical covers during the last 3 National Games, Busan Asiad training camps and XIX Commonwealth Games. The department has MoU with following Universities abroad for research and faculty exchange: Post Graduate Institute of Medicine, University of Colombo, Bloomsburg University, Pennsylvania, USA, Human Performance Lab, University of Graz, Austria, Karl Franzens Medical University, Graz, Austria and Universiti Sains Malaysia, Malaysia
- Train doctors to deliver multidisciplinary approach including diagnosis, treatment and rehabilitation of sports persons.
- Deliver training and nutritional guidance to sports persons estimate baseline physical fitness of the sporting population and design programmes for various sports based for exercise physiology principles

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

- **Strengths:**

1. The department also introduced M.D. (Sports Medicine) the first clinical course of Doctor of Medicine (Sports Medicine) in Asia in 2011. The course is recognized by Medical Council of India.
2. Only Department of Sports Medicine in any university in India.
3. Only Department in India, which offers Ph.D. program in Sports Medicine and Sports Physiotherapy, both research based programs
4. It has one of the most comprehensive research laboratories in the fields of Neurophysiology, Motion Analysis, Human Performance, Sports Psychology, Exercise Physiotherapy, Kinanthropometry, Exercise Physiology, Isotonic and VO2 calculation
5. On the teaching aspect, this Department was the first to introduce Masters in Sports Physiotherapy in South-Central Asia, which is internationally 'M' Level accredited by the Health Professionals Council of U.K. and Global Accrediting Agency. We are also recognized department of International Council of Sports Science and Physical Education (ICSSPE).

52. Future plans of the department.

The department has future plan to develop research in sports fitness and sports nutrition as well as the prevention of sports injuries.

FACULTY OF VISUAL AND PERFORMING ARTS

==/ 37 /==

1. **Name of the Department:** Music
2. **Year of establishment:** 1992
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered.**
   - **a. P.G Programmes**
     - i. M.A. Hons. Music (Vocal)
     - ii. M.A. Hons. Music (Instrumental)
   - **b. M.Phil. Programmes**
     - i. M.Phil. Music (Vocal & Instrumental)
   - **c. Ph.D. Programmes**
     - i. Pre-Ph.D. in Music
5. **Interdisciplinary programmes and departments involved**

Interdisciplinary Programmes for U.G-2

Course title	Departments involved
Music appreciation & basic training in music vocal	• Food science & technology • Computer science & engg • Electronics (r.c.sultanpur lodhi) • Human genetics • Laws
Music appreciation & basic training in music instrumental	• economics • Computer science & engg • Food science & technology • Human genetics

Interdisciplinary Programmes for P.G-2

Course title	Departments involved
Basic Fundamentals & Practical Traning in Music (Vocal)	• Computer Science & Engg. • Chemistry • Food Science & Technology • Elelctronics Technology • English • Law • Physics • Pharmaceutical Science
Basic fundamentals & practical training in music (instrumental)	• Computer science & engg. • Micro biology • Physics • Library & information • Chemistry

Interdisciplinary Programmes for M.Phil./Ph.D.

Course title	Departments involved
Inter disciplinary approach of music	Guru Nanak studies

6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**
   None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Choice Credit Based System
9. **Participation of the department in the courses offered by other departments:** Yes
10. **Number of teaching posts sanctioned, filled and actual (Professors/ Associate Professors/Assistant Professors/others)**

Teaching Posts	Sanctioned	Filled	Actual (including (AS & MPS)
Professor	1	1	1
Associate Professor	2	-	-
Assistant Professors	2	2	2
Astt. Professors (Contract Basis)	4	4	4

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designa-tion	Specializa-tion	No. of Years of Experience	No. of Ph.D./M.Phil. students guided for the last 4 years
Dr. Gurpreet Kaur	M.A, M.Phil., Ph.D.	Professor & Head	Music Instrumental	26	Since 2011 8–M. Phil Students Awarded Degree
Dr. Tejinder Gulati	M.A, M.Phil., Ph.D.	Astt. Professor	Music Vocal	24	16 (M.Phil.)
Dr. Rajesh Sharma	M.A, M.Phil., Ph.D.	Astt. Professor	Music Vocal	12	9 (M.Phil.)
Sh. Prabhakar Kashyap	M.A, A.I.R. A Grade Artist (Vocal)	Astt. Professor (Contract) Basis)	Music Vocal	2	--

Sh. Sukhdev Singh	M.A. M.Phil.	Astt. Professor (Contract Basis)	Music Vocal	6	--
Mrs. Kiran	M.A. Music (V & Inst.) M.Phil.	Astt. Professor (Contract Basis)	Sitar	23	--
Sh. Charanjit Singh	M.A, M.Phil.	Astt. Professor (Contract Basis)	Sitar	1	--

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors

Sr. No.	Name	Designation	Duration
1.	Dr. Keshav Sharma	Retd. Professor H.P.U. Shimla	19.3.2012–12.4.2012 15.5.2012–19.5.2012 7.9.2012–6.12.2012 23.4.2013-22.5.2013
2.	Pt. Prateek Chaudhuri	A.I.R., Eminent Artist (Top Grade) Assistant Professor Department Of Music, Delhi University Delhi	11.4.2012-17.4.2012 5.3.2012–11.3.2012
3.	Sh. Hans Raj Hans	Padam Shree	11.3.2012–16.3.2012
4.	Dr. Madhu Bhatt Tailang	Eminent Vocal Artist (Dhruvpada) Assistant Professor Jaipur Uni. Rajasthan	22.2.2013–1.3.2013

13. Percentage of classes taken by temporary faculty – programme-wise information

Sr. No.	Programme	% of Classes taken by Temporary Teachers			
		Ms. Kiran Amar	Sh. Prabhakar Kashyap	Sh. Sukhdev Singh	Sh. Charanjit Singh
1.	M.A. Hons. Music (Vocal)	-	26	26	-
2.	M.A. Hons. Music (Instrumental)	30	-	-	38

3.	M.Phil. Music (Vocal & Instrumental)	None	26.67	-	-
4.	Pre-Ph.D. in Music	-	-	-	-

14. Programme-wise Student Teacher Ratio

Sr. No.	Programme	Student Teacher Ratio	
		Sem 1st	Sem 3rd
1.	M.A. Hons. Music (Vocal)	30 : 5	24: 5
2.	M.A. Hons. Music (Instrumental)	11 : 3	7: 3
3.	M.Phil. Music (Vocal & Inst.)	30: 4	– (No Class in Sem III)
4.	Pre-Ph.D. in Music	3: 3	–

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Academic support staff	Sanctioned	Filled	Actual
Senior Assistant	1	1	1
Steno / Typist	1	1 (C.C.J.D.E.O.)	1
Accompanists	3 (one each for Harmonium, Tabla & Sitar)	2	3
Daftari	1	1	1

16. Research thrust areas as recognized by major funding agencies.
Refresher Course -2 (2011 & 2012)
Thrust Area:
i. New Trends in Visual & Performing Arts. (1.12.2011-21.12.11)
ii. Interdisciplinary Approach in Visual & Performing Arts. (5.12.2012-24.5.2012)

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.: None

18. Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration: None

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received. No

20. Research facility/centre with
• State recognition – None

• National recognition– None
• International recognition– None

21. **Special research laboratories sponsored by / created by industry or corporate bodies. :**No
22. **Publications:**
    Number of papers published in peer reviewed journals (national/ International): 3
    Monographs: None
    Chapters in Books : 4
    Edited Books : None
23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories/Institutions/industries in India and abroad.**

Professor Gurpreet Kaur :

I. Members of the Gyan Yatra Team visited the University of Jaipur, Channai, Delhi & Puducherry 12.4.2010 to 20..4.2010 organised by Dean College Development Council G.N.D.U. Asr.
II. As Cultural Coordinator G.N.D.U. Music Team visited & Presented Cultural Evening at B.F.U.H.S. Faridkot i.e. on Feb 7,2013, Oct 1,2013, Nov 7,2013.
III. Visiting Fellow Department of Music, K.U. Kurukshetra, for 10 days i.e. from Feb. 20, 2011- March 1, 2011

Dr. Tejinder Gulati:

International Level :

Oct, 2009 — D.D. Punjabi Jalandhar Doordarshan (International Telecast)
March 2010 — International Mushaira, DCM, Sri Ram Industries, Ltd., Delhi

National Level:

July 7, 2012 — Management Alpha One Mall, Amritsar
Oct 7, 2011 — Jammu University, Jammu
July 25, 2011 — Urdu Academy, M.P., Bhopal
Jun 10, 2011 — Jalandhar Doordarshan, Jalandhar
March 7, 2011 — Urdu Academy, Delhi
Jan, 11, 2011 — Chandigarh Doordarshan, Chandigarh
Aug 21,2010 — Punjab Govt. at Jaipur
April 24, 2010 — The Theatre Person Regd., Amritsar
Feb, 2010 — Fida Channel (Guru Harahai)
Jun 10, 2009 —A.S.C., G.N.D.U., Asr.
March 23, 2009 — Urdu Academy, Delhi
March 18, 2009 — ASC, G.N.D.U., Asr

Dr. Rajesh Sharma

National Level

Sep., 2010: Big FM Radio Channel Amritsar
April, 28, 2013 Jalandhar Doordarshan, Jalandhar

26. Faculty serving in a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Dr. Gurpreet Kaur

National

1. Member Selection Board :
   - Faculty of Design & Fine Arts P.U. CHD.
   - G.N.D.U. Asr., K.U. Kurukshetra, Pbi. Uni. Patiala, H.P.U. Shimla, for the appointment of Astt. Professor , Associate Professor, Professor (Music & Visual Arts) & Principals (Colleges).
2. Subject Expert :
   - Board of Studies in Music & Dance (U.G. & P.G.) G.N.D.U. Asr. 1.07.2010 to 10.07.2011
   - Board of Control in Music & Dance (U.G.) G.N.D.U. Asr. 1.07.2010 to 10.07.2011
   - Faculty of Visual & Performing Arts G.N.D.U. Asr. , 1.07.2010 to 10.07.2011.
   - Board of Studies in Music & Dance Kurukshetra Uni. Kurukshetra (2010-2012),
   - Board of Studies in Music & Dance Department of Music Pbi. Uni. Patiala since 2011
3. Member R.D.C. (Research Doctoral Committee) Department of Music Himachal Pradesh Uni. Shimla 2012-13.
4. External Examiner/Paper Setter/ Thesis evaluator of :
   - P.U. Chd., Pbi. Uni. Patiala, B.H.U. Varanasi, G.N.D.U. Asr., I.K.S.V.V. Kheragarh (Chhatishgarh), D.U. Delhi, H.P.U. (Shimla) & Baba Bhim Rao Ambedkar Uni. Agra (U.P.)
5. Member Kendriya Vidyalaya Management Committee 1995-1996

Others

1. Dean, Faculty of Design & Fine Arts, P.U. Senate Chd. (3 Years). 1.2.2009 to 31.01. 2012.
2. Member Academic Council Panjab University Chd. (3 Years) 01.02.209 to 31.01.2012.
3. Member Faculty of Art & Cultural Pbi. Uni. Patiala (2 Years.) 2009-2011
4. Member Board of Studies in Architecture & Planning P.U. Chd. 01.04.2009 to 31.03.2011.
5. Member Board of Studies Department Of Indian Theatre P.U. Chd. 1.02.2010 to 31.01.2011.
6. Member J.R.B. (Joint Research Board) P.U. Chandigarh (3 Years) 1.02.2009 to 31.01.2012.
7. Chairperson of the following bodies of P.U. Chd.
   - Board of Studies (Music & Dance U.G. & P.G. (3 Years).

- R.D.C. (Research Doctoral Committee) in Faculty of Design & Fine Arts (3 Years).

8. Elected secretary, Faculty of Design & Fine Arts (P.U. Senate Chd.) (5 Years) (2002-2005 & 2007-2009
9. Member Sangeet Natak Academy Punjab 2005-06 nominated by Punjab Govt.
10. Elected Member Faculty of Design & Fine arts P.U. Chd. (12 Years) Feb 2001-Jan 2012.
11. Member Faculty of Nursing, B.F.U.H.S. Faridkot since June 2013.

Dr. Tejinder Gulati:

National Committees :– None
International Committees:– None
Others

1. Chairperson, The Classic Melodies Trust, regd.
2. Life Member, Indian Academy of Fine Arts, Amritsar.
3. Chairperson, Gobind Ka Santokh Divine Trust.
4. Expert, Board of Studies, Sri Guru Granth Sahib World University Fatehgarh Sahib, Punjab.

Dr. Rajesh Sharma

National Committees:

1. Life Time Member "National Federation of Blind" Delhi.
2. President, Human Rights & Anti-Corruption Association, (Especially Physically Challenged Wing). Regd.
3. External Examiner/Paper Setter/ Thesis evaluator, Panel of the Youth Festival Judgements of: G.N.D.U. Asr., P.U. Chd.,., D.U. Delhi, H.P.U. (Shimla) & Baba Bhim Rao Ambedkar Uni. Agra (U.P.). University of Jammu, Punjabi Uni. Patiala.

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

Dr. Tejinder Gulati:

I. Music Workshop (As a Convenor)
Organised a Musical workshop in the Department Of Music, i.e. on 15.6.201 to 25.06.2010

Dr. Rajesh Sharma

I. UGC Refresher/Orientation Courses
- Dec 2009– Refresher Course Organized by Panjab University Chandigarh
- Dec 2011– Refresher Course Organized by G.N.D.U. Amritsar

II. Music Workshops
- Acted as an Expert in a musical Workshop Organized by Department of Music G.N.D.U., Asr. Dtd 15.6.2010-25.06.2010

28. Student projects

- **Percentage of students who have done in-house projects including inter-departmental projects.** : None

- **Percentage of students doing projects in collaboration with other universities/ Industry Institute. :** None

29. Awards / recognitions received at the national and international level by

- **Faculty**

Dr. Gurpreet Kaur :

- National Mahila Rattan Gold Medal' by National Solidarity Council, New Delhi.
- 'Gem of India Award' by All India Achievers Society New Delhi on 27.07.2006
- 'Indira Gandhi Sadbhavana Award' by National Integration & Economic Council.
- Rashtriya Vidya Saraswati Puraskar by I.I.E.M New Delhi, Nov,2006.

Dr. Tejinder Gulati: None

Dr. Rajesh Sharma:

- 2013 – Swami Vivekanand Award of Excellency by Pranaya Media Chandigarh.

- **Doctoral / post doctoral fellows** None
- **Students** None

30. Seminars/Conferences/Workshops organized and the source of fundingNational/International) with details of outstanding participants, if any.

- Music workshop organised on 15.6.2010 – 25.6.2010.
- Workshop organized on Research Methodology by Professor Keshav Sharma.(Retd.), Department of Music, H.P.U. Shimla on 15.05.2012-19.5.2012
- Workshop organized on Instrumental Music by Dr. Prateek Chaudury A.I.R., Eminent Artist (Top Grade) Assistant Professor, Department of Music, Delhi University Delhi from 26.08.2013 – 27.08.2013(Two Days workshop) & 5.03.2012–12.03.2012.
- Workshop organized to Promote & Preserve our Asset of Indian Classical Music on

Dhruvapada & Dhamar Gayan Shelly by Dr. Madhu Bhatt Tailang, Assistant Professor, Department of Music, University of Rajasthan, Jaipur from 22.02.2013 to 01.03.2013.

31. Code of ethics for research followed by the departments.

As per G.N.D.U. Norms

32. Student profile programme-wise:

Name of the Programme	Applications received		Selected		Pass percentage Male	Female
	Male	Female	Male	Female	2008-2013	2008-2013
M.A. Music Vocal						
(2008-09)	–	4	–	4	100	100
(2009-10)	5	6	4	6		
(2010-11)	8	4	7	4		
(2011-12)	17	8	10	5		
(2012-13)	22	12	22	12		
M.A. Music Inst.						
(2008-09)	–	5	–	5	100	100
(2009-10)	1	1	–	1		
(2010-11)	2	1	2	–		
(2011-12)	1	2	1	1		
(2012-13)	6	4	6	3		
M.Phil. Music (V)						
(2008-09)	3	3	3	3	100	100
(2009-10)	–	–	–	–		
(2010-11)	8	9	6	4		
M.Phil. Music (V& I) (2011-12)	11	21	11	19		
M.Phil. Music (V& I) (2012-13)	14	16	14	16		
M.Phil. Music(I)						
(2008-09)	3	2	2	3	100	100
(2009-10)	0	6	0	4		
(2010-11)	0	4	0	3		
Pre. Ph.D.						
(2011-12)	6	8	5	8	100	100
(2012-13)	1	2	1	2		

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M.A. Music Vocal				
(2008-09)	50	25	25	
(2009-10)	70%	20	10	0
(2010-11)	75	8.33	16.66	
(2011-12)	73.33	20	6.66	
(2012-13)	64.70	29.41	5.88	
M.A. Music Inst.				
(2008-09)	60	0	40	
(2009-10)	100	0	0	0
(2010-11)	0	100	0	
(2011-12)	50	50	0	
(2012-13)	77.77	11.11	11.11	
M.Phil. Music(V)				
(2008-09)	50	50	0	
(2009-10)	0	0	0	
(2010-11)	60	40		0
M.Phil. Music(V& I)				
(2011-12)	80	3.33	16.66	
M.Phil. Music(V& I)				
(2012-13)	83.33	10	6.66	
M.Phil. Music(I)				
(2008-09)	60	40	0	
(2009-10)	75	25	0	0
(2010-11)	66.66	33.33	0	
Pre. Ph.D.				
(2011-12)	84.61	7.69	7.69	0
(2012-13)	100	0	0	

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

NET–06

SET–01

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	No U.G. Programme
P.G. to M.Phil.	2009-2010 - 2010-2011 53.84 2011-2012 30 2012-2013 33.33 2013-2014 13.33
P.G. to Ph.D.	2010-2011 85.71 2011-2012 66.67 2012-2013 100
Ph.D. to Post-Doctoral	--
Employed • Campus selection • Other than campus Recruitment	None 17.86% (Student s of 2008-09 batch , 2010-11 batch & Batch, 2011 onward are studying)
Entrepreneurs (Business Class)	-

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	33.33
from other universities within the State	66.66
from universities from other States	–
from universities outside the country	–

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period.— 02

Ph.D.

- Dr. Tejinder Gulati 2011
- Dr. Rajesh Sharma 2010

38. Present details of departmental infrastructural facilities with regard to

a) Library – No Library

b) Internet facilities for staff and students. : Each teacher has Personal Computer & Internet Facility

c) Total number of class rooms. — 01

d) Class rooms with ICT facility– None

e) Students' laboratories– None

f**) Research laboratorie**s- NA

39. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university- None

b) from other institutions/universities- None

40. Number of post graduate students getting financial assistance from the university.

Sr. No.	Class	Year wise Record				
		2008-09	2009-10	2010-11	2011-12	2012-13
1	M.A. Hons. (Music) Vocal	3	4	2	6	13
2	M.A. Hons. (Music) Vocal	3	2	0	3	2
3	M.Phil. Music (Vocal & Inst.)	1	1	0	4	10

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.
No New Programme

42. Does the department obtain feedback from?

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? Yes

b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? Yes

c. alumni and employers on the programmes offered and how does the department utilize the feedback?

Two special programmes organized with the help of Alumni:

I. 'Mile Sur Mera Tumhara' (2011)
II. Taal Se Taal Mila (2012)

43. List the distinguished alumni of the department (maximum 10)

I. Ranjit Singh Bawa, Punjabi Folk Artist
II. Kuldeep Kaur, Punjbai Folk Artist
III. Gurdev Singh, Gurbani Kirtan Artist
IV. Gurshabad Singh, Producer ABP News.
V. Sandeep Singh, Assistant Professor, Lovely Professional Uni.
VI. Ravinderjeet Kaur Gill, Assistant Professor (College)
VII. Harpreet Singh, Assistant Professor (College)
VIII. Shivani, Assistant Professor (College)
IX. Shallu Jasotra, Assistant Professor (College)
X. Gurpreet Singh, Baru Sahib Akaal Academy

44. Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.

- On July 14, 2011. Cultural Exchange Programme organized in which students of Department of Music & University of China exchanged their Musical Compositions.
- On July 13th, 2012 Dr. Babir Kaur Kwantlen Polytechnic University, Canada.
- On Aug 31st, 2012 Dr. Gurnam Singh, Department of Gurmat Sangeet, Pbi. Uni. Patiala.

- On Nov 19th, 2012 Dr. R.S. Gill from Punjabi University Patiala.
- Dr. Bhushan from University of Bombay visited the department for further cultural exchange.
- On Dec 5th, 2012 Dr. Bhupesh. K. Little from College of Arts & Crafts, Faculty of Fine Arts, Luckhnow University.
- On Dec 11th, 2012 Zafar Lohar from Pakistan.
- On Dec 14th, 2012 Pt. Harvinder Sharma a disciple of Ustaad Vilayat Khan.
- Dr. Baldev Gambhir & Professor Him Chaterjee Renowned Painter from HP University on dtd. Dec 15th .12.2012 & Dec 17th ,2012
- Rabbi Sher Gill from Mumbai on dtd. Nov 23rd, 2012 & Dec 17th, 2012.
- On Dec 20th ,2012, Dr. Sneh Nanda (A Traditional Dancer)
- On Dec 21st ,2012 Sh. Rajiv Nayan world class famous Sculpturist from College of Arts & Crafts, Faculty of Fine Arts, Luckhnow University, Luckhnow.
- Professor Dr. S.S. Gill Vice Chancellor BFUHS, Faridkot dtd. Dec 22nd .2012.
- On Dec 24th, 2012, Professor Swantantar Sharma, Vice Chancellor Maan Singh Tomar, University for Music & Fine Arts Gwalior.
- On Dec 24th, 2012, Professor ADN Bajpai, Vice Chancellor, Himachal Pardesh University, Shimla.

45. List the teaching methods adopted by the faculty for different programmes.

- Audio Visual Aids.
- Live Performances.
- Through Traditional Methods

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Through Student Staff feedback.
- Suggestions from the expert Artists.
- Through special Workshops & Live Programmes.

47. Highlight the participation of students and faculty in extension activities.

Students Participation outside the G.N.D.U. Campus at the following places:

- Gurdaspur
- B.F.U.H.S., Faridkot.
- Art Gallery, Amritsar
- Durgiana Mandir, Amritsar
- Reality Shows in Punjab & Himachal Pradesh

48. **Give details of "beyond syllabus scholarly activities" of the department.**
    - Cultural Programme organized by Guru Nanak Dev University on different occasions.
    - Special participation of students in cultural programmes regularly in Youth Festivals.
    - Participation of the students in Cultural Programme organized by other Universities.
    - Students are being trained for the reality shows of different T.V. Channels time to time.
    - Students performed in most prestigious Classical Concerts (National Level)
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details: N**o
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
    - Teaches Indian Classical Traditions
    - Interdisciplinary & Scientific Knowledge
    - Basic Fundamental Theories for Job Avneues.
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the Department.**

    Strength:
    1. Total No. Students – Most Satisfactory (Seats Full)
    2. All Teaching & Accompanying Staff are performers in different fields.
    3. Multi-dimensional syllabus—All aspects
    4. Visiting Professors (High Calibre Visiting Faculty)
    5. Department is having student performances. (Some Students are Performing Artists)

    Weaknesses
    1. Shortage of Staff
    2. Poor Infrastructure for teaching.
    3. Under staffed Department (Teaching)
    4. No Research Grant
    5. No Sound Library.
52. **Future plans of the department.**
    1. Faculty of Visual & Performing Arts to Establish & Complete the Faculty.
    2. Shifting of the Department to a separate building
    3. Filling of Posts enabling the department to fall under SAP to introduce all the streams under Fine Arts, Dance & Theatre.
    4. Starting Advance Certificate Courses in the Department.
    5. To start a Referred Journal

B. REGIONAL CAMPUSES

MAHARAJA RANJIT SINGH REGIONAL CAMPUS, JALANDHAR

==/ 38 /==

1. **Name of the department:** Computer Science and Engineering
2. **Year of establishment :** 2002
3. **Is the department part of school/Faculty of the university:** Yes
4. **Names of the programmes offered:** U.G.
5. **Interdisciplinary programmes and departments involved** : The scheme of interdisciplinary courses introduced from the session 2010 onwards
6. **Courses in collaboration with other universities, industries, foreign institutions etc**.: None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination Systems:** Choice Based Credit System & Semester
9. **Participation of the department in the courses offered by other departments:** Interdisciplinary courses offered as per university norms
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/ Assistant Professors/ Others)**

Post	Sanctioned	Filled	Actual (including CAS and MPS)
Professor	01	None	----
Associate Professors/Reader	01	None	----
Assistant Professors	07	06	----
Others	05	02	----

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifica-tion	Designa-tion	Specialization	Experien ce (years)	No. of Ph.D./ M.Phil. students guided for the last 4 years
Er. Mandeep Kaur	B.Tech, M.Tech (CSE)	Assistant Professor	System Simulation, Software Engineering	12	None
Er. Neena Madan	B.Tech, M.Tech (CSE)	Assistant Professor	Computer Graphics and Data Mining	13	None

Mrs. Sheetal Kalra	M.C.A. (UGC-NET Qualified), Pursuing Ph.D.	Assistant Professor	Automata/ Programming/ ERP (JD Edwards)	Teaching : 6 Industry: 1	None
Mrs. Pankaj deep Kaur	MIT(Gold Medalist),(UGC-JRF Qualified), Pursuing Ph.D.	Assistant Professor	Distributed Computing	Teaching : 9 Research: 2	None
Er. Varinder Kaur Attrii	B.Tech, M.Tech. (CSE), Persuing Ph.D.	Assistant Professor	Software Engineering	12	None
Er. Parneet Kaur	B.Tech, M.Tech. (CSE)	Assistant Professor	Parallel Scheduling Algorithms	3	None

12. **List of Senior Visiting Fellows, adjunct faculty, emeritus professors:** None
13. **Percentage of classes taken by temporary faculty-programme wise information:** 24%
14. **Programme –wise Student Teacher Ratio:** 45:1
15. **Number of academic support staff(technical) and administrative staff, sanctioned, filled and actual:**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Technical staff	2	1	-
Administrative	2	2	-

16. **Research Thrust areas as recognized by major funding agencies:** None
17. **Number of faculty with ongoing projects from a) National b) International funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise. :** None
18. **Inter-institutional collaborative projects and associated grants received:** None
    a) National Collaboration b) International Collaboration
19. **Department projects funded by DST-FIST,UGC-SAP/CAS,DPE,DBT,ICSSR, AICTE, etc.; total grants received:**
    A grant of Rs.10 lakh received under General Development Assistance Scheme XIIth Plan 2012-13.

20. Research facility / centre with:

(i) 10 users simulation software MULTISIM, ULTIBOARD & LABVIEW.

(ii) 10 users simulation Software MATLAB (latest Version).

(iii) Optical system design simulation software Optisystem Version 11.0

(iv) Access of various E-Journals through INFLIBNET

21. Special research laboratories sponsored by / created by industry or corporate bodies: None

22. Publications: Number of papers published in peer reviewed journals (national /International): 9

23. Details of patents and income generated: None

24. Areas of consultancy and income generated: None

25. Faculty selected nationally/internationally to visit other laboratories/Institutions/industries in India and abroad.: None

26. Faculty serving in

a) **National Committees** None

b) **International Committees** None

c) **Editorial Boards** None

d) **any other (please specify)** None

27. Faculty recharging strategies (UGC,ASC, Refresher/orientation programs, workshops, training programs and similar programs)

Faculty members are encouraged and motivated to participate in different short term programs / Workshops/ Refresher / orientation programs conducted by different Universities and institutions. Faculty is promoted and allowed to attend the above mentioned as per University norms. Faculty is promoted and allowed to attend the above mentioned as per University norms.

Student Projects

- Percentage of students who have done in-house projects including inter-departmental projects 100% (6th Semester project)
- Percentage of students doing projects in collaboration with other universities/Industry/Institute 100% (6 months Industrial training)

28. Awards/recognitions received at the national level an international level by

- Faculty None
- Doctoral/post doctoral fellows None
- Students None

29. Seminars/Conferences/Workshops organized and the source of funding (National/ International) with details of outstanding participants , if any: None

30. Code of ethics for research followed by the departments:

As per university norms

31. Student profile Programme wise

Name of the Programme	Applications received	Selected Male Female			Pass percentage Male Female
BTech	Open State Level Counselling by Punjab Technical University Jalandhar	Year	M	F	2008 to 2012 students pass %age is 80% (M) and 95% (F) ; 2009 to 2013 students pass %age 100% (M) and 75 % (F); Rest are still pursuing the BTech programme.
		2012	57	54	
		2011	43	36	
		2010	29	22	
		2009	30	24	
		2008	39	21	

32. Diversity of Students: NA. The student intake is only for U.G. programme

33. How many students have cleared Civil services and defense services examinations, NET, SE, GATE and other competitive examinations? Give details category wise: 02 (GATE)

34. Student progression:

Student progression	Percentage against enrolled
U.G. to P.G.	NA
P.G. to M.Phil.	NA
P.G. to Ph.D.	NA
Ph.D. to Post Doctoral	NA
Employed ▪ Campus selection ▪ Other than campus recruitment	100 % placement for eligible students.
Entrepreneur	NA

35. Diversity of Staff

Percentage of faculty who are graduates	
of the same university	17
from other universities within the state	83
from universities from other states	None
from universities outside the country	None

36. Number of faculty who were awarded M. Phil, Ph.D., D. Sc. And D. Litt during the assessment period: 01 (M.Tech.)

37. Present details of departmental infrastructural facilities with regard to

a) Library : 9100 books , Reading Room and SC/ST Book Bank

b) **Internet facility for staff and student**s: 100% facility for faculty and Students

c) **Total number of class rooms** : 05

d) **Class rooms with ICT facility** : 03

e) **Student laboratories** : 05

f) **Research laboratories** NA

38. **List of doctoral, post doctoral students and Research Associates** : None

a) **From the host institution/university** None

b) **From other institutions/universities** None

39. **Number of post graduate students getting financial assistance from the university**: None

40. **Was any assessment exercise undertaken before the development of new programmes(s)? If so, highlight the methodology:** No

41. **Does the department obtain the feedback from?**

a. **Faculty on curriculum as well as teaching-learning-evaluation? If yes how does the department utilize the feedback?**

Any curriculum changes to be made as suggested by various faculty members from time to time in BOC. The recommended changes in the syllabus on regular basis are subsequently forwarded to the Board of Studies for further updation and implementation as per the requirements of industry and research.

b. **Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**

Feedback is regularly obtained from the students and discussed in BOC.

c. **Alumni and employers on the programmes offered and how does the department utilize the feedback?**

The suggestions given by alumni on the programmes offered are taken into consideration for revising the curriculum as per the demand of industry to fill the gap between institution & industry

42. **List the distinguished alumni of the department (maximum 10)**

Alumni of the department are well placed at various national and international platforms.

43. **Give details of student enrichment programmes (special lectures/workshops seminar) involving external experts.**

The workshops and seminars related to Ethical hacking, Coding Skill development and Embedded Systems are regularly organized by the experts

44. **List the teaching methods adopted by the faculty for different programmes.**

a) Conventional Chalk and Talk b) Multimedia (DLP and Smart Projection Systems)

45. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

It is done in two segments i) Assessment for learning (Minor I, Minor II and Quiz/Assignments/viva voce) ii) Assessment of learning (Seminars and Major exams)

46. Highlight the participation of students and faculty in extension activities.

(i) Various NSS camps, Blood Donation, social welfare activities etc.
(ii) TECHFEST is organized annually by the students.
(iii) Participation in Youth Festival
(iv) Participation in various Sports Competitions at University level.

47. Give details of "beyond syllabus scholarly activities" of the department.

Students are groomed for technical and soft skill development through various in house activities like group discussion, Mock tests and programming activities to fill the gap between industry and academia.

Apart from this the students are constantly being encouraged to participate in various activities in the institutions of national repute.

48. State whether the programme /department is accredited/graded by other agencies? If yes, give details: No

49. Briefly highlight the contributions of the department in generating new knowledge, basis or applied.

The contribution has been done in the areas of cloud computing, network security, software engineering and wireless pervasive networks.

50. Details five major Strengths, Weakness, opportunities and challenges (SWOC) of the department.

i) Strengths: Well Qualified Faculty, well Stocked Library with book bank , Wi-Fi enabled library, well equipped computer labs with 10 Mbps leased line based internet facility, subscriptions to all e-journals for ready research reference.

ii) Being the regional campus of the university there is limitation in number of interdisciplinary courses offered and sports facilities.

51. Future plans of the department.

- Introduction of Postgraduation programme with emerging areas of specialization.
- Upgradation of research facilities in the field of cloud computing, software engineering and discrete event simulators.

1. **Name of the department:** Electronics and Communication Engineering
2. **Year of establishment :** 2002
3. **Is the department part of school/Faculty of the university**: Yes
4. **Names of the programmes offered (U.G., P.G., M.Phil., Integrated masters, Integrated Ph.D., D.Sc., D.Litt., etc.) :** U.G.
5. **Interdisciplinary programmes and departments involved:** The scheme of interdisciplinary courses introduced from the session 2010 onwards
6. **Courses in collaboration with other universities, industries, foreign institutions etc:** None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination Systems:** Choice Based Credit System & Semester
9. **Participation of the department in the courses offered by other departments**: Interdisciplinary courses offered as per university norms
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/ Assistant Professors/ Others)**

Post	Sanctioned	Filled	Actual (including CAS and MPS)
Professor	01	-	-
Associate Professors	01	01	01
Assistant Professors	08	08	08
Temporary	02	02	02

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designation	Specialization	No. of Years of Experi-ence	No. of Ph.D./ M.Phil. students guided for the last 4 years
Jyoteesh Malhotra	Ph.D., M.Tech., B.E	Associate Professor & Head	Wireless/ Optical Communicatio n Systems and Networks	18	-

Deep Kamal Randhawa	Ph.D., M.Tech., B.E	Assistant Professor (Senior Scale)	Nano Electronics, Molecular Electronics and Electronic Devices	21	-
Er. Manjit Singh	Ph.D. pursuing, M.Tech., B.Tech	Assistant Professor (Senior Scale)		14	-
Butta Singh	Ph.D., M.Tech., B.Tech	Assistant Professor	Biomedical Signal Processing and Biomedical instrumentation	08	-
Er. Neetika Bhalla	M.Tech., B.Tech	Assistant Professor	Optical CDMA	11	-
Er. Harminder Singh	Ph.D. pursuing, M,E (Material Science), BTech (Mechnaical)	Assistant Professor		10	-
Er. Himali Thapar	Ph.D. pursuing, M.E, BTech	Assistant Professor	Optical Communication	08	-
Vinit Grewal	Ph.D., M.Tech., B.Tech	Assistant Professor	Wireless Communication & Networking	03	-
Er. Harmandar Kaur	Ph.D. pursuing, M.Tech, BTech	Assistant Professor	Optical	02	-

12. List of Senior Visiting Fellows, adjunct faculty, emeritus professors: None

13. Percentage of classes taken by temporary faculty-programme wise information: 19%

14. Programme –wise Student Teacher Ratio: 32:1

15. Number of academic support staff (technical) and administrative staff, sanctioned, filled and actual:

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Technical staff	2	2	-
Administrative	2	2	-

16. Research Thrust areas as recognized by major funding agencies: None

17. Number of faculty with ongoing projects from a) National b) International funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

01 minor project funded by UGC

18. Inter-institutional collaborative projects and associated grants received: None

a) National Collaboration b) International Collaboration

19. Department projects funded by DST-FIST,UGC-SAP/CAS,DPE,DBT,ICSSR, AICTE, etc.; total grants received:

A grant of Rs.10 lakh received under General Development Assistance Scheme XIIth Plan 2012-13.

20. Research facility / center with:

(i) A dedicated EDA Research/ Project Lab having 10 latest configuration computers for B.Tech. (Electronics & Communication Engineering) Students.

(ii) 10 users simulation software MULTISIM, ULTIBOARD & LABVIEW.

(iii) 10 users simulation Software MATLAB (latest Version).

(iv) Optical system design simulation software Optisystem Version 11.0

(v) Access of various E-Journals through INFLIBNET.

21. Special research laboratories sponsored by / created by industry or corporate bodies : None

22. Publications:

- **Publications in the national and international journals**: **Number of papers**: 48
- **Books :**
- **Citation Index:** 1-12
- **Impact Factor:** 0.5- 2 (average)

23. Details of patents and income generated: None

24. Areas of consultancy and income generated: None

25. Faculty selected nationally/internationally to visit other laboratories/Institutions/industries in India and abroad: None

26. Faculty serving in

a) National Committees 05

b) International Committees 04

c) Editorial Boards 05

d) any other (please specify) None

27. Faculty recharging strategies (UGC,ASC, Refresher/orientation programs, workshops, training programs and similar programs)

Faculty members are encouraged and motivated to participate in different short term programs / Workshops/ Refresher / orientation programs conducted by different Universities and institutions. Faculty is promoted and allowed to attend the above mentioned as per University norms.

28. Student Projects

- **Percentage of students who have done in-house projects including inter-departmental projects** 100% (6th Semester project)
- **Percentage of students doing projects in collaboration with other universities/Industry/Institute** 100% (6 months Industrial training)

29. Awards/recognitions received at the national level an international level by

- Faculty 01
- Doctoral/post doctoral fellows None
- Students None

30. Seminars/Conferences/Workshops organized and the source of funding (National/ International) with details of outstanding participants , if any: None

31. Code of ethics for research followed by the departments: As per university norms

32. Student profile Programme wise

Name of the Programme	Applications received	Selected Male Female			Pass percentage Male Female
B.Tech.	Open State Level Counselling by Punjab Technical University Jalandhar	Year	M	F	2008 to 2012 students pass %age is 95% (M) & 100 % (F) ; 2009 to 2013 students pass %age is 80%(M) & 96 % (F); Rest are still pursuing the BTech programme.
		2012	73	33	
		2011	56	30	
		2010	38	19	
		2009	30	24	
		2008	43	15	

33. Diversity of Students: NA as the student intake is for U.G. programme

34. How many students have cleared Civil services and defense services examinations, NET, SE, GATE and other competitive examinations? Give details category wise: 03 (GATE)

35. Student progression:

Student progression	Percentage against enrolled
U.G. to P.G.	-
P.G. to M.Phil.	-
P.G. to Ph.D.	-
Ph.D. to Post Doctoral	-
Employed ▪ Campus selection ▪ Other than campus recruitment	100 % placement for eligible students.
Entrepreneur	-

36. Diversity of Staff

Percentage of faculty who are graduates	
of the same university	22
from other universities within the state	67
from universities from other states	11
from universities outside the country	0

37. Number of faculty who were awarded M.Phil., Ph.D., D. Sc. And D. L : 03 (Ph.D.) and 03 (M.Tech.)

38. Present details of departmental infrastructural facilities with regard to

a) Library : Common with the Department of Computer Science and Engineering

b) Internet facility for staff and students: 100% facility for faculty and Students

c) Total number of class rooms : 06

d) Class rooms with ICT facility : 04

e) Student laboratories : 06

f) Research laboratories : None

39. List of doctoral, post doctoral students and Research Associates : None

a) From the host institution/university None

b) From other institutions/universities None

40. Number of post graduate students getting financial assistance from the university: NA

41. Was any assessment exercise undertaken before the development of new programmes(s)? If so, highlight the methodology: NA

42. Does the department obtain the feedback from?

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes how does the department utilize the feedback?

Any curriculum changes to be made as suggested by various faculty members from time to time are decided in BOC. The recommended

changes in the syllabus on regular basis are subsequently forwarded to the Board of Studies for further updation and implementation as per the requirements of industry and research.

b. **Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**
Feedback is regularly obtained from the students and discussed in BOC.

c. **Alumni and employers on the programmes offered and how does the department utilize the feedback?**
The suggestions given by alumni on the programmes offered are taken into consideration for revising the curriculum as per the demand of industry to fill the gap between institution & industry.

43. **List the distinguished alumni of the department (maximum 10)**
Alumni of the department are well placed at various national and international platforms.

44. **Give details of student enrichment programmes (special lectures/workshops seminar) involving external experts.**
The workshops and seminars related to Embedded Systems / Ethical hacking and Robotics are regularly organized by the experts.

45. **List the teaching methods adopted by the faculty for different programmes.**
a) Conventional Chalk and Talk b) Multimedia (DLP and Smart Projection Systems)

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
It is done in two segments i) Assessment for learning (Minor I, Minor II and Quizzes /Assignments/viva voce) ii) Assessment of learning (Seminars and Major exams)

47. **Highlight the participation of students and faculty in extension activities.**
(i) Various NSS camps, Blood Donation, social welfare activities etc.
(ii) TECHFEST is organized annually by the students.
(iii) Participation in Youth Festival.
(iv) Participation in various Sports Competitions at University level.

48. **Give details of "beyond syllabus scholarly activities" of the department.**
Students are groomed for technical and soft skill development through various in-house activities like group discussion, mock tests and programming activities to fill the gap between industry and academia.
Apart from this the students are constantly being encouraged to participate in various activities in the institutions of national repute.

49. **State whether the programme /department is accredited/graded by other agencies? If yes, give details**.: No

50. Briefly highlight the contributions of the department in generating new knowledge, basis or applied.

The contribution has been done in the areas of channel modelling in wireless communication, Nano materials use in Nano Electronic Devices, Wireless Sensor Networks and Biomedical Signal Processing.

51. Details five major Strengths, Weakness, opportunities and challenges (SWOC) of the department.

i) Strengths: Well Qualified Faculty, well Stocked Library with book bank facility, Wi-Fi enabled library, and well equipped computer laboratories with 10 Mbps leased line based internet facility. Fully secured internet access through cyber roam and subscriptions to all international e-journals for ready research reference.

ii) Being the regional campus of the university there is limitation in numbers of interdisciplinary courses offered and sports facilities.

52. Future plans of the department.

- Introduction of Postgraduation programme with emerging areas of specialization.
- Upgradation of research facilities in the field of Optical, Wireless, Biomedical and Nano Electronics.

1. **Name of the Department**: Laws
2. **Year of establishment:** 1979
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered**
   1. B.A.LL.B. (Hons.) FYIC
   2. LL.B. (Hons.) TYC
   3. LL.M. (Hons.)
   4. Ph.D.
5. **Interdisciplinary programmes and departments involved**
   ID Programmes offered to both U.G. & P.G. classes through Department of Journalism & Mass Communication, Department of Computer Science & Engineering, Department of Electronics & Engineering, Department of Punjabi etc.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** None.
8. **Examination System:** Choice Based Credit System.
9. **Participation of the department in the courses offered by other departments:** None
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate/Professors/Assistant Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	01	-	-
Associate Professors	02	-	02
Assistant Professors	11	06	06
Others(part-time)	07	07	07

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designa-tion	Specialization	No. of Years of Experi-ence	No. of Ph.D./M.Phil./ guided for the last 4 years
R K Marwah	M.A, LL.M, Ph.D	Associate Professor	Contract Law, Business Law, Commercial Law	24	Ph.D Enrolled-06
H S Sandhu	LL.M, Ph.D	Assistant Professor	Environmental Law	14	Ph.D Register-1 Enrolled-03

Rupam Jagota	LL.M, Ph.D	Assistant Professor	Criminal Law, Gender Law, Human Right, Jurisprudence	06	Ph.D Register-3
Varinder Singh	LL.M	Assistant Professor	Environmental Law	06	-
Ms Nirmala Devi	LL.M	Assistant Professor	Family Law	06	-
Ms Mona Goel	BDS, LL.M	Assistant Professor	Law of Evidence, Law of Property	01	-
Mrs Inder Preet Kaur	LL.M	Assistant Professor	Criminal Law	06	-

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors

- Professor Rajinderjit Kaur Pawar, Department of Laws, GNDU, Amritsar
- Professor Gurpal Singh, Department of Laws,Punjabi University Patiala
- Professor S. C. Sharma, Principal, St. Soldier Law College, Jalandhar

13. Percentage of classes taken by temporary faculty – programme-wise information

- BA, LL. B(Hons) FYIC - 40%
- LL. B(Hons) TYC - 40%

14. Programme-wise Student Teacher Ratio

- B.A. LL. B(Hons.) FYIC - 10:1
- LL. B(Hons.) TYC -10:1
- LL. M(Hons.) -10:1

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Sanctioned	Filled	Actual
Senior Assistant-01	Yes	Senior Assistant-02
Steno-Typist-01	No	No
Clerk/Jr. Assistant-02	One	No.
Dafri-01	Yes	Yes
Peon-Two	Yes	Yes
Peon-One (Fixed)	No.	No.
(Library Staff)Actual		
Professional Assistant-01		
Restorer-02		
Junior Library Attended Cum Peon-01		

16. **Research thrust areas as recognized by major funding agencies:** None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.:** None
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:** None
20. **Research facility / centre with**
    - **State recognition** None
    - **National recognition** None
    - **International recognition** None
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national /International):** 36
    - **Monographs:** Nil
    - **Chapters in Books:** 4
    - **Edited Books**: Nil
23. **Details of patents and income generated:** NA
24. **Areas of consultancy and income generated**
    Department provides Free Legal aid consultancy to general masses
25. **Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad:** None.
26. **Faculty serving in a) National committees b) International committees c) Editorial Boards d) any other (please specify)**
    Dr. R. K. Marwah (HOD), Dr Rupam Jogata, Dr H. S. Sandhu, Ms Nirmala Devi, Ms Inderpreet Kaur, Mr Varinder Singh, Ms Mona Goel
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).**
    Regular faculty members attend Refresher, Orientation and other faculty development programmes
28. **Student projects**
    - **Percentage of students who have done in-house projects including inter- departmental projects:** None
    - **Percentage of students doing projects in collaboration with other universities / Industry / institute:** None
29. **Awards / recognitions received at the national and international level by**
    - **Faculty**-None
    - **Doctoral / post doctoral fellows**-NA
    - **Students**-None

Student-The students got Moot Court Competition award, Debate etc at National Level

30. **Seminars/ Conferences/ Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.:** None

31. **Code of ethics for research followed by the departments**
The student and the faculty is involved in the original research work relating to recent areas in the field of Law.

32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected Male	Selected Female	Pass percentage Male	Pass percentage Female
B. A, LL. B(Hons)	Through State level Online Counselling	34	26	97	95
LL. B(Hons)		50	34	95	94
LL. M(Hons)	86	25	15	98	96

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
LL. B(Hons)	60	30	10	0
B. A,LL. B(FYIC)	Students admission is based on Percenage of Marks obtanined in 10+2			
LL. M(Hons)	80	15	5	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.**
PCS (judicial Services) Examination: 09 students, NET: 08 Students, Legal Researchers at Punjab & Haryana High Court-06

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	95
P.G. to M.Phil.	-
P.G. to Ph.D.	15
Ph.D. to Post-Doctoral	None
Employed • Campus selection • Other than campus recruitment	 5 95
Entrepreneurs	N.A.

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	90
from other universities within the State	05
from universities from other States	05
from universities outside the country	00

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period

Ph. D- 01

38. Present details of departmental infrastructural facilities with regard to

a) Library: The department has its own well equipped library having 40,000 books. The department also subscribes to reputed journals, periodicals, manuals etc. The online facility is available to access the online journals.

b) Internet facilities for staff and students: The High speed internet facility is available to both staff and students.

c) Total number of class rooms: 10

d) Class rooms with facility: None

e) Students 'laboratories: (Computer Lab): 01

39. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university: 01

b) from other institutions/universities: None

40. Number of post graduate students getting financial assistance from the university: 08

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology: No.

42. Does the department obtain feedback from?

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

c. alumni and employers on the programmes offered and how does the department utilize the feedback?

The department gets the feedback from the faculty and students and the appropriate feedback is utilises every year in revising the curriculum.

43. List the distinguished alumni of the department (maximum 10)

i. Sh. Prem Kumar Dhumal, Former Chief Minister, Himachal Pradesh.
ii. Sh. Manoronjan Kalia, formerly Cabinet Minister, Govt. of Punjab.
iii. Dr Inderjit Singh, Registrar, GNDU, Amritsar.
iv. Dr J. R. Sharma, Ex. DGP, Punjab
v. Dr Chander Skekhar, Former ADGP, Punjab.
vi. Justice Iqbal Singh, Retried Judge, Punjab & Haryana High Court.

vii. Sh. Jasjeet Singh Malook, Additional District & Session Judge, Ferozepur.
viii. Dr Manoj Sharma, Assistant Professor, Rajiv Gandhi National Law University, Patiala.
ix. Sh Pritpal Singh, Chief Judicial Magistrate, Patti.
x. Sh. Rajesh Bhagat, Civil Judge, Senior Division, Sultanpur Lodhi

44. Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.

Extension Lecture Series is arranged every year and prominent academicians are invited to deliver the lecture to students.

45. List the teaching methods adopted by the faculty for different programmes.

Lecture Method, Power Point Presentations, Discussion Method, Assignment Writing, Moot Court.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

The department endeavours to ensure the quality education. The desired objectives are monitored though examination results, Competitive exams and the placement of students.

47. Highlight the participation of students and faculty in extension activities.

National Service Scheme (N.S.S.) camps are organised in the department involving the activities of blood donation, tree plantation, cancer awareness, drug addiction etc. The students & faculty members are also involved in the social & public awareness programme including free legal aid.

48. Give details of "beyond syllabus scholarly activities" of the department.

a) Lok Adalat Participation.
b) Legal Aid Clinics.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details.

No.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The Department frames & updates the curriculum of the courses in view of latest development in the field of law. The landmark judgements pronounced by the Apex Court & High Court are discussed among students & faculty. The department also reviews the Law Commission reports and new enactments and highlights its lacunas.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

a) Strength:

1) Well Qualified Faculty.
2) Well equipped infrastructure.

3) Upgradation of curriculum every year.
4) Admission of Meritorious students.
5) Best Results in qualifying & competitive examination.

b) Weaknesses:

1) Location of Department in the outskirts of the city.
2) Poor transportation.
3) Boys Hostel facility not available.
4) Exchange programme of student and faculty not available.

c) Opportunities & Challenges:-

1) To provide quality legal education.
2) To provide best placement opportunities at National & International Level.
3) To produce the best lawyers, judges & teachers to serve the society.
4) To compete with leading legal institutions at the National Level.

52. Future plans of the department.

1) To impart quality legal education.
2) To upgrade the curriculum in view of the emerging laws.
3) To provide & create best infrastructure for the welfare of students and faculty members.

1. **Name of the Department:** Journalism & Mass Communication
2. **Year of establishment**: 1989
3. **Is the Department part of a School/Faculty of the University:** Yes
4. **Names of programmes offered:** M.A. Hons., Ph.D.
5. **Interdisciplinary programmes and departments involved**: Department of Laws, Punjabi and Computer Sciences for post graduate and Ph. D level interdisciplinary courses
6. **Courses in collaboration with other universities, industries, foreign Institutions, etc:** N.A.
7. **Details of programmes discontinued, if any, with reasons**: None
8. **Examination System:** Choice Based Credit System
9. **Participation of department in the courses offered by other departments:** Department of Laws, Punjabi and Computer Sciences for postgraduate level interdisciplinary courses
10. **Number of teaching posts sanctioned, filled and actual(Professors/Associate Professors/Assistant Professors/others)**

	Sanctioned	Filled	Actual (including CAS&MPS)
Professor	1	-	-
Associate Professors	2	1	1
Assistant Professors	3	2	2
Others	-	2 Part time/ Ad hoc	2 part time / ad hoc

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designation	Specialization	Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr. Kamlesh Singh Duggal	Ph.D.	Head	Print media	24	3 Ph.Ds awarded
Dr. Namarta Joshi	Ph.D.	Senior Lecturer	Film Studies	18	1 Ph.D. awarded
Ms. Charan Kamal Walia	Masters in Journalism	Assistant Professor	Communication Research	3	-

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None

13. **Percentage of classes taken by temporary faculty-programme-wise information**: 40%
14. **Programme-wise Student Teacher Ratio:** 8:1
15. **Number of academic support staff(technical) and:**
    Senior Technician: Sanctioned :2 filled:1 actual:2
    Administrative staff Sanctioned, filled actual
    Steno: Sanctioned: 1 filled:1 actual:1
    Peon: Sanctioned: 1 filled:1 actual:1
16. **Research thrust areas as recognized by major funding agencies: ICT, Development Communication, Media Laws and Ethics etc:** None
17. **Number of faculty with ongoing projects from a)national b) international funding agencies and c) Total grants received. Give the names of the funding agencies project title and grants received project-wise**: None
18. **Inter-institutional collaborative projects and associated grants received:** None.
    a) National collaboration b) International collaboration
19. **Departmental projects funded by DST-FIST;UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**: None
20. **Research facility/centre with**
    - State recognition:
    - National recognition:
    - International recognition:
21. **Special research laboratories sponsored by/created by industry or corporate bodies**: None
22. **Publications:**
    - **Number of papers published in peer reviewed journals(national/international)**- 16
    - **Monographs**- None
    - **Chapters in Books**- 8
23. **Details of patents and income generated:** N.A.
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally/ internationally to visit other laboratories/institutions/industries in India and abroad:** None
26. **Faculty serving in**
    a) National committees- 1
    b) International committees-0
    c) Editorial Boards-2
    d) any other: N.A.
27. **Faculty recharging strategies (UGC, ASC, Refresher/Orientation programs, workshops, training programs and similar programs).**
    The faculty attends Refreshers, GOCs, workshops etc. for updating themselves.

28. **Student projects**
    - **Percentage of students who have done in-house projects including inter-departmental projects**- 10%
    - **Percentage of students doing projects in collaboration with other universities/industry/institute**- 30%
29. **Awards/recognitions received at the national and international level by**
    - **Faculty**- None
    - **Doctoral/post doctoral fellows**- None
    - **Students**- None
30. **Seminars/Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any:**
    National Seminar organized by the Department in February 2010 on Contemporary media scenario- Issues and Challenges.
31. **Code of ethics for research followed by the departments**: As per UGC and University norms.
32. **Student profile programme-wise**

Name of the programme	Applications received	Selected Male	Selected Female	Pass Percentage Male	Pass Percentage Female
Master of Journalism & Mass Comm.					
2008-2009	44	8	17	100	100
2009-10	26	9	18	-do-	
2010-11	17	5	12	-do-	
2011-12	26	7	15	-do-	
2012-2013	20	9	6	-do-	
2013-14	37	15	16	-do-	

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from Universities outside the State	% of students from other countries
Master of Journalism & Mass Comm				
2008-2009	66	29	4%	0
2009-10	72	11	16	0
2010-11	86	14	0	0
2011-12	60	15	25	0
2012-13	54	36	9	0
2013-14	78	7	17	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET,GATE and other competitive examinations? Give details category-wise**

Civil Services – 2 , one Indian Information Service (IIS), one Session Judge (PCS), Defence Services-About 10 students in Army and Air Force, NET- 26

35. **Student progression**

Student Progression	Percentage against enrolled
U.G. to P.G.	
P.G. to M.Phil.	-
P.G. to Ph.D.	5
Ph.D. to Post-Doctoral	-
Employed • Campus Selection • Other than campus recruitment	 60 30

36. **Diversity of Staff**

Percentage of faculty who are graduated	
Of the same university	33%
From other universities within the State	66%
From universities from other States	0
From universities outside the country	0

37. **Number of faculty who were awarded M.Phil.,Ph.D.,D.SC.,and D.Litt. during the assessment period:** None
38. **Present details of departmental infrastructural facilities with regard to**
    a) Library -1253 books, 15 magazines and 14 daily newspapers.
    b) Internet facilities for staff and students - Yes
    c) Total number of class rooms -2
    d) Class rooms with ICT facility- 2
    e) Students' laboratories- Studios- Audio-visual and photo, Computer lab
    f) Research laboratories- None
39. **List of doctoral, post-doctoral students and Research Associates**

    a) from the host institution/university - At present one UGC Research Fellow besides three other students.

    b) from other institutions/universities - .N.A.
40. **Number of post graduate students getting financial assistance from the university:**

    All SC/ST students and financially backward students are given assistance by the University every year.

41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:**
New courses/ programmes are introduced only after assessing the demand of the students in the region.

42. **Does the department obtain feedback from?**
a) Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? Yes , through meeting and at BOS level and through changes in the syllabus.
b) Students on staff, curriculum and teaching-learning evaluation and how does the department utilize the feedback? Informally and through suggestion box installed in the department. Department utilizes this feedback by making required changes if possible
c) Alumni and employers on the programmes offered and how does the department utilize the feedback? Informally and during internships of students. Department utilizes this feedback by making changes in its teaching methods, syllabus etc.

43. **List the distinguished alumni of the department (maximum 10):**
- Jagdeep Singh Marhok, Session Judge, Ferozepur;
- Harjinder Sidhu, Media Advisor to Deputy CM , Punjab;
- Harmeet Dhillon, Media Advisor to President SGPC;
- Davinder Chinna, Governing Member Khalsa College, Amritsar and Cultural Exchange Ambassador; Varinder Singh, Principal Correspondent , The Tribune;
- Manvinder Singh, Information and PRO with CM, Punjab;
- Kamaldeep , PRO, with Deputy CM, Punjab;
- Dr. Sarabjeet Kaur Sohal, National Awardee Teacher;
- Kuljinder Sidhu, Dinesh Sood, Film Producers: Mehboob Brar, Executive Producer; Sher Jung Hundal, DPRO, Amritsar.

44. **Give details of student enrichment programmes(special lectures/workshops/seminar) involving external experts.:**
- Experts from the field are invited for interaction with students including entire staff from local newspaper offices like
- Hindustan Times, The Tribune etc. The Department has also been organizing national seminars on different subjects from time to time.

45. **List the teaching methods adopted by the faculty for different programmes.:**
The faculty is using audio visual aids like LCD projectors and powerpoint, smartboards, OHPs etc for teaching in classrooms.

46. **How does the department ensure that programme objectives are constantly met and learning outcomes and monitored?**
Regular meetings are held, if need be daily, of the entire staff, to outline the agenda for the day and then to see whether the targets have been achieved.

47. **Highlight the participation of students and faculty in extension activities:** The faculty is frequently invited by other organizations, Media Houses etc. and colleges to deliver extension lectures in the field of Journalism

48. **Give details of "beyond syllabus scholarly activities" of the department**:
The department goes beyond classroom teaching and the students are taken for visits to the industry, Vidhan Sabha, Parliament to acquaint them with the political process, FTII, Pune ; involved in social activities like blood donation, NSS work etc. Regular surveys on current topics are conducted by them.

49. **State whether the programme/department is accredited/ graded by other agencies? If yes, give details:** No

50. **Briefly highlight the contribution of the department in generating new knowledge, basic or applied:**
This is the core department on the subject in the University, responsible for shaping various courses including those in affiliated colleges. It was among the first to introduce subjects like Corporate Communications, Human Rights, Film Studies in the region as also activities like Media Fest.

51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department:**

Strengths-

1. Teacher student rapport
2. Stress on academics making for a strong theoretical base for students.
3. Stress on research
4. Adequate infrastructure
5. Well Stocked library

Weaknesses-

1. Inadequate publicity of the department for admissions.
2. Inadequate technical support staff.
3. Inadequate funding for many extra curricular activities
4. Lack of Wi-Fi and networking facility
5. Lack of reputed international research journals

Opportunities

1. Setting up Community Radio in the department.
2. More Campus placements as media proliferates.
3. Conducting Personality and Language Development programmes for Faculty and Students.
4. Department- Industry Linkage
5. MoUs with Universities in India and Abroad

Challenges

1. To generate self funding.
2. Expansion of courses in the Department
3. To come out with regular Research Journal

4. To get more students from all over India and abroad.

52. Future plans of the Department:

The department will complete 25 years of its existence in 2014 and plans an activity filled year, with seminars and workshops.

The department plans to have a fully equipped media centre with conference and multimedia facilities in the coming years.

1. **Name of the Department**: Punjabi
2. **Year of establishment**: 1979
3. **Is the Department part of a School/Faculty of the University**?: Yes
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.):** P.G., M.Phil., Ph.D.
5. **Interdisciplinary programmes and departments involved**: Department collaborated with CIIL, Mysore (MHRD), National Translation Mission, Mysore, Department of Computer science & Engg. (R.C.Jalandhar) & C-DAC Noida in organizing seminars/workshops & Orientation programme in Language Technology, Computational Linguistics & Natural Language Processing.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**: None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Semester, Choice Based Credit System
9. **Participation of the department in the courses offered by other departments**: M.A. & M.Phil. students took ID courses from departments of Journalism and Mass communication & Computer Science & Engg.
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professors	2	1	1(CAS)
Associate Professors	1	-	-
Assistant Professors	3	-	-
Others			

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designa-tion	Specialization	No. of Years of Experi-ence	No. of Ph.D./M.Phil. students guided for the last 4 years
Baljeet Kaur	Ph.D.	Professor (Rtd.)	Modern Poetry	34	03/11
Tejinder Kaur	Ph.D.	Professor (Rtd.)	Folklore	36	07/13
Sukhvinder Singh	Ph.D.	Professor & Head	Linguistics	25	09/23
Raghbir Kaur	Ph.D.	Associate Professor (Rtd.)	Drama	25	04/05

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors**: None
13. **Percentage of classes taken by temporary faculty – programme-wise information:**
    a) M.A.(Hons.) 20%
    b) M.Phil. 30%
14. **Programme-wise Student Teacher Ratio**
    a) M.A.(Hons.) 5.5 : 2
    b) M.Phil. 5: 2
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**

	Sanctioned	Filled	Actu
Steno-Typist	1	1	1
Peon	1	1	1

16. **Research thrust areas as recognized by major funding agencies**: None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise**.: None
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration**: None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**: None
20. **Research facility / centre with:** None
    - **State recognition**
    - **National recognition**
    - **International recognition**
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national/ International)** : 01
    - **Monographs** : -
    - **Chapters in Books**: 05
    - **Edited Books**: -
    - **Authored Books with ISBN with details of publishers**: 3
23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally /internationally to visit other laboratories/Institutions / industries in India and abroad:** NA

26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify)
    i) Member Academic Council, PTU
    ii) Dean Language Faculty, PTU
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).**: None
28. **Student projects:** None
    • Percentage of students who have done in-house projects including inter- departmental projects
    • Percentage of students doing projects in collaboration with other universities /Industry / institute
29. **Awards / recognitions received at the national and international level by**: None
    • Faculty
    • Doctoral / post doctoral fellows
    • Students
30. **Seminars/Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.**
    1. Organized two day workshop on Development of Linguistic Resources for Punjabi in collaboration with C-DAC Noida on May 19-20, 2011 at Regional Campus, Jalandhar, funded by C-DAC, Noida.
    2. Ten day workshop on Natural Language Processing from January 31 to February 10, 2012 in Collaboration with LDC IL, CIIL, Mysore (MHRD) and funded by CIIL, Mysore.
    3. 5 day workshop on Translators Orientation Programme for Knowledge Text Translation (Panjabi) from September 4 to September 8, 2012 at Regional Campus, Jalandhar, funded by NTM, CIIL, Mysore
    4. Organized Bapu Veer Singh Memorial Lecture on Shri Guru Granth Sahib:Sampaadan Jugtan by Dr.B.S.Cheema on 3rd Feb.,2012. at Regional Campus, Jalandhar.
31. **Code of ethics for research followed by the departments**: As per university norms.
32. **Student profile programme-wise**:

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
2009-10 (M.Phil.)	35	02	18	100	100

2010-11 (M.Phil.)	joint entrance test at School of Panjabi Studies, GNDU, Amritsar	03 07	100 100
2011-12 (M.A.Hons. & M.Phil.)	joint counselling and Entrance test at School of Panjabi Studies, GNDU, Amritsar	01 20	100 100
2012-13 (M.Phil.)	joint entrance test at School of Panjabi Studies, GNDU, Amritsar	02 08	100 100

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M.Phil.Pbi.2009-10 Ph.D.	45 89	55 11	0	0
M.Phil.Pbi.2010-11 Ph.D.	60 100	40 -----	0 0	0
M.A.(Hons.) 2011-12 M.Phil.Pbi.2011-12 Ph.D.	75 50 100	25 50 -----	0	0
M.Phil.Pbi.2012-13	70	30	0	0

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

NET in last 4 years: Gen (08), SC (07): Total 15

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	
P.G. to M.Phil.	
P.G. to Ph.D.	22
Ph.D. to Post-Doctoral	
Employed • Campus selection • Other than campus recruitment	-
Entrepreneurs	-

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	50
from other universities within the State	50
from universities from other States	0
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period** : None
38. **Present details of departmental infrastructural facilities with regard to**
    a) Library : Combined library : Books : 9000, Magazines: 02
    b) Internet facilities for staff and students : Yes
    c) Total number of class rooms : 03
    d) Class rooms with ICT facility : --
    e) Students' laboratories : --
    f) Research laboratories : --
39. **List of doctoral, post-doctoral students and Research Associates**:

    a) from the host institution/university : 23
    b) from other institutions/universities : None
40. **Number of post graduate students getting financial assistance from the University**: None
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology**: None
42. **Does the department obtain feedback from?**
    a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? : Yes, uses for redesigning the syllabi
    b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? : Not on staff, but on curriculum and uses it for improving teaching technology.

c. alumni and employers on the programmes offered and how does the department utilize the feedback? No

43. **List the distinguished alumni of the department (maximum 10)**
    1. Dr.Sukhvinder Singh Sangha, Associate Dean Academic Affairs & Student Welfare, Regional Campus, Jalandhar.
    2. Dr.Baljeet Kaur, Former Associate Dean, Regional Campus, Jalandhar and Syndic, GNDU
    3. Dr.Tejinder Kaur, Former Associate Dean, Regional Campus, Jalandhar and Syndic, GNDU
    4. Dr. Raghbir Kaur, Former Head, Panjabi Department, Regional Campus, Jalandhar and Syndic, GNDU
    5. Dr.Harjit Singh, Former Director, Doordarshan Kendar, Jalandhar.
    6. Dr.Ved Agnihotri, Former, Head, Panjabi Department, DAV College Jalandhar
    7. Dr.Ominder Johal, Associate Professor, Doaba College, Jalandhar
    8. Dr. Davinder Mand, Assistant Professor, DAV College, Jalandhar
44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.**
    1. Organized two day workshop on Development of Linguistic Resources for Punjabi in collaboration with C-DAC Noida on May 19-20, 2011 at Regional Campus, Jalandhar.
    2. Ten day workshop on Natural Language Processing from January 31 to February 10, 2012iin Collaboration with LDC IL,CIIL, Mysore.
    3. 5 day workshop on Translators Orientation Programme for Knowledge Text Translation (Panjabi) from September 4 to September 8, 2012 at Regional Campus, Jalandhar.
    4. Organized Bapu Veer Singh Memorial Lecture on Shri Guru Granth Sahib: Sampaadan Jugtan by Dr.B.S.Cheema on 3rd Feb.,2012. at Regional Campus, Jalandhar.
45. **List the teaching methods adopted by the faculty for different programmes**: Lecture, PPT and OHP methods
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored**?: There is continuous monitoring of the programmes outcome with the Choice Based Credit System.
47. **Highlight the participation of students and faculty in extension activities**. : Faculty members often deliver extension lectures to the P.G. students of various Colleges of the region, and department students too go to different institutions to attend seminars and expert lectures.
48. **Give details of "beyond syllabus scholarly activities" of the department**: Department organizes seminars, workshops, and extension lectures, and also class wise competitions of the students during seminar period.
49. **State whether the programme/department is accredited/ graded by other agencies? If yes, give details**: No

50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied**. :
The M.Phil. and Ph.D. scholars of the department have explored many new areas of research in Punjabi Language, Literature and Culture and enriched the discipline with generating huge corpus, and also providing new interpretation to the existing data/texts/knowledge.

51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**
    a) Jalandhar is education and media hub, running two P.G. Programmes with single faculty and four research scholars is our main challenge, weakness and strength.
    b) Due to paucity of human resources, we cannot apply for any department programme like SAP etc.
    c) The department has produced many distinguished alumni who are serving /has served in various reputed institutions.

52. **Future plans of the department**: Department plans to start P.G. Diploma in Punjabi

GURU NANAK DEV UNIVERSITY, REGIONAL CAMPUS, GURDASPUR

==/ 43 /==

1. **Name of the Department**: Business Management.
2. **Year of establishment**: 1999
3. **Is the Department part of a School/Faculty of the University?:** Yes
4. **Names of programmes offered:** U.G.- B.Com., P.G.- M.Com, MBA
5. **Interdisciplinary programmes and departments involved**
   Interdisciplinary programmes are offered to the departments of Computer science, Electronics and Laws.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons**: None
8. **Examination System**: Choice Based Credit System, Semester
9. **Participation of the department in the courses offered by other departments**
   Students of the department opt for Interdisciplinary Course from other departments.
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	0	0
Associate Professors	2	0	0
Assistant Professors	5	5	5
Others			

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designation	Specialization	No. of Years of Experi-ence	No. of Ph.D./M.Phil. students guided for the last 4 years
Rishi Raj Sharma	MBA, Ph.D.	Assistant Professor (In charge)	Advertising, Marketing	13	-
H.S. Chahal	MBA, Ph.D.	Assistant Professor	Marketing, HR	12.	-
Amardeep Kaur	MBA, Ph.D.	Assistant Professor	Marketing, HR	12	-

Sapna	M.Com, M. Phil	Assistant Professor	Finance	5	-
Arwinder Singh	MBA, Ph.D.	Assistant Professor	Finance	14	-

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors**: None
13. **Percentage of classes taken by temporary faculty – programme-wise information**
    B.COM- 43%
    M.COM- None
    MBA- None
14. **Programme-wise Student Teacher Ratio**
    1. B.Com – 7:1
    2. MBA – 8:1
    3. M.Com – 8:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual -** None
    Sanctioned -
    Filled -
16. **Research thrust areas as recognized by major funding agencies:** None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise:** Dr. Rishi Raj Sharma has been granted a Major Research Project by UGC in the area **'**Knowledge Management'**.** Rs. 3.75 lakh
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration**
    None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:** None
20. **Research facility / centre with**
    • **State recognition** - None
    • **National recognition** - None
    • **International recognition** - None
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    Number of papers published in peer reviewed journals (national International): 28
    ∗ **Monographs**:
    ∗ **Chapters in Books**: 5
23. **Details of patents and income generated:** NA
24. **Areas of consultancy and income generated:** None

25. **Faculty selected nationally/internationally to visit other laboratories/ Institutions/industries in India and abroad:** None
26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify):
    None
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).**
    None
28. **Student projects**
    • **Percentage of students who have done in-house projects including inter- departmental projects:** None
    • **Percentage of students doing projects in collaboration with other universities / Industry / institute:** None
29. **Awards / recognitions received at the national and international level by**
    • **Faculty:** None
    • **Doctoral / post doctoral fellows:** NA
    • **Students:** None
30. **Seminars/ Conferences/ Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.** None
31. **Code of ethics for research followed by the departments**
    All the ethics are strictly adhered to ensure high quality and genuine research.
    All the efforts are pursued to ensure the transparency in the conduct of research activities.
32. **Student profile programme-wise**:

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
B.COM(PROF.)	54	26	26	100	
MBA	32	19	10	100	
M.COM	42	03	38	100	

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.COM		72(CBSC), 28(PSEB)	0	0
MBA	62	27	11	0
M.COM	97	0	3	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.**
NET -12

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	-
P.G. to M.Phil.	-
P.G. to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	 67 23
Entrepreneurs	-

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	100
from other universities within the State	0
from universities from other States	0
from universities outside the country	0

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period**
Ph.D. – 1
M.Phil. - 1

38. **Present details of departmental infrastructural facilities with regard to**
a) Library: None. Common Library
b) Internet facilities for staff and students: Yes
c) Total number of class rooms: 5
d) Class rooms with ICT facility: None
e) Students' laboratories: None
f) Research laboratories**:** None

39. **List of doctoral, post-doctoral students and Research Associates**
a) from the host institution/university - None
b) from other institutions/universities - None

40. **Number of post graduate students getting financial assistance from the university.**
10% of the total students are getting financial assistance from university

41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology :**
None

42. **Does the department obtain feedback from**?
    a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? :**No.
    b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**
    c. **alumni and employers on the programmes offered and how does the department utilize the feedback?:** No
43. **List the distinguished alumni of the department (maximum 10):** None
44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts:** Special Lectures
45. **List the teaching methods adopted by the faculty for different programmes:**
    Lectures, discussions, ICT
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?:** Through continuous evaluation and grading.
47. **Highlight the participation of students and faculty in extension activities:** None
48. **Give details of "beyond syllabus scholarly activities" of the department:** Discussions
49. **State whether the programme/department is accredited/ graded by other agencies? If yes, give details:** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
    The department is focussing on research which is socially desirable and relevant to the discipline.
52. **Detail five major Strengths, Weaknesses, Opportunities and Challenges**
    (SWOC) of the department.
    1. The department caters to the need of students not only belonging to backward/ rural areas of gurdaspur but also the students belonging to economically weaker sections.
    2. The department has started new courses as per the needs of the students of this area.
    3. The department have well equipped library which stocks latest and relevant books, journals, e-journals and other suitable material required for research and learning.
    4. The faculty of department is well qualified.
    5. Being situated in remote and backward area, the campus is not well connected to major cities.
    6. The potential for growth is immense as there is no other institute at par with GNDU status and it is also great opportunity for students of this area and its adjoining states (like J&K and H.P)

52. Future plans of the department.

The department plans to start some new innovative courses in relevant disciplines of management and commerce, like 5 year integrated programme in technology and management (B. Tech).

1. **Name of the Department**: Computer Science & Engineering
2. **Year of establishment**: 2002
3. **Is the Department part of a School/Faculty of the University**?: Yes
4. **Names of programmes offered:** B. Tech (Computer Science & Engineering), M.Tech. (Computer Science & Engineering), and Master of Computer Applications
5. **Interdisciplinary programmes and departments involved**:
   - Department is offering interdisciplinary courses for the students of L.L.B (FYIC), M.B.A., B. Tech (Electronics & Communication Engineering) and M. Tech (Electronics & Communication Engineering).
   - Under Choice Based Credit System, there are compulsory interdisciplinary subjects in the syllabus of B.Tech. (Computer Science & Engineering), M. Tech (Computer Science & Engineering) and M.C.A. (Three Year Course). The students opt for such subjects in other departments at will.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.**
   (i) We are having cloud computing setup with dedicated 10 computer laboratories having software like Aneka, Cloudsim and Matlab. We are having research collaboration with Dr Kuldip Singh, Ex-Professor, Computer Science & Engineering IIT, Roorkee and Dr A.K. Sarje, Professor, Computer Science & Engineering, IIT, Roorkee. They are renowned researchers in the field of Computer Science & Engineering. The Department is having one full time research scholar and five part time research scholars.
   (ii) Research Lab for M.Tech (Computer Science & Engineering) students with different simulation software.
   (iii) There are Industrial training courses within the curriculum of B.Tech (CSE) and M.C.A. students.
7. **Details of programmes discontinued, if any, with reasons:**
   Master of Computer Applications (Five Year Integrated Course).
   After 10+2, becaurse students prefer B.Tech. courses and we were not getting students in this course.
8. **Examination System:** Choice Based Credit System, Semester
9. **Participation of the department in the courses offered by other departments:**
   Our department students study interdisciplinary courses offered by other departments viz: Electronics and Communication Engineering, Law, Business Management and Humanities.

10. Number of teaching posts sanctioned, filled and actual (Professors/ Associate Professors/ Assistant Professors/others):

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	01	None	--
Associate Professors	03	01	01
Assistant Professors	08	06	06
Assistant Professor (Contract)	None	06	06
Assistant Professor (Part time)	02	11	11
Others			

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance:

Name	Qualific a-tion	Designati on	Specialization	No. of Years of Experi-ence	No. of Ph.D./M.Phil. students guided for the last 4 years
Dr Sandeep Kumar Sood	M.Tech, Ph.D.	Associate Professor	Cloud Computing & Information Security	14	Six Students are Enrolled in Ph.D.
Amit Pal Singh	B.Tech, M.Tech.	Assistant Professor	Software Engineering	12	-
Harjot Kaur	M.C.A.	Assistant Professor	Distributed Artificial Intelligence	11	-
Taqdeer	B.Tech, M.Tech.	Assistant Professor	Digital Image Processing	13	-
Mini Singh Ahuja	B.Tech, M.S.	Assistant Professor	Software Engineering	13	-
Sharanjit Singh	B.Tech, M.Tech.	Assistant Professor	Theory of Computation	11	-
Sandeep Kaur	B.Tech, M.Tech.	Assistant Professor	Bio-Informatics	4.5	-
Pardeep Sharma	B.Tech, M.Tech.	Assistant Professor	Cloud Computing	2	-
Shavinder Bajwa	B.Tech, M.Tech.	Assistant Professor	Ad hoc Networks	1	-
Ritika Sood	B.Tech, M.Tech.	Assistant Professor	Digital Image Processing	2	-

Navneet Kaur	B.Tech, M.Tech.	Assistant Professor	Parallel Computing	1	-
Garima Mahajan	B.Tech, M.Tech.	Assistant Professor	Distributed Databases	1	-
Anuradha Minhas	M.Sc., M.Tech	Assistant Professor	E-Governance	3	-
Hemlata	M.Sc. (Maths) U.G.C.	Assistant Professor	Differential Equations	3	-

12. **List of Senior Visiting Fellows, adjunct faculty, emeritus professors**:
    i. Dr Kuldip Singh, Retired Professor, Computer Science & Engineering, I.I.T., Roorkee
    ii. Dr Anone K. Sarje, Professor, Computer Science & Engineering, I.I.T., Roorkee
13. **Percentage of classes taken by temporary faculty – programme-wise information**
    i. B. Tech (Computer Science & Engineering): 15 %
    ii. M.Tech (Computer Science & Engineering): 5 %
    iii. Master of Computer Applications: 10 %
14. **Programme-wise Student Teacher Ratio**:
    B.Tech.CSE 20:1
    M.C.A. (TYC) 20:1
    M.Tech. 11:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**

	Sanctioned	Filled	Actual (including CAS & MPS)
Associate Dean (Academic Affairs & Student Welfare)	01	01	01
Superintendant	01	01	01
Clerk Cum Junior Data Entry Operator	03	03	03
Jr. Technician	02	02	02
Professional Assistant (Library)	01	01	01
Junior library Attendant cum peon	04	04	04

16. **Research thrust areas as recognized by major funding agencies:** Nil

17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.**
    Dr Sandeep Kumar Sood: "Trust based Proactive Resource Provisioning in Clouds" Sanctioned by U.G.C as major research project costing 10.48 Lakhs with One Research Fellow.
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration**
    (i) Grant of Rs. 70,000/- is received from U.G.C to conduct national level seminar.
    (ii) Grant of Rs. 10 Lakhs received under General Development Assistance Scheme under XII Plan scheme in the Department of Computer Science & Electronics Engineering.
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:** None
20. **Research facility / centre with**
    • **State recognition**
    • **National recognition**
    • **International recognition**
21. **Special research laboratories sponsored by / created by industry or corporate bodies**
    A cloud computing lab with ten computers has been setup from the grant sanctioned by U.G.C under major research project sanctioned to Dr Sandeep Kumar Sood.
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national / International):** 52
    - **Monographs:** Nil
    - **Chapters in Books:** Nil
    - **Edited Books:** Nil
    - **Books with ISBN with details of publishers:** Nil
    - **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCO host, etc.)**
    - **Citation Index – range / average:** 236 (Dr Sandeep K Sood)
    - **SNIP:** 2.231(JNCA, Elsevier), 0.726(Security and Communication Networks, Wiley)
    - **SJR:** 0,886 (JNCA, Elsevier), 0,239 (Security and Communication Networks, Wiley)
    - **Impact Factor – range / average:** 1.467
    - **h-index:** 9 (Dr Sandeep K Sood)
23. **Details of patents and income generated**
    "Inverse Cookie based Password Authentication Protocol" is submitted for patent to IPR cell.

24. **Areas of consultancy and income generated**
Department is providing consultancy regarding computing setup to different schools, industry in this border belt free of cost. Students develop websites of various organizations as free of cost.

25. **Faculty selected nationally / internationally to visit other laboratories / Institutions / industries in India and abroad**
Dr Sandeep Kumar Sood had done his doctorate from Department of Computer Science & Engineering, I.I.T., Roorkee.

26. **Faculty serving in**
a) National committees b) International committees c) Editorial Boards d) any other (please specify)
Dr Sandeep Kumar Sood is in editorial board of different journals and act as reviewer in Elseveir, Springer and other reputed journals.

27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).**
    - The faculty members are encouraged to attend Refresher courses, workshop and other orientation courses organised by various institutes and Academic Staff Colleges located in various Universities. The department also holds training programmes for training of the faculty members with the help of industry experts.
    - Department Organized UGC-Sponsored National Seminar on "Issues in Cloud Computing & Wireless Communication" dated 13-14th August, 2012.

28. **Student projects**
• Percentage of students who have done in-house projects including inter- departmental projects: None
• Percentage of students doing projects in collaboration with other universities / Industry / institute
    - Students work on major and minor projects in collaboration with other universities/industries/institutes during their training period.

29. **Awards / recognitions received at the national and international level by**
• Faculty
(i) Dr Sandeep K. Sood has been honoured as Teacher to deliver services to students and society on Teacher's day (5th September, 2013) by Bharat Vikas Parishad, Gurdaspur.
• Doctoral / post doctoral fellows: NA
• Students: None

30. **Seminars/ Conferences/ Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.**
    - UGC Sponsored National Seminar on "Issues in Cloud Computing & Wireless Communication" dated 13-14th August, 2012.
    - Quiz-O-Polis Intra Department quiz was organized by the Technical Student Society TSS# on September, 2011.

- Advanced Java & Embedded System workshop conducted in October, 2011.
- Workshop on "Security Solutions" organized by SECUGINIUS SECURITY SOLUTION in February, 2012.
- Workshop on Android Operating System conducted by Netmax in April, 2012.
- Career Launcher Mock Placement Drive in March, 2012.
- TSS organized workshop on ethical hacking in March 2011.

31. Code of ethics for research followed by the departments

- The department is fully dedicated to research in various core areas of computer science. Almost all the faculty members are enrolled in the Ph.D. Programme and actively doing research in their respective areas like network security, cloud computing, distributed artificial intelligence, image processing, web metrics and open source softwares etc.

32. Student profile programme-wise:

Name of the Programme	Applications received	Selected Male	Selected Female	Pass percentage Male	Pass percentage Female
B.Tech (Computer Science & Engineering)	Admissions are on the basis of AIEEE	221	118	95	100
M.C.A.(TYC)	Admissions are made on the basis of entrance test	56	125	100	100
M.Tech (CSE)	Admissions are made on the basis of entrance test	10	34	100	100

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.Tech (CSE)	85	-	15	-
M.C.A.(TYC)	95	5	-	-
M.Tech (CSE)	7	93	-	-

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

NET Qualified: 02
GATE Qualified: 07

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	4.44
P.G. to M.Phil.	-
P.G. to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	 70 15
Entrepreneurs	-

36. Diversity of staff

Percentage of faculty who are graduates of the same university	29
from other universities within the State	57
from universities from other States	14
from universities outside the country	-

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: Ph.D.: 01

38. Present details of departmental infrastructural facilities with regard to

a) Library

i. Library is having nearly 11,000 books from International and national publishers.
ii. Special book bank is established for SC/ST student's having nearly 2000 books. These books are issued to SC/ST students for whole of the semester
iii. Air conditioned reading room is available for students in library.

b) Internet facilities for staff and students

i. Internal leased line of 10 Mbps is available to all departments, residences and hostels.
ii. Dedicated Internet lab is established in the girl's hostel.
iii. Wi-Fi access for internet connectivity is provided in the department.
iv. Wi-Fi access for internet connectivity is provided both in boy's and girl's hostel.
v. More than 150 computers with latest hardware technology and with advanced software are available in the department.
vi. All classrooms are equipped with multimedia projectors (LCD projectors).
vii. Cyberoam i-100 software is installed for internal internet security.

c) Total number of class rooms: 10

d) Class rooms with ICT facility: 08

e) Students' laboratories: 07

f) Research laboratories: 01

39. List of doctoral, post-doctoral students and Research Associates

a) From the host institution/university

(i) Sheetal Kalra (Part Time), Assistant Professor, G.N.D.U. Regional Campus, Jalandhar.

(ii) Sanjay Sareen (Part Time), Programmer, Accounts Section, G.N.D.U. Amritsar.

(iii) Isha Mahajan (Part Time), Assistant Professor, Computer Science, Pt. M.L.S.D. College, Gurdaspur.

(iv) Rajwinder Singh (Part Time), Assistant Professor, G.N.D.U. Amritsar.

b) From other institutions/universities:

(i) Rajinder Singh (Full Time), M.E (Computer Science & Engineering), Thaper University, Patiala.

(ii) Sanjeev Mahajan (Part Time), Associate Professor, Computer Science & Engineering, Beant College of Engineering & Technology, Gurdaspur.

(iii) Kirandeep (Part-Time), Assistant Professor, Khalsa College of Engineering & Technology, Amritsar.

40. Number of post graduate students getting financial assistance from the university.

M.Tech. (CSE): 02

M.C.A. (TYC): 30

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

- The department has started M.Tech programme to impart higher education for better skill development and catering to the ever increasing demands of the industry and for newly growing technical institutes in the country.
- Experts from various industries were invited before designing the curriculum of B.Tech, M.Tech and M.C.A. as Industrial training is major part of their study.
- Our department is having its own board of control, which improves and recommends changes in the syllabus on regular basis which is then forwarded to Board of Studies for further consideration and implementation as per the requirements of industry and research.

42. Does the department obtain feedback from?

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

- Feedback is obtained from teachers by organizing departmental meetings. This feedback is utilized in taking appropriate measures for solving the problems.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

- Student feedback Performa is distributed to all students for all courses they are studying to get feedback of course.

- Feedback performas filled by students are shown to respective faculty members, who teach that course to take appropriate measure for the problems faced by students.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback? Nil

43. List the distinguished alumni of the department (maximum 10)

- Jaspreet Singh, M.C.A. student placed in Intelligence Bureau.
- Pawan Kumar, Project Leader, Samsung.
- Vikrant Saini, Project Leader, Tata Consultancy Services.
- Ankit, Senior Software Engineer, Adobe.
- Priynka Mahajan, Software Developer, Tata Consultancy Services.
- Richa Sharma, Software Developer, Capgemini.
- Amit Kumar, Software Developer, Cognizant.
- Sugham Kamboj, Software Developer, Headstrong.
- Rohin Mehra, Programmer, Samsung.
- Malik, Programmer, Samsung.

44. Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.

- Guest Lectures in various subjects from the renowned academicians and industry experts are organised.
- Technical Students Society organises various technical skills development workshops and seminars from time to time to train the students with the latest developments.
- Special lectures on the art of living are also organised from time to time so that the students can become an asset to the society.
- To encourage students for placement purpose special sessions are taken by various faculty members to motivate the students. Mock placement drive is also conducted in the department with the help of sponsoring outside agencies. This has lead to the scenario that even moderate students are being placed in the companies through campus placements.

45. List the teaching methods adopted by the faculty for different programmes.

- OHP and Power Point Presentations are used for demonstrating problem solving techniques and delivering lectures. It improves the interaction with students.
- Various case studies regarding the subject were given as assignments to students and group discussions were done related to the same.
- Technical quiz related to the subjects and Seminars for improving the communications skills of the students are organized.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Teacher's evaluation is done by students through the feedback forms after the completion of each semester.

- Continuous evaluation of students is done by conducting various theory tests, practical tests and quiz etc.
- Centralized examination system (Minors and Majors) for complete equivalence among all the campuses and the main campus.
- Advance technology related seminars are conducted by faculty members to enhance the research capability of students.
- For transparency in academics evaluated answer booklets are shown to the students.
- Staff members are deputed as class coordinator to access/solve the problems of students of particular class.

47. Highlight the participation of students and faculty in extension activities.

- Technical Students Society (TSS)
- Tree Plantation Camp
- Blood Donation Camp
- Annual Technical Festival
- Foundation Day
- Seminars and Guest Lectures

48. Give details of "beyond syllabus scholarly activities" of the department.

- Students are given topics to presents seminars on current trends and recent research during their lab hours.
- P.G. Students are given research topics to prepare a report and present it as a seminar. This helps them to gain knowledge about the technological advancements.
- Industrial Tours.
- Various workshops are organised on latest trends in the software industry.
- Guest lectures.

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details: No.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- Active Research in the areas of Network Security, Cloud Computing, Distributed Artificial Intelligence, Image Processing, Web Metrics and Open Source Software etc.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths

Department is dedicated to deliver quality and high standard Education to the students. Our students get the highest ranks (in various entrance examinations) students in the region. We get the best inputs, we have the best faculty, infrastructure and with their dedicated efforts we produce quality professional ready for the industry.

We are catering to the needs of the students of backward border belt and

every possible effort is done to help students belonging to remote areas.

- Coordinated Staff
- Feedback Forms
- Good Placement Record- Our department is having very good record of placements of students in various multinational companies. More than 80 % of students get their jobs before the completion of the course through campus placements.
- Tie up with industries to run industry oriented courses. The curriculum is revised as per the requirement of industry.
- Highly furnished labs

Weaknesses

- The city and the location as some think but as the intention of setting of GNDU Regional Campus, Gurdaspur was to bring out technical education to remote areas so this weakness is again our strength.
- These days students prefer A Class cities to live so sometimes few top ranked students are not admitted.

52. Future plans of the department.

- Every possible effort is and will be done to improve the standard of technical education being imparted to the students.
- Latest equipment will be purchased.
- Institute – Industry relation will be further strengthened.
- Above all the faculty members are continuously encouraged and motivated for carrying out research in their respective areas. They are motivated for pursuing higher education and improve their skills.
- Aim to develop Special research laboratories sponsored by industry or other corporate bodies.

1. **Name of the Department**: Electronics & Communication Engineering
2. **Year of establishment**: 2002
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc)**
   i. Bachelor of Technology (Electronics and Communication Engineering) [started in 2002].
   ii. Master of Technology (Electronics and Communication Engineering) [started in 2013].
5. **Interdisciplinary programmes and departments involved: Department is offering two inter disciplinary courses**
   i. ECL-152 Fundamentals of Communication Engineering
   ii. ECL-151 Basic Electrical & Electronics

   to the students of Law, Computer Science & Engineering and Commerce & Business Management Department.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons**: None
8. **Examination System**: Choice Based Credit System
9. **Participation of the department in the courses offered by other departments**:

   Laws, Computer Science & Engineering and Commerce & Business Management Departments are offering various inter disciplinary courses to the students Electronics & Communication Engineering.
10. **Number of teaching posts sanctioned, filled and actual (Professors/AssociateProfessors/Assistant Professors/others)**

Post	Sanctioned	Filled	Actual (includingCAS & MPS)
Professor	1	-	-
Associate Professors	1	-	-
Assistant Professors	6	4	4
Assistant Professor (Contract)	None	5	5
Assistant Professor (Part time)	2	2	2

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifica-tion	Designa-tion	Specialization	No. of Years of Experi-ence	No. of Ph.D./ M.Phil. students guided for the last 4 years
Anu Sheetal	Ph.D.	Assistant Professor	Optical Fibre Communicatio ns	15	
Shashi B. Rana	M.Tech. (Ph.D. Submitted)	Assistant Professor	Nano Technology	13	-
Satbir Singh	M.Tech. (Ph.D. Pursuing)	Assistant Professor (Grade Pay 6000/-)	Nano Technology	13	-
Harjit Singh	M.Tech. (Ph.D. Pursuing)	Assistant Professor	Digital Communicatio ns	12	-
Saurabh Mahajan	M.Tech.	Assistant Professor	Digital Communicatio n	12	-
Rajneet Kaur	M.Tech.	Assistant Professor	Image Processing	-	-
Amit Singh	M.Tech.	Assistant Professor	Communicatio n System	1	-
Gurpreet Singh Walia	M.Tech.	Assistant Professor	Wireless/ Signal Processing	1	-
Amandeep	M.Tech.	Assistant Professor	Electronic Product design	1	-

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors**: None
13. **Percentage of classes taken by temporary faculty – programme-wise information**:
    i. B.Tech (ECE) : 20% approx.
    ii. M.Tech (ECE) : None
14. **Programme-wise Student Teacher Ratio**:
    i. B.Tech (ECE) : 20:1
    ii. M.Tech (ECE) : 11:1

15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**

	Sanctioned	Filled	Actual (including CAS & MPS)
Associate Dean (Academic Affairs)	01	01	01
Superintendent	01	01	01
Clerk Cum Junior Data Entry Operator	01	01	01
Jr. Technician	02	01 (on contract)	01

16. **Research thrust areas as recognized by major funding agencies**: None
17. **Number of faculty with on-going projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise**: None
18. **Inter-institutional collaborative projects and associated grants received**: None
    a) National collaboration b) International collaboration
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.**
    (i) Grant of Rs. 70,000/- is received from U.G.C to conduct National Seminar on "Issues in Cloud Computing & Wireless Communication" on 13-14th August, 2012 organized by the Department of Electronics & Computer Science Engineering.
    (ii) A grant of Rs.10 lakh received under General Development Assistance Scheme XIIth Plan 2012-13.
20. **Research facility / centre with:**
    (i) A dedicated Research/ Project Lab having 10 latest configuration computers for M.Tech & B.Tech. (Electronics & Communication Engineering) Students.
    (ii) 10 users simulation software MULTISIM, ULTIBOARD & LABVIEW.
    (iii) 10 users simulation Software MATLAB (latest Version).
    (iv) Optical system design simulation software Optisystem Version 11.0
    (v) Access of various E-Journals through INFLIBNET.
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    * **Number of papers published in peer reviewed journals (national / International)**: 36
    * **Monographs:**
    * **Chapters in Books**:
    * **Edited Books**:

- **Books with ISBN with details of publishers**:
- **Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database-International Social Sciences Directory, EBSCO host, etc.)** : 13
- **Citation Index – range / average**: 4 - 20
- **SNIP** -
- **SJR-**
- **Impact Factor – range / average:** 0.5 - 1.5
- **h-index**: 20

23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated**:
    Department is providing consultancy regarding computing setup to different schools and industry in this border belt free of cost. Students develop websites of various organizations as free of cost.
25. **Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad**: None
26. **Faculty serving in:**

a)	National Committees	04
b)	International Committees	03
c)	Editorial Boards	04
d)	any other (please specify)	None

27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).:** Various faculty members are encouraged and motivated to participate in different short term programmes/Workshops/Refresher/orientation programs conducted by different Universities and institutions
28. **Student projects**
    • Percentage of students who have done in-house projects including inter- departmental projects: 100% (6^{th} Semester project)
    • Percentage of students doing projects in collaboration with other universities /Industry / institute: 100% (6 months Industrial training)
29. **Awards / recognitions received at the national and international level by**
    • Faculty: None
    • Doctoral / post doctoral fellows: NA
    • Students: None
30. **Seminars/ Conferences/ Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.**
    (i) UGC Sponsored National Seminar on "Issues in Cloud Computing & Wireless Communication" on 13-14^{th} August, 2012 organized by the Department of Electronics & Computer Science Engineering. Events organized by the Techno Student Society TSS#:
    (ii) Quiz-O-Polis Intra Department quiz on September, 2011.

(iii) Advanced Java & Embedded System workshop conducted in October, 2011.
(iv) Workshop on "Security Solutions" organized by SECUGINIUS SECURITY SOLUTION in February, 2012.
(v) Workshop on Android Operating System conducted by Netmax in April, 2012.
(vi) Career Launcher Mock Placement Drive in March, 2012.

31. Code of ethics for research followed by the departments: As per university norms

32. Student profile programme-wise:

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
B.Tech (Electronics & Communication Engineering)	Admissions are on the basis of AIEEE/ JEE entrance through Counseling by Punjab Technical University Jalandhar	219	80	100%	100%
M.Tech (ECE)	Admissions are made on the basis of entrance test Conducted by GNDU, Amritsar	16	29	Pursuing	Pursuing

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.Tech (ECE)	-	85 (CBSE, PSEB)	15	-
M.Tech (ECE)	7	93	-	-

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Civil Services and Defence Services examinations: 8, GATE: 7**,** NET : 2**,** Bank Exam: 7

35. Student progression:

Student progression	Percentage against enrolled
U.G. to P.G.	25 %
P.G. to M.Phil.	-
P.G. to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	 60% 10%
Entrepreneurs	5%

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	None
from other universities within the State	50%
from universities from other States	50%
from universities outside the country	None

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:

i. Ph.D. : 01
ii. M.Tech.: 01

38. Present details of departmental infrastructural facilities with regard to

a) Library:

(i) Library is having nearly 11,000 books from international and national publishers.
(ii) Book Bank has been established for SC and ST students having nearly 2,000 books. These books are issued to SC and ST students for whole of the semester.
(iii) Air conditioned reading room is available for students in library.

b) Internet facilities for staff and students:

(i) Internet leased line of 10 Mbps is available to all departments, residences and hostels.
(ii) Wi-Fi access for internet connectivity is provided in the campus.
(iii) Dedicated Internet lab is established in the girl's hostel.
(iv) More than 150 computers with latest hardware technology and with advanced software are available in the department.
(v) All classrooms are equipped with multimedia projectors (LCD projectors)

c) Total number of class rooms: 7

d) Class rooms with ICT facility:

(i) 70% Classrooms are equipped with multimedia projectors (LCD Projectors) & Sound systems.

e) Students' laboratories: 07

f) Research laboratories: 01

39. List of doctoral, post-doctoral students and Research Associates:

a) From the host institution/university :

i. Gurpreet Singh (Part Time), Assistant Professor, G.N.D.U. Regional Campus, Gurdaspur.

ii. Harjit Singh (Part Time), Assistant Professor, G.N.D.U. Regional Campus, Gurdaspur.

b) From other institutions/universities: None

40. Number of post graduate students getting financial assistance from the university: 03.

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:

Yes, in order to meet the increasing demand of industry and institutions the assessment of the basic infrastructural facility and scope of expansion was made to start the M.Tech.(ECE) and Doctoral programs. In this regard:.

A dedicated Research/Project Laboratory having 10 latest configuration computers for M.Tech. & B.Tech.(Electronics & Communication Engineering) Students.

(i) 10 users simulation software MULTISIM, ULTIBOARD & LABVIEW.

(ii) 10 users simulation Software MATLAB (latest Version).

(iii) Optical system design simulation software Optisystem Version 11.0

(iv) Access of various E-Journals through INFLIBNET.

42. Does the department obtain feedback from?

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Any changes to be made are suggested by various faculty members from time to time in board of control, which recommends changes in the syllabus on regular basis is then subsequently forwarded to the Board of Studies for further updation and implementation as per the requirements of industry and research. .

b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Feedback performas filled by students are discussed in BOC and appropriate measures are taken to solve the problems faced by students.

c. alumni and employers on the programmes offered and how does the department utilize the feedback?

The suggestions given by the alumni and employers (Major IT industries) on the programmes offered are taken into consideration for revising the curriculum as per the demand of industry to fill the gap between institution & industry.

43. List the distinguished alumni of the department (maximum 10):

(i) Nimish Gupta in Central Armed Forces (CISF) through UPSC.
(ii) Atinderpal Singh in Central Armed Forces (BSF) through UPSC.
(iii) Inderpreet Singh in Armed forces as 2nd Lt. through SSB.
(iv) Sheena Nayyar in Armed forces as 2nd Lt. through SSB.
(v) Rahul Bajaj in Armed forces as 2nd Lt. through SSB.
(vi) Vishal Sharma in Armed forces as 2nd Lt. through SSB.
(vii) Saurabh Gupta in Armed forces as 2nd Lt. through SSB.
(viii) Vatsal Sharma in TCS.
(ix) Abhishek Bedi in INFOSIS.
(x) Harpreet Kaur in TCS
(xi) Yogesh Aggarwal in Tech. Mahindra

44. Give details of student enrichment programmes (special lectures/ workshops/seminar) involving external experts.

(i) Quiz-O-Polis Intra Department quiz on September, 2011.
(ii) Advanced Java & Embedded System workshop conducted in October, 2011.
(iii) Workshop on "Security Solutions" organized by SECUGINIUS SECURITY SOLUTION in February, 2012.
(iv) Workshop on Android Operating System conducted by Netmax in April, 2012.
(v) Career Launcher Mock Placement Drive in March, 2012.

45. List the teaching methods adopted by the faculty for different programmes.

(i) LCD/ OHP projector
(ii) Seminars/ Assignments
(iii) Quiz
(iv) Tutorials
(v) EDUSAT

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

i. Continuous evaluation of the lab performance during Practical Classes.
ii. Minor & Major examinations are being conducted for evaluation of students' performance.
iii. Also students are evaluated based on Assignments, viva voce & Seminars etc.

47. Highlight the participation of students and faculty in extension activities.

(i) Various NSS activities like Blood Donation, Tree Plantation, Drug Awareness program, Dowry & female Foeticide etc.
(ii) TECHFEST is organised annually by the students.
(iii) Participation in Youth Festival
(iv) Participation in various Sports Competitions at University level.
(v) Delivering Guest lectures in various institutions.

48. **Give details of "beyond syllabus scholarly activities" of the department.**

Students are groomed for technical and soft skill development through various in house activities like group discussion, Mock tests and programming activities to fill the gap between industry and academia.

Apart from this the students are constantly being encouraged to participate in various activities in the institutions of national repute.

49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details:** No

50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**

(i) Students are encouraged to consult various e-journals available in the department

(ii) Students are encouraged for participation in national & international Conferences.

(iii) For updation of latest trends in technology faculty attends various Short Term programs / Refresher courses etc.

(iv) Personality development programs are organized in the campus by various agencies for the overall development of students.

(v) Seminars from different companies are organized to make students aware of latest trends in software development.

(vi) Communication skill development workshops are organized by professionals.

(vii) Various committees have been formed in the department and campus like anti ragging committee, class coordinators for the guidance (regarding Career) and counselling of the students.

51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

i) Strengths: Campus situated in lush green belt of Himalayan Range and creates serene environment for studies & living, Well qualified and dynamic faculty, well stocked library with A.C. reading room and book bank facility, Wi-Fi Campus, well equipped Electronics and Computer labs, 10 Mbps leased line based internet facility, Fully secured internet access through cyber roam and subscriptions to international e-Journals for ready research reference.

ii) Weaknesses: Being the regional campus of the university there is limitation in numbers of interdisciplinary courses offered and sports facilities, Remote and Backward area.

iii) Opportunities: The Campus is spread in 28 Acres of land with wide scope for expansion and stating new courses.

iv) Challenges: To fill the Industry-institution gap there is a need to upgrade the existing infrastructure in the Laboratories.

52. Future plans of the department:

i. Introduction of new post-graduation programmes with emerging areas of specialization.

ii. Up gradation of research facilities in the field of Optical, Wireless, Biomedical and Nano Electronics.

1. **Name of the Department**: Laws
2. **Year of establishment**: 1999
3. **Is the Department part of a School/Faculty of the University**?:Yes
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.):**
   U.G., BA.LL.B.(FYIC) Hons Course
5. **Interdisciplinary programmes and departments involved**
   Interdisciplinary Courses are offered to other department e.g. M.C.A., MBA, B.Tech departments.
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Choice Based Credit system
9. **Participation of the department in the courses offered by other departments:**
   Students of the Law department opt Interdisciplinary Course from other department**.**
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	0	-
Associate Professors	2	1	1
Assistant Professors	3	3	3
Others	Two on Contract Basis, Eight on Part Time Basis		

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr Pawan Kumar	Ph.D.	Associate Professor	Criminal Law	16	
Dr Parminder Kaur	Ph.D.	Assistant Professor	Personal Laws	12	
Dr Ranjit Singh	Ph.D.	Assistant Professor	Environmental Law	6	
Ms Amandeep Kaur	LL.M	Assistant Professor	Criminal Law	5	

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors**:
    2 Advocates from courts visit the department to teach Procedural Laws.

13. **Percentage of classes taken by temporary faculty – programme-wise information**: 20%
14. **Programme-wise Student Teacher Ratio**: 25:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:** 4 in Library 2 in office
16. **Research thrust areas as recognized by major funding agencies**: None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise:** None
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:**
    None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:**
    None
20. **Research facility / centre with**
    • State recognition
    • National recognition
    • International recognition
    14 Students are doing research under the different faculty members in the Law department. These researchers have the facility to access various National and International e-journals, Latest books and subscribed National Journals in the Library**.**
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications**:
    - **Number of papers published in peer reviewed journals (national/international)**: 12
      International:
      National:
    - **Monographs:** None
    - **Chapters in Books:** 4
23. **Details of patents and income generated**: NA
24. **Areas of consultancy and income generated**: None
25. **Faculty selected nationally /internationally to visit other laboratories / Institutions / industries in India and abroad:** None
26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify): None
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).**
    Teachers attended refresher/ Orientation Programs as per University rules.

28. **Student projects**
    - **Percentage of students who have done in-house projects including inter- departmental projects:** None
    - **Percentage of students doing projects in collaboration with other universities / Industry / institute:** None
29. **Awards / recognitions received at the national and international level by**
    - **Faculty:** None
    - **Doctoral / post doctoral fellows:** None
    - **Students:** None
30. **Seminars/ Conferences/ Workshops organized and the source of funding (National / international) with details of outstanding participants, if any:** None
31. **Code of ethics for research followed by the departments**: As per University Rules
32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
U.G. B.ALL.B (FYIC) Hons Course	Admission as per State Level Counselling	B.A LL.B(FYIC) Hons Ist Semester Male -41 Female-23		75	85

33. **Diversity of student:**
    Students joined this course after 10+2 and students are from PSEB,CBSE, ICSE Board

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
U.G B.ALL.B (FYIC) Hons Course 1St Semester	75% from the P.S.E.B	25% from C.B.S.E	No Student From I.C.S.E	Nil

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.**
    Six Students of the department cleared PCS Judicial Services exam and now serving as Judges.
35. **Student progression:** None

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	80
from other universities within the State	20
from universities from other States	-
from universities outside the country	-

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period**
One Faculty member got Ph.D. in 2010
38. **Present details of departmental infrastructural facilities with regard to**
a) Library: About 8000 books
b) Internet facilities: Yes
c) Total number of class rooms: 8
d) **Class rooms with ICT facility**: None
e) Students' laboratories: Moot Court Room for practical training
f) Research laboratories: NA
39. **List of doctoral, post-doctoral students and Research Associates**
a) from the host institution/university
14 Research Scholars are doing Ph.D. under faculty members of department.
b) from other institutions/universities None
40. **Number of post graduate students getting financial assistance from the university**: None
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology:** NA
42. **Does the department obtain feedback from?**
a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
Curriculum is revised by Board of Studies as per the suggestions of the faculty members.
b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
Feedback taken by the students and the suggestions given by the students incorporated.
c. alumni and employers on the programmes offered and how does the department utilize the feedback?
NA
43. **List the distinguished alumni of the department (maximum 10)**
Nidhi Saini, Lovedeep Hundal, Hirdeyjit Singh,Gagandeep Singh, Shagun All selected in PCS Judiciary.

44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.**
During the court visits special lectures were given by the Judges and the members of the Bar Association.
45. **List the teaching methods adopted by the faculty for different programmes.**
Lectures, Seminars, Tutorials, Presentations.
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?:** As per University guidelines.
47. **Highlight the participation of students and faculty in extension activities**.:
NSS Camps and Legal Aid campus are organized
48. **Give details of "beyond syllabus scholarly activities" of the department**:
Group discussions on the current Legal issues are organized.
49. **State whether the programme/department is accredited/ graded by other agencies? If yes, give details:** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
Through Legal Aid Camps and NSS Camps the legal knowledge were provided to the local people of the area.
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**
(1) The department cater to the need of students belong to Backward /Rural area of Gurdaspur.
(2) The department has the potential to start new law courses as demanded by the students of this area.
(3) The department has well equipped library having latest law books, Journal, E-Journals and other legal material.
(4) The faculty of the department is laborious and well qualified.
(5) As the campus is situated in the backward area, so it lacks in transportation facility and other facilities as compared to A-class cities.
53. **Future plans of the department.**
There is a proposal to start new courses in the department in future.

GURU NANAK DEV UNIVERSITY REGIONAL CENTRE, SATHIALA (RURAL CAMPUS)

==/ 47 /==

1. **Name of the Department:** Computer Science and Engineering
2. **Year of Establishment:** 2011
3. **Is the Department part of a School/Faculty of the University?:** Yes
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.):**
   U.G. – B. Tech. CSE 4 years
5. **Interdisciplinary programmes and departments involved:** ECE and MBA
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:** Yes; in ECE/MBA
10. **Number of teaching posts sanctioned, filled and actual (Professors/ Associate Professors/ Assistant Professors/ others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	02	None	-
Associate Professors	04	None	-
Assistant Professors	06	04	04
Others	0	None	-

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance:**

Name	Qualification	Designa-tion	Specialization	Experi-ence (no of years)
Ms. Sandeep Kaur	M.Tech. (CSE)	Assistant Professor	Cloud Computing and Computer Architecture	3
Mrs. Satinder Kaur	M.Tech (IT)	Assistant Professor	Software Engg, Programming Languages	11
Mr. Hardeep Singh	M.Tech. (CSE)	Assistant Professor	Computer Networks, OOPS	1
Ms. Satveer Kaur	M.Tech. (CSE)	Assistant Professor	Manets	3.5
Mr. Arvinder S Walia	M.C.A.	Assistant Professor	Algorithm Analysis and Design, OOPS	1

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** NA
13. **Percentage of classes taken by temporary faculty – programme-wise information:** U.G.-20%
14. **Programme-wise Student Teacher Ratio:** 33.8:1
15. **Number of academic support staff (technical) and administrative staff:** sanctioned, filled and actual: Technical (Sanctioned=04, Filled=0, Actual=0)
16. **Research thrust areas as recognized by major funding agencies:** None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise:** None
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.:** None
20. **Research facility / centre with**
    - **State recognition**
    - **National recognition**
    - **International recognition**
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:** None
23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad:** None
26. **Faculty serving in a) National committees b) International committees c) Editorial Boards d) any other (please specify):** None
27. **Faculty recharging strategies (UGC, ASC, Refresher/orientation programs, workshops, training programs and similar programs).**
28. **Student projects:** None
    - **Percentage of students who have done in-house projects including inter- departmental projects**
    - **Percentage of students doing projects in collaboration with other universities /Industry / institute**
29. **Awards / recognitions received at the national and international level by**
    - **Faculty**: None
    - **Doctoral / post doctoral fellows** None
    - **Students** None

30. **Seminars/ Conferences/ Workshops organized and the source of funding (National / international) with details of outstanding participants, if any**: None
31. **Code of ethics for research followed by the departments:** NA
32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
U.G. B.Tech. 1st year CSE(2012-13)		46	38	95.6	97.4
U.G. B.Tech. 2nd year CSE(2012-13)		24	19	100	100

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
U.G. B.Tech. CSE	Students join the course after passing 10+2 system from PSEB, CBSE, ICSE etc			

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise:** None
35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	-
P.G. to M.Phil.	-
P.G. to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	-
Entrepreneurs	-

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	80%
from other universities within the State	0%
from universities from other States	20%
from universities outside the country	0%

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None
38. **Present details of departmental infrastructural facilities with regard to**
    a) Library: Yes
    b) Internet facilities for staff and students: Yes
    c) Total number of class rooms: 3
    d) Class rooms with ICT facility: None
    e) Students' laboratories: 3
    f) Research laboratories: None
39. **List of doctoral, post-doctoral students and Research Associates**: None
    a) from the host institution/university-NA
    b) from other institutions/universities-NA
40. **Number of post graduate students getting financial assistance from the university:** NA
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.** No
42. **Does the department obtain feedback from?**
    a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
    Yes
    b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
    Yes
    c. alumni and employers on the programmes offered and how does the department utilize the feedback?
    NA
43. **List the distinguished alumni of the department (maximum 10):** None
44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts:** 3
45. **List the teaching methods adopted by the faculty for different programmes.**
    Lectures, Practicals and Tutorials
46. **How does the department ensure that programme objectives ar constantly met and learning outcomes are monitored?**
    Attendance, Lab Practicals/Projects
    Projects are conducted by students to present the technical implementation of the concepts learnt
47. **Highlight the participation of students and faculty in extension activities.**
    Excursion Trip, Freshers Fest, Youth Festival and Sports Meet
48. **Give details of "beyond syllabus scholarly activities" of the department.**

Project making, participation in Tech Fest.

49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details**. No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
    - Networking is done in all campus area
    - Established Multimedia room
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

    Strengths:

    Merit position in University Result
    Infrastructure of Transportation
    Fee concession, regular classes

    Weakness:

    Lack of research lab
    Lack of senior faculty
    Lack of licensed softwares
    Lack of E-Access

    Opportunities:

    Recruitment in MNCs, local colleges, tapping for students, Adding other specializations (M.Tech.)

    Challenges:

    Desk placement of all candidates, research centre for outside world, organize tech fest, intercollege co-curricular activities, administrative staff constraint
52. **Future plans of the department.**

    Open Access Journals
    Digital Library
    Establish a lab for research work
    Post Graduate course
    Invitation to senior visiting fellows and emeritus professors

1. **Name of the Department:** Electronics & Communication Engineering
2. **Year of Establishment**: 2011
3. **Is the Department part of a School/Faculty of the University?:** Yes
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.)**- U.G., B.Tech (ECE) - 4 years
5. **Interdisciplinary programmes and departments involved:** None
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.-** None
7. **Details of programmes discontinued, if any, with reasons**: No
8. **Examination System: Annual/Semester/Trimester/Choice Based Credit System:** Semester/Choice Based Credit System
9. **Participation of the department in the courses offered by other departments**. -Yes in Computer Science and Engineering Department
10. **Number of teaching posts sanctioned, filled and actual (Professors/AssociateProfessors/Assistant Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS&MPS)
Professor	2	-	-
Associate Professors	4	-	-
Assistant Professors	6	3	3
Others	-	-	-

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designa-tion	Specialization	No. of Years of Experi-ence	No. of Ph.D./ M.Phil. students guided for the last 4 years
Jaipreet Kaur	M.Tech, Ph.D. Purusing	Assistant Professor	Communication System	3 Years	-
Sukhdeep Kaur	M.Tech	Assistant Professor	Communication System	3 Years	-
Manjit Sandhu	M.Tech	Assistant Professor	Instrumentation	8 Years 3 Months	-
Gurdeep Singh	M.Tech	Assistant Professor	Antenna Design & Simulation	2 Years	-
Navpreet Singh	M.Tech	Assistant Professor	Communication System	2 Years	-
Pardeep Sharma	M.Tech	Assistant Professor	VHDL	9 Months	-

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors** – NA
13. **Percentage of classes taken by temporary faculty –programme-wise information** U.G.-50%
14. **Programme - wise Student Teacher Ratio**– U.G. B.Tech (ECE) 22.5:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned**, **filled and actual** – 4 (Sanctioned) – Academic Support Staff (Technical) Filled- Zero, Actual- Zero
16. **Research thrust areas as recognized by major funding agencies** - None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise**. - None
18. **Inter-institutional collaborative projects and associated grants received**
    a) National collaboration b) International collaboration - None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**. - None
20. **Research facility/centre with** -
    •**State recognition** - NA
    •**National recognition** - NA
    •**International recognition** - NA
21. **Special research laboratories sponsored by/created by industry or corporate bodies** - None
22. **Publications:** None
23. **Details of patents and income generated** – NA
24. **Areas of consultancy and income generated** - None
25. **Faculty selected nationally /internationally to visit other laboratories / Institutions/industries in India and abroad** - None
26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify): None
27. **Faculty recharging strategies (UGC, ASC, Refresher/orientation programs, workshops, training programs and similar programs).** - Orientation Programs and Workshops
28. **Student projects**
    - **Percentage of students who have done in-house projects including inter-departmental projects –** 100%
    - **Percentage of students doing projects in collaboration with other universities/ Industry/ institute –** 45%
29. **Awards/recognitions received at the national and international level by** - None
    •**Faculty:** None
    •**Doctoral /postdoctoral fellows:** None

•**Students:** None

30. **Seminars/Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any**. - None
31. **Code of ethics for research followed by the departments** - None
32. **Student profile programme-wise:**

Name of the Programme (refertoquestionno.4)	Applications received	Selected Male	Female	Pass percentage Male	Female
U.G. (B.Tech, ECE)					
(2012-13) 1st Year	51	33	09	95	100
(2012-13) 2nd Year	82	45	18	94	100

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other Board within the State	% of students from Board outside the State	% of students from other countries
U.G. (B.Tech, ECE)				
1st Year	NA	23	76.6	0
2nd Year	0	40	60	0
3rd Year	0	30.7	69.3	0

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.** – None
35. **Student progression**- None

Student progression	Percentage against enrolled
U.G. to P.G.	-
P.G. to M.Phil.	-
P.G. to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	-
Entrepreneurs	-

36. **Diversity of staff**

Percentage of faculty who are graduates	
Of the same university	-
From other universities within the State	83

From universities from other States	17
From universities outside the country	-

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period** - None
38. **Present details of departmental infrastructural facilities with regard to**
    a) Library - Yes
    b) Internet facilities for staff and students – Yes
    c) Total number of class rooms - 03
    d) Class rooms with ICT facility - No
    e) Students' laboratories - 03
    f) Research laboratories - None
39. **List of doctoral, post-doctoral students and Research Associates**
    a) from the host institution/university – NA
    b) from other institutions/universities – NA
40. **Number of post graduate students getting financial assistance from the university.** –NA
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology**. - None
42. **Does the department obtain feedback from?**
    a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? - Yes
    b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? - Yes
    c. alumni and employers on the programmes offered and how does the department utilize the feedback? - None
43. **List the distinguished alumni of the department (maximum 10)** - None
44. **Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts**. - None
45. **List the teaching methods adopted by the faculty for different programmes.** – Lectures, Practicals and Tutorials.
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?** – MST's, Quiz, Class Test, Assignments & Transparency in Evaluation.
47. **Highlight the participation of students and faculty in extension activities. –**
    Excursion trip, Youth Festiwals, Freshers & Sports Meet.
48. **Give details of "beyond syllabus scholarly activities" of the department**. – Design of electronic projects, participation in National Conference
49. **State whether the programme/department is accredited/ graded by other agencies? If yes, give details**. – No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied**. – Designing of PCB's.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:-

1. Passion of teaching in faculty.
2. Regular classes.
3. Continuous evaluation of students.
4. Motivation/ guidance to students for projects.
5. Provision of fee concession and financial support.

Weakness:-

1. No research lab.
2. Lack of licensed software's.
3. Less field visit.
4. Lack of expert lectures.

Opportunities:-

1. Good infrastructure.
2. Availability of lab equipments.
3. More emphasis on industrial trainings and projects.

Challenges:-

1. Placement of students in reputed organisations.
2. Conference.
3. Alumni meet.
4. Funding of research projects.

52. Future plans of the department.

1. Post Graduate Course
2. Set-up of Research Lab
3. Invitation to Senior Visiting Fellows and Emeritus professors.

1. **Name of the Department:** Commerce and Business Management
2. **Year of establishment**: 2011
3. **Is the Department part of a School/Faculty of the University?** Yes
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.)** P.G. MBA II Year
5. **Interdisciplinary programmes and departments involved**: CSE & ECE
6. **Courses in collaboration with other universities, industries, foreign institutions, etc**. None
8. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Choice Based Credit System
9. **Participation of the department in the courses offered by other departments:**
   One interdisciplinary & 1 compulsory subject of ECE taught
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	2	-	-
Associate Professors	4	-	-
Assistant Professors	6	3 (on contract basis)	3
Others	-	-	-

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designa-tion	Speciali-zation	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Ms. Meenu Chopra	M.COM.	Assistant Professor	Finance wih UGC	9	0
Ms. Ritima Khindri	MBA	Assistant Professor	Finance with UGC	5	0
Ms. Narinder Dhillo	MBA	Assistant Professor	Marketing with UGC	7	0

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** None

13. **Percentage of classes taken by temporary faculty – programme-wise information P.G.:** 100%
14. **Programme-wise Student Teacher Ratio** 10:1 (approx)
15. **Number of academic support staff (technical) and administrative staff:** sanctioned, filled and actual Sanctioned - 1; actual & filled - 0
16. **Research thrust areas as recognized by major funding agencies**: None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise**. None
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**: None
20. **Research facility / centre with**: None
    - **State recognition-**
    - **National recognition-**
    - **International recognition-**
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** NA
22. **Publications:** None
23. **Details of patents and income generated:** NA
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories / Institutions / industries in India and abroad:** None
26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify): None
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs)**:. Yes
28. **Student projects**
    - Percentage of students who have done in-house projects including inter-departmental projects ZERO
    - Percentage of students doing projects in collaboration with other universities / Industry / institute 62.5%
29. **Awards / recognitions received at the national and international level by**
    - **Faculty:** None
    - **Doctoral / post doctoral fellows**: None
    - **Students:** None
30. **Seminars/ Conferences/ Workshops organized and the source of funding (National / international) with details of outstanding participants, if any**. None

31. **Code of ethics for research followed by the departments:** As per university guidelines.

32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
P.G. MBA (Sem 1)	Common Test	3	9	-	-
P.G. MBA (Sem III)		11	9	100	100
P.G. MBA (PASSED OUT)		11	5		

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
P.G. (MBA)	91.6	8.33	-	-
P.G. (MBA)	89.4	10.53		

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise**.: None

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	-
P.G. to M.Phil.	-
P.G. to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	-
Entrepreneurs	-

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	66.7%
from other universities within the State	33.3%
from universities from other States	-
from universities outside the country	-

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None

38. **Present details of departmental infrastructural facilities with regard to**
    a) Library Yes
    b) Internet facilities for staff and students: yes
    c) Total number of class rooms 3
    d) Class rooms with ICT facility None
    e) Students' laboratories 1
    f) Research laboratories NA
39. **List of doctoral, post-doctoral students and Research Associates**
    a) from the host institution/university NA
    b) from other institutions/universities NA
40. **Number of post graduate students getting financial assistance from the university:** 5
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology**. No
42. **Does the department obtain feedback from?**
    a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? Yes
    b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? Yes
    c. alumni and employers on the programmes offered and how does the department utilize the feedback?
43. **List the distinguished alumni of the department (maximum 10)**
44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts**: None
45. **List the teaching methods adopted by the faculty for different programmes.** Lectures, case studies, assignments, seminars projects, presentations
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored**? Minors, quiz, assignmnents, major exams
47. **Highlight the participation of students and faculty in extension activities**. NSS outreach activities, campus events
48. **Give details of "beyond syllabus scholarly activities" of the department.** CASE STUDIES, PRESENTATIONS
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details**. - No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied**. None
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**
    STRENGTHS:
    6. Merit position in GNDU
    7. Continuous Evaluation of students

8. Infrastructure
9. Experienced faculty with min 5 years experience and all UGC qualified with Corporate & Teaching experience.
10. Provision of fee concessions & scholarships

WEAKNESSES:

6. Lack of Regular faculty / Senior Faculty & Visiting Faculty
7. Lack of Publications & Research work
8. Less field visits & workshops
9. Developmental stage of resource pool wrt. Library
10. Less co-curricular activities and limited participation by students

OPPORTUNITIES:

5. Tapping of local colleges for quality students
6. Infrastructure of research available
7. Adding IT specialisation in co-ordination with CSE
8. Starting M. COM. Programme
9. Conducting workshops in-house and in surrounding campuses

CHALLENGES:

5. Administrative staff constraint
6. Creating brand presence
7. Generating placements for students upon course completion
8. Construction in progress stage of Campus
9. Rural setting of Institute

C: CONSTITUENT COLLEGES

==/ 50 /==

1. **Name of the College:** Guru Nanak Dev University College, Verka
2. **Year of establishment**: 2011
3. **Is the Department part of a School/ Faculty of the university?** Constituent College
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.):** U.G., P.G.
5. **Interdisciplinary programmes and departments involved**: None
6. **Courses in collaboration with other universities, industries, foreign institutions, etc**.: None
7. **Details of programmes discontinued, if any, with reasons**: None
8. **Examination System: Annual/Semester/Trimester/Choice Based Credit System:** Annual/Semester
9. **Participation of the department in the courses offered by other departments:**
   Teachers teach papers of their subjects/specialisation to the students of other faculties/departments as per their syllabi.
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Principal	01	01	01
Associate Professors	-	-	-
Assistant Professors	19	09	09
Assistant Professor on contract	-	29	29

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designation	Speciali-zation	No. of Years of Experi-ence	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr Mehal Singh	M.A. M.Phil. Ph.D.	Principal	Fiction, prose, novel	13	-
Sukhmaninder Pal Singh	M.A. NET M.Phil.	Assistant Professor (History)			-

Anupam Sood	M.A., M.Phil. (History)	Assistant Professor	Punjab History	3	-
Jaspreet Singh	M.C.A.	Assistant Professor (Computer Science)	Data Structure,TOC, PCA	4	-
Harsimran Singh Kahlon	M.Tech.	,,			-
Gagandeep Kaur	M.Tech.	,,		2	-
Dibjot Kaur	M.C.A.	,,		3	-
Varinder Pal Singh	M.C.A.	,,			-
Manan Khanna	M.C.A.	,,		5	-
Amrinder Pal Singh	M.C.A.	,,		5	-
Amrit Kaur	M.C.A.	,,			-
Navneet Kaur	M.C.A.	,,			-
Payal Arora	M.C.A.	,,			-
Guneet Kaur	M.C.A.	,,	C, C++, Data Structure	3	-
Mangat Ram	M.A. M.Phil. Ph.D.	Assistant Professor (Punjabi)	Punjabi Linguistics	16	-
Manjit Singh	M.A. M.Phil.	,,	Poetry	16	-
Mini Salwan	M.A. Ph.D.	,,			-
Megha Salwan	M.A. M.Phil.	,,			-
Gurjeet Kaur	M.A. M.Phil.	,,			-
Kiran	M.A. M.Phil. Ph.D.	,,	Linguistics	4	-
Manpreet Kaur	M.A.	,,		2	-
Gurpreet Kaur	M.A. M.Phil.	,,		3	-
Puneet Randhawa	M.A. M.Phil.	Assistant Professor (English)	Gitanjali: A Semiotic Analysis	5	-

Mamta Mahendru	M.A.	,,		5	-
Kanwaljit Kaur	M.A.	,,		4	-
Poonam Chhabra	M.A.	,,			-
Vandana Sharma	M.A.	,,			-
Richanbir Kaur	M.A.	,,		2	-
Arun Gosain		,,			-
Palak Gupta	M.A.			1	-
Komal Sharma	M.Com.	Assistant Professor (Commerce)			-
Poonam Arora	MCom	,,		3	-
Jasjot Kaur Bindra	MBA	,,	Fin/ HR	2	-
Pukhraj Paul	MBA	,,			-
Amandeep Singh		,,	Accounts and Finance	1	-
Neha Mahajan	M.Com. M.Phil.	,,			-
Payal	M.Com.	,,			-
Navedita	M.Com.	,,	Finance		-
Navneet Kaur	MBA	,,			-
Manjit Kaur		,,			-
Reetu Bala	M.Com.	,,	Accounting and Finance	-	-
Gurmeet Singh	M.Sc.	Assistant Professor (Maths)		3	-
Jatinder Kaur	M.Sc.	,,			-
Anchal Sharma	M.Sc.	,,		4	-
Harpreet Kaur	M.Sc.	,,		2	-
Navneet Kaur	M.Sc.	,,			-
Jasminder Pal Singh	M.Sc. Ph.D.	Assistant Professor (Economics)			-
Lakhwinder Kaur		,,			-
Jasveen Kaur Walia	M.Sc.	,,			-

Amraj Kaur	M.A. Ph.D.	Assistant Professor (Sociology)			-
Renu Gill	M.A.	,,		3	-
Rupinder preet Kaur	M.Sc. Ph.D.	Assistant Professor (Chemistry)	Theoretical and Computational Chemistry	4	-
Preet Kamal Walia	M.Sc.	,,	Organic Chemistry	3	-
Karambir Kaur	M.Sc.	Assistant Professor (Fashion Designing)		1	-
Rajwinder Kaur	M.Sc.	,,		2	-
Sonika Thakur	M.Sc.	Assistant Professor (Physics)		3	-
Shaveta Sharma	M.Sc. M.Phil.	,,			-
Lakhwinder Kaur		,,			-
Nisha Chhabra	M.A. Ph.D.	Assistant Professor (Psychology)	Clinical Psychology	3	-
Manjit Kaur	M.A., Ph.D.	Assistant Professor (Political Science)	Ethnicity, Identity politics	7	-
Harvinder Kaur	M.A. M.Phil.	,,			-

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors**: NA
13. **Percentage of classes taken by temporary faculty – programme-wise information**:
    P.G. about 75%
    U.G. about 85%
14. **Programme-wise Student Teacher Ratio**:
    P.G. 9:1
    U.G. 40:1

15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**

Sanctioned	Filled	Actual
C Class 11	None	3
D Class 05	None	13

16. **Research thrust areas as recognized by major funding agencies**. None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise. :** None
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration**
    None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.** None
20. **Research facility / centre with**
    - **State recognition -**
    - **National recognition-**
    - **International recognition-**
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    - **Number of papers published in peer reviewed journals (National/International)-** 39
    - **Monographs:** None
    - **Chapters in Books-** 8
    - **Edited Books-** 1
    - **Authored Books with ISBN with details of publishers-** 2
23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories / Institutions / industries in India and abroad**
    Department of Psychology
    Nisha Chhabra
    i. Research Paper selected for Presentation in University of Kualalumpur, Malaysia
    ii. Research Paper selected for presentation in International Conference on Childhood Psychopathology, London

26. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Name/ Designation	National Committees
Puneet Randhawa (Assistant Professor English)	**Member**, ELTAI **Member**, Faculty of Languages, GNDU, Amritsar
Nisha Chhabra (Assistant Professor Psychology)	**Member**, Indian Association of Mental Health Counsellors **Member**, Association of Clinical Psychologists, New Delhi
Manjit Kaur (Assistant Professor Political Science)	**Member** NWISA

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs). Workshops: 3 faculty members

28. Student projects

• **Percentage of students who have done in-house projects including inter- departmental projects:** Approx. 28%

• **Percentage of students doing projects in collaboration with other universities /Industry / institute** None

29. Awards / recognitions received at the national and international level by

• **Faculty-** None

• **Doctoral / post doctoral fellows-** NA

• **Students**

- College got III position amongst A-Division Colleges in Zonal Youth Festival 2013-14
- College was awarded with consolation prize in the Folk Art Exhibition (2013)

Department of Economics: Jasveen Kaur Walia: Received Awards/Recognitions National Level-2; International Level-1, Secured A+ Position in MS Office Competition

Department of Computer Science: Guneet Kaur: Bagged three Stars under National Fitness Program

Department of Chemistry: Preet Kamal Walia: Best Team Scientific Award

30. Seminars/ Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any: None

31. Code of ethics for research followed by the departments: As per UGC rules.

32. **Student profile programme-wise**:

Name of the Programme	Applications received	Selected Male Female	Pass percentage Male Female
U.G.	U.G.+ P.G.= 2983	1407 1087	
P.G.		29 50	

33. **Diversity of students**: Students belong to Punjab

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
U.G.	-	-	-	-
P.G.	-	-	-	-

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.**

Department of Commerce

Sr No	No. of Students	Competitive Exam
1	18	CA/CPT
2	9	CS

35. **Student progression** NA

Student progression	Percentage against enrolled
U.G. to P.G.	-
P.G. to M.Phil.	-
P.G. to Ph.D.	-
Ph.D. to Post-Doctoral	-
Employed • Campus selection • Other than campus recruitment	-
Entrepreneurs	-

36. **Diversity of staff**: Entire staff belongs to Punjab, Largely they are graduated from universities of Punjab, particularly, GNDU Amritsar

Percentage of faculty who are graduates	
of the same university	93.75
from other universities within the State	6.25
from universities from other States	-

from universities outside the country	-

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period**: None
38. **Present details of departmental infrastructural facilities with regard to**

    a) Library: Yes

    b) Internet facilities for staff and students: Yes

    c) Total number of class rooms: 43

    d) Class rooms with ICT facility None

    e) Students' laboratories: 6

    f) Research laboratories No

    Library

    - Well furnished library with seating capacity of about 150 students at a time is available.
    - Library collection of 3000 books and reference books is available for circulation.
    - Internet facility is also available.

    Students' laboratories

    - Computer Laboratories, fully equipped with multimedia facility and internet connection available for students of different faculties and departments.
    - Physics and Chemistry Laboratories, fully equipped, cater to the needs of the science students of the college.

    Internet facilities for staff

    - Internet Room for staff available. Whole of the office area is having Wi-Fi facility.
39. **List of doctoral, post-doctoral students and Research Associates NA**

    a) from the host institution/university- NA

    b) from other institutions/universities- NA
40. **Number of post graduate students getting financial assistance from the university**. None
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.**
    - Students and faculty members were consulted and their views were taken regarding the job markets and future employability before starting P.G. programmes.
    - Observing the feeder area of the college programmes such as P.G./U.G. and evening shifts for courses were started that would help them to secure a career.
42. **Does the department obtain feedback from?**
    a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?** NA
    b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**

- Students' feedback on the teaching methods, college infrastructure, general shortcomings and strengths of the college and their suggestions are invited in fortnightly conducted tutorial groups.

c. alumni and employers on the programmes offered and how does the department utilize the feedback? No

43. List the distinguished alumni of the department (maximum 10): NA

44. Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.

S. No.	Activity	Name of Department	Date
1	Lecture by Professor Rahul Sharma on "Proficiency in the usage of English Language"	English	17th Aug 2013
2	Seminar on ASP.NET by Simranjit Singh	Computer Science	18th September 2013
3	Seminar on Networking by Deepak Yadav & Jatinder Singh	Computer Science	19th September 2013

45. List the teaching methods adopted by the faculty for different programmes.

- Lecture and discussion method
- Seminars and interactive methods
- PPT/ Projectors
- Experimental Method
- Educational tour
- Case-Studies and group discussion
- Tutorial Assignments
- Class Test
- Assigning advanced topics
- Providing question banks
- Use of Audio-Visual aids
- Online Blogspot
- HOTS (Higher Order Tips as per Syllabus)

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- Academic results are evaluated and compare them with university and other reputed institutions affiliated with the university.
- Frequent staff and departmental meetings are held to discuss and monitor the teaching-learning process and the response of the students in the classrooms.
- Students are introduced with the latest developments in their respective subjects.
- Weekly/fortnightly classroom tests and mid-term examinations are conducted.

- Through various extra-curricular activities, their overall personality development is emphasised.

47. Highlight the participation of students and faculty in extension activities.

Department of English (Faculty): Puneet Randhawa organised guest Lectures on "Proficiency in the Usage of English".

Department of Psychology (Faculty): Nisha Chhabra organised Guest lectures on "Stress Management".

Department of Political Science: Manjit Kaur organised guest Lecture on "State of Democracy in India".

48. Give details of "beyond syllabus scholarly activities" of the department.

S. No.	Activity	Name of Department	Date
1	Extempore Competition	English	2nd September 2013
2	Debate Competition	Punjabi	23rd August 2013
3	A Lecture by Dr. Mehal Singh was organised by Sahit Sabha	Punjabi	13th September 2013
4	Lecture on "Fundamental of Stock Exchange & its dealings" by Student of BBA IIIrd year SuNone Mehta (Member of Angel Broking)	Commerce & Business Management	19th October 2013
5	Lecture on "Tax Saving Instruments" by Dr. JP Singh	Economics	25th October 2013
6	Lecture on Subject "Kahani" by Dr. Mehal Singh	Punjabi	13th November 2013

49. State whether the programme/department is accredited/ graded by other agencies? If yes, give details: No

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The College has just started to function and has not reached a stage to contribute in terms of generating new knowledge.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

	Strengths	Weaknesses	Opportunities	Challenges
1	Location of the College in the rural area has made higher studies accessible and affordable to the rural students in general and girl students in particular	Inappropriate Transportation facility and poor road connectivity	It is the only Government co-education college in the surrounding areas with amiable fee-structure.	To materialise the potentials of the institution, College needs to set up a Career Guidance cum Placement Cell
2	College boasts of a large campus for sports grounds and prospects for propping new buildings in the future.	Lacking building for more classrooms, Common Room, college canteen, labs as well as Hostels	Patronisation, guidance, supervision and proximity to the University have contributed to its efficiency and vibrancy and provide opportunity to the college to grow manifolds.	To introduce more add-on courses and vocational courses for students to make them self-reliant, generate self-employment and enhance their marketability
3	Infrastructure that has been built in about three years including classrooms, furniture, lab equipments, computers, internet, wi-fi, etc. is magnificent	Lacking adequate Internet lab, digitalised library and wi-fi campus	Support of the local people in form of land donations, high student strength. College can serve as a nodal agency for welfare of the community, capacity-building and produce skilled and well-trained manpower by extension activities.	To establish as a prestigious and ace institution of the area, spreading education and contributing to the capacity-building of the community and building a healthy and enlightened citizenry.

4	College has a highly qualified, sincere, dedicated and hardworking faculty	Lacking adequate teaching/non-teaching staff	College has been granted add-on courses in Communication-skills and sciences by UGC in 2013-2014. College has initiated evening shift for the students also	-
5	College has a spacious library with a large collection of books	Research Section in the Library and Hotline service	College has been instrumental in distributing scholarships to a substantial number of minority students as well as weaker sections.	-

52. Future plans of the College.

- Construction of New Class Rooms
- Up gradation of Library and Labs
- Emphasis on job-oriented, professional Courses
- Strengthening of P.G. courses
- Construction of a Girls Hostel
- Building of an Auditorium and a fully furnished Seminar Hall
- Promoting of research amongst the various teaching faculty by building up of a research section in the library
- Setting up of a Career Guidance cum placement cell for promoting employment opportunities
- Construction of well provisioned canteens and a common room with proper staff rooms for teachers
- Enhancement of sports with the construction of a Gymnasium, a stadium, and both the NCC and NSS wings
- Enhancement of co-curricular activities by the establishment of a Study Center
- Combating the Unemployment threat by offering professional courses Improvement of academic performance of SC/ST/OBC/minority students through innovative methods like remedial classes.
- Health facilities such as first aid
- Construction of residential accommodation for the staff

1. **Name of the Department**: Bebe Nanaki University College Mithra, Kapurthala
2. **Year of establishment:** 2011
3. **Is the Department part of a Faculty of the University?** Constituent College
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.):** U.G. – B.A., B. Sc. (Non Medical, Comp. Sci., IT, Economics), B. Com. (Professional, Regular), BCA, BBA, PGDCA
5. **Interdisciplinary programmes and departments involved:** None
6. **Courses in collaboration with other universities, industries, foreign institutions, etc**.: None
7. **Details of programmes discontinued, if any, with reasons:** None
8. **Examination System:** Annual and Semester
9. **Participation of the department in the courses offered by other departments:** NA
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Principal	1	1	1
Associate Professors	--	--	--
Assistant Professors	--	9	9
Assistant Professors (Temporary)	--	34	34

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance:**

S. No.	Name	Qualification	Designation	Nature of Job	Specializa-tion	Experi-ence
1	Dr. Navpreet Singh	M.Sc. (Physics) Ph.D. (Physics)	Assistant Professor	Regular	Plasma Physics	2 Years 6 Months
2	Dr. Jagjit Singh	M.Sc. (Maths), Ph.D. (Maths)	Assistant Professor	Regular	Matrix Analysis	4 Years
3	Dr. Parwinder Singh	Ph.D. (Psychology), MA (Psychology), Post Graduate Diploma in Counselling Psychology	Assistant Professor	Regular	Counselling Psychology	4 Years

4	Ms. Gurpreet Kaur	M.Com., M.Phil.	Assistant Professor	Regular	Accounting And Finance	8 Years
5	S. Jagsir Singh	M.A., M.Phil. (Sociology)	Assistant Professor	Regular	Social Stratification and Urban Sociology	3 years 6 Months
6	Ms. Paramjit Kaur	M.Com	Assistant Professor	Regular	Marketing Management and IP	4 Years
7	Ms. Arpana	MA, B.Ed.	Assistant Professor	Regular	Linguistics	3 years 6 Months
8	Dr. Paramjit Kaur	Ph.D., M.Sc. (Chemistry)	Assistant Professor	Regular	Organic Chemistry	7 years
9	Dr. Meenu	M.Sc. (Honors), Ph.D. (Economics)	Assistant Professor	Regular	Indian Economy	5 years 6 Months
10	Dr. Surinder Kaur	MA, M. Phil. Ph.D. (Punjabi) Urdu Diploma	Assistant Professor	Contract	Meta Criticism Literally Historography	4 Sessions
11	Dr. Vishal Kumar	MA, Ph.D. (Punjabi)	Assistant Professor	Contract		4 Sessions
12	S. Karamjit Singh	MA, M.Phil. (Punjabi)	Assistant Professor (Punjabi)	Contract	Linguistic	5 Sessions
13	S. Randeep Singh	MA, BEd, MA (History, Pol. Sci)	Assistant Professor (Punjabi)	Contract		2 Sessions
14	Ms. Sharanjit Kaur	MA, B.Ed, (History)	Assistant Professor (History)	Contract		1 session
15	Ms. Jaspreet Kaur	MA (Political Science)	Assistant Professor (Political Science)	Contract		2 Sessions
16	S. Deepak Talwar	M.Sc. (Hons.) M. Phil. (Eco.)	Assistant Professor (Economics)	Contract		10 Sessions

17	Ms. Amanjot Kaur	B.Tech, M.Tech. (Compute Science)	Assistant Professor (Computer)	Contract		2 Sessions
18	Ms. Amanpreet Kaur	M.C.A.	Assistant Professor (Computer)	Contract		2 Sessions
19	Ms. Harpreet Kaur	M.C.A.	Assistant Professor (Computer)	Contract		2 Sessions
20	S. Jaspreet Singh	M.C.A.	Assistant Professor (Computer)	Contract		2 Sessions
21	Ms. Shaffali Wadhawan	M.C.A.	Assistant Professor (Computer)	Contract		3 Sessions
22.	Ms. Gaganpreet Kaur		Assistant Professor (Commerce)	Contract		2 Sessions
23	Ms. Mandeep Kaur	MBA	Assistant Professor (Commerce)	Contract		3 Sessions
24	Ms. Deepika	M.Com, B.Ed	Assistant Professor (Commerce)	Contract		2 Sessions
25	Ms. Komaldeep Kaur	M.Sc. (Physics)	Assistant Professor (Physics)	Part Time		1 Session
26	Sh. Ravish Kumar Jain	M.Sc. (Nano Science and Tech.)	Assistant Professor (Physics)	Part Time		1 Session
27	Sh. Arun Kochar	M.Sc. (Math)	Assistant Professor (Math)	Part Time		2 Sessions
28	Ms. Rajwinder Kaur	MSc (Math) Bed	Assistant Professor (Math)	Part Time		1 Session
29	Ms. Navgeet Kaur	M.Sc. (Chem.) M. Phil	Assistant Professor (Chemistry)	Part Time	Organic Physical Chemistry	1 Session
30	Ms. Baljit Kaur	M.Com, PGDCA	Assistant Professor (Commerce)	Part Time		4 Sessions

31	Sh. Siddarth	MBA (Marketing)	Assistant Professor (Commerce)	Part Time	Marketing,	2 Sessions
32	Ms. Jyoti Bala	MA (English), B.Ed	Assistant Professor (English)	Part Time		2 Sessions
33	Ms. Vasundra Thakur	MA (English)	Assistant Professor (English)	Part Time		3 Sessions
34	Sh. Parveen	MA (Economics)	Assistant Professor (Economics)	Part Time		2 Sessions
35	Ms. Kulwinder Kaur	MA, M. Phil.	Assistant Professor (Punjabi)	Part Time	Linguistic and Punjabi Language	I Session
36	Ms. Navdeep Kaur	M.C.A.	Assistant Professor (Computer)	Part Time		3 Sessions
37	Ms. Jasleen Kaur	MCom, B.Ed	Assistant Professor (Commerce)	Part Time		1 session
38	Ms. Sumanpreet Kaur	M.Sc. (Chemistry) B.Ed.	Assistant Professor (Chemistry)	Part Time		1 session
39	Ms. Usha Rani	MA, B.Ed. (English)	Assistant Professor (English)	Part Time		2 sessions
40	Ms. Kamal Preet Kaur	MA, B.Ed. (English)	Assistant Professor (English)	Part Time		1 session
41	Ms. Gaganpreet Kaur	M.C.A.	Assistant Professor (Computer)	Part Time		5 sessions
42	Ms. Devinder Kaur.	M.C.A.	Assistant Professor (Computer)	Part Time		1 session
43	Ms. Nidhi	M.C.A.	Assistant Professor (Computer)	Part Time		1 session

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors : NA

13. **Percentage of classes taken by temporary faculty – programme-wise information**

Programme	% of classes taken by temporary faculty
U.G.	78

14. **Programme-wise Student Teacher Ratio**

Programme	Student- teacher ratio
U.G.	27:1

15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:** One (filled)
16. **Research thrust areas as recognized by major funding agencies:** None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.:** None
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**: None
20. **Research facility / centre with**
    - **State recognition** -
    - **National recognition** -
    - **International recognition** -
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    - **Books with ISBN with details of publishers:** 3
23. **Details of patents and income generated :** None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories / Institutions / industries in India and abroad** : None
26. **Faculty serving in a) National committees b) International committees c) Editorial Boards d) any other (please specify):** None
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).:** None
28. **Student projects**
    - **Percentage of students who have done in-house projects including inter- departmental projects**: None
    - **Percentage of students doing projects in collaboration with other universities /Industry / institute:** None

29. **Awards / recognitions received at the national and international level by**
    - **Faculty**
    - **Doctoral / post doctoral fellows**
    - **Students**: None
30. **Seminars/Conferences/Workshops organized and the source of funding (National/international) with details of outstanding participants, if any:** None
31. **Code of ethics for research followed by the departments:** NA
32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected Male Female	Pass percentage Male Female
U.G.	619	494	

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
U.G	100	-	-	-

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise**: None
35. **Student progression:** NA

Student progression	Percentage against enrolled
U.G. to P.G.	--
P.G. to M.Phil.	--
P.G. to Ph.D.	--
Ph.D. to Post-Doctoral	--
Employed • Campus selection • Other than campus recruitment	--
Entrepreneurs	--

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	82.80
from other universities within the State	17.20
from universities from other States	-
from universities outside the country	-

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** TWO
38. **Present details of departmental infrastructural facilities with regard to**
    a) Library: One Library
    b) Internet facilities for staff and students: Two Computer Lab with internet
    c) Total number of class rooms: 21
    d) Class rooms with ICT facility: None
    e) Students' laboratories: 07 (Seven)
    f) Research laboratories: None
39. **List of doctoral, post-doctoral students and Research Associates**
    a) from the host institution/university: NA
    b) from other institutions/universities: NA
40. **Number of post graduate students getting financial assistance from the university:** NA
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology**: No
42. **Does the department obtain feedback from?** No
    a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
    b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
    c. alumni and employers on the programmes offered and how does the department utilize the feedback?
43. **List the distinguished alumni of the department (maximum 10):** None
44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.:** None
45. **List the teaching methods adopted by the faculty for different programmes.:** Lecture and discussion methods are invariably adopted by the faculty
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
    Performance of the students is evaluated by conducting tests on monthly basis. Teachers are instructed to report the concerned curriculum progress on weekly basis.
47. **Highlight the participation of students and faculty in extension activities.** None
48. **Give details of "beyond syllabus scholarly activities" of the department.:** None
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details.:** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.:** NA

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

1. Educated regular faculty with research background.
2. University Constituent College. Under the university guidance better decisions are taken for growth of the department.
3. Quality education at affordable fee structure.
4. Science and Computer laboratories.
5. 17 acres of land that can be used for further developments.

Weakness:

1. Laboratories are not equipped with modern equipments and furniture.
2. Infrastructure not sufficient to have more than 1500 students .
3. Shortage of regular staff.
4. There are no playgrounds, hostels and staff quarters in the college.
5. Research facilities are not available in the college.

Opportunity :

1. To fill the gap between the rural and urban students.
2. To provide quality education to rural and educationally backward areas.
3. Development of the college to provide research based education in the rural area.
4. Technical education can be provided there.

52. Future plans of the department.

The college has been established with the collective efforts of the UGC, Punjab Government keeping in view the needs of the residence of rural and educationally backward areas to impart the affordable and quality education. The College in future will prove to be a bliss for the backward and rural students from the aspect of quality education. The aim of the college is to provide the quality education to the down trodden, weak and poor section of society that have been deprived of the right of education so that they can also be made participants in the development of the country.

1. **Name of the College:** Guru Nanak Dev University College, Chungh.
2. **Year of establishment:** 2011
3. **Is the Department of a School/Faculty of the University?** Constituent College.
4. **Names of the Programmes offered**: U.G.
5. **Interdisciplinary Programmes and departments involved:** None.
6. **Courses in Collaboration with other universities, industries, foreign institutions**: None.
7. **Details of Programmes discontinued, if any with reasons**: None.
8. **Examination System:** Annual/ Semester
9. **Participation of the department in the Courses offered by other departments**: NA
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate /Professors/Assistant Professors/other)**

Post	Sanctioned	Filled	Actual (including CAS &MPS)
Principal	1	1	1
Associate Professors	--	--	--
Assistant Professors	15	6	6
Assistant Professor on Contract		26	26

11. **Faculty profile with name, qualifications, area of specialization, experience and research under guidance.**

Sr. No	Name	Qualifi-cation	Designa-tion	Specifi-cation	No of years of Expe-rience	No. of Ph.D./ M. Phil. Students guided for the last 4 years
1	Ramanpreet Kaur Aulakh	M.Sc.	Assistant Professor	Material Sciences	2	None
2	Om Prakash	M.Sc.	Assistant Professor	Nano Sciences	-	None
3	Gurcharanjit Singh	M.Sc.	Assistant Professor	Complex Analysis	8	None
4	Amarjot Kaur	M.Sc.	Assistant Professor	Math	-	None

5	Dr. Manjinder Kaur	M.Com., Ph.D.	Assistant Professor	Finance	10	None
6	Pushpinder Kaur	MCom	Assistant Professor	Business Studies	3	None
7	Amit Sharma	MCom	Assistant Professor	Account of Finance	Fresher	None
8	Navneet Kaur	MCom, B.Ed	Assistant Professor	Management	2	None
9	Ramandeep Kaur	MCom	Assistant Professor	Accounts & Finance	-	None
10	Dr. Gurinderjit Kaur	Ph.D.	Assistant Professor	Agri.eco	13	None
11	Veerpal Kaur	M. Phil	Assistant Professor	Econometrics	2	None
12	Manpreet kaur	MPhil	Assistant Professor	Micro Eco, QT	3	None
13	Dr. Anu Mittal	Ph.D.	Assistant Professor	Chemistry	6	None
14	Suman Kakkar	MSc	Assistant Professor	Chemistry	1	None
15	Malkiat Singh	M.Phil., Pursuing Ph.D.	Assistant Professor	Theory Of Politics	1	None
16	Dr. Sarghi	Ph.D.	Assistant Professor	Punjabi	8	None
17	Dr. Gurbir Singh	Ph.D.	Assistant Professor	Punjabi	4	None
18	Simranjeet Kaur	MPhil	Assistant Professor	Punjabi	-	None
19	Shamsher Singh	MA	Assistant Professor	History	3	None
20	Mr. Sumit Mahajan	MA, MPhil	Assistant Professor	History	3	None
21	Manpreet Kaur	MA	Assistant Professor	Geography	2	None
22	Jaspal Gill	MPhil, Ph.D., BEd	Assistant Professor	Geography	5	None
23	Rabia	MA (Hons)	Assistant Professor	Psychology	-	None
24	Swapandeep Kaur	M.C.A.	Assistant Professor	Computer	2	None

25	Er. Davinder Singh	M.Tech. IT	Assistant Professor	Computer	4	None
26	Arjunbir Singh	M.C.A.	Assistant Professor	Computer	-	None
27	Surinder Kaur	M.C.A.	Assistant Professor	Computer	-	None
28	Sonia Sharma	M.C.A.	Assistant Professor	Computer	4	None
29	Harsimar	MA	Assistant Professor	English	2	None
30	Khushal Singh	MA	Assistant Professor	English	3	None
31	Sukhpal Singh	MA	Assistant Professor	English	1	None
32	Jasleen Dua	MA	Assistant Professor	Sociology	-	None

12. **List of Senior visiting Fellows, adjunct faculty, emeritus Professors:** NA
13. **Percentage of classes taken by temporary faculty:** U.G. 82%
14. **Programme-wise Student Teacher Ratio:**
    U.G. 34:1 (2011-12), 40:1 (2012-13).
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual.**

Post	Sanctioned	Filled	Actual (including CAS &MPS)
Jr. Technician	2	-	-
Clerk	1	1	-
Restorer	1	-	-

16. **Research thrust areas as recognized by major funding agencies**: None
17. **Number of faculty with ongoing project from a) national b) International funding agencies and c) Total grants received. Give the names of the funding agencies, project title and received project-wise**. None
18. **Inter-Institutional collaborative project and associated grants received a) National B) International collaboration**: None
19. **Departmental projects funded by DST-FIST: UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, ETC; total grants received:** None
20. **Research facility/Centre with** None
    - **State reorganization** -
    - **National recognition** -
    - **International recognition** -
21. **Special research laboratories sponsored by/created by industry or corporate bodies**: None

22. **Publications:**
23. **Detail of patents and income generated**: NA
24. **Areas of consultancy and income generated**: None
25. **Faculty serving in**
    a) National committees b) Internally to visit other laboratories/ Institutions/ Industries in India and abroad: None
26. **Faculty serving in**: None
    a) National committees b) International committees c) Editorial Boards d) any other (Please specify): None
27. **Faculty recharging strategies (UGC, ASC, Refresher/orientation programs, workshops, training programs and similar programs):** None
28. **Students Projects:**
    - **Percentage of students who have done in-house projects including inter-department projects.:** None
    - **Percentage of students doing project in collaboration with other universities/Industry/Institute.:** None
29. **Awards/recognitions received at the national and International level by**
    - **Faculty:** None
    - **Doctoral/post doctoral fellows:** None
    - **Students**: None
30. **Seminars/conferences/workshops organized and the source of funding (national/international) with details of outstanding participants, if any**: None
31. **Code of ethics for research followed by the departments**: NA
32. **Students profile programme-wise**: 2012-13

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
U.G.	1059	712	347	71	82

33. **Diversity of Students**:

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of Students from universities outside the state	% of students from other countries
U.G.	100	-	-	-

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise**: None

35. **Students progression:**

Students Progression	Percentage against enrolled
U.G. to P.G.	-
P.G. to\M. Phil	-
P.G. to Ph.D.	-
Ph. D to Post-Doctoral	-
Employed • Campus selection • Other than Campus recruitment	-
Entrepreneurs	-

36. **Diversity of staff**

Percentage of faculty who are graduates	
Of the same university	90.5
From other universities within the State	6.25
From universities from other States	3.25
From universities outside the Country	Nil

37. **Number of faculty who were awarded M.Phil., Ph.D., and D.Sc. and D.Litt. during the assessment period:** None
38. **Present Details of departmental infrastructural facilities with regard to**

a) Library: The College Library is stacked with 3408 standard books and has a large reading hall.

b) Internet facilities for staff and students: A dedicated internet lease line has been set up to keep abreast with new technology.

c) Total number of class rooms -18

d) Class rooms with ICT facility: None

e) Students laboratories: College has 10 laboratories to carry out practical work in the field of chemistry, Physics, Geography, Psychology and Computers.

f) Research laboratories: None

39. **List of doctoral, post-doctoral students and research Associates**:
    a) From the host institution/university: NA
    b) From other institution/universities: NA
40. **Number of post graduate students getting financial assistance from the university**: NA

41. **Was any need assessment exercise undertaken before the development of new porogramme (S)? If so, highlight the methodology**: No
42. **Does the department obtain feedback?** : No
    a) faculty on curriculum as teaching –learning-evaluation? If yes, how does the department utilize the feedback?
    b) Students on staff, curriculum and teaching-learning-evaluation and how does the Department utilize the feedback?
    c) Alumni and employers on the programmes offered and how does the department utilize the feedback?
43. **List the distinguished alumni of the department (maximum 10)**: None
44. **Give the details of student enrichment programmes (special lectures/workshops seminar) involving external experts**.

    On 1st of November, Pbi Department & Economics Department jointly celebrated the Punjabi Day. Professor (Dr.) Amarjit Singh Sethi delivered the lecture on 'Economy of Punjab: Potentials and Challenges'.

    In the session 2011-12, a five days Computer fest was organized by the college to know the new technological developments in the field of computer Science. The main thrust of this tech fest was to know the basics of various Computer Software's e.g. Power Point presentation, Microsoft Words and Microsoft Excel etc.

    A ten days workshop on art and craft was held in the college with a specific purpose to enhance creativity and artistic hues among the students. The students participated in different artistic activities like Pot painting, Fabric painting, Warli art and Clay modeling etc.

    A five days workshop in the subject of science was organized in the college, in the session 2012-13, students prepared working models and charts on difference scientific laws. In this way, the students learned about the practical application of various scientific concepts.

45. **List the teaching methods adopted by the faculty for different programmers.**

The College has adopted different innovative teaching methods to impart education such as Brain storming (discussion), models, workshops, audio-visual methods.

Students are often encouraged to participate in group discussions to understand core of topic and to know different views on a single topic. The purpose of this method is to boost up the confidence of the students, as well as to develop an analytical approach amongst them.

Keeping in view the changing scenario and competitive atmosphere, different models regarding teaching skills are illustrated in the classroom to make the students understand in a simple way. This makes teaching interesting and innovative.

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored? :**

Constant testing procedures apart from house examination and results obtained in final exams are assessed for the purpose.

47. **Highlight the participation of students and faculty in extension activities.**

Various activities were undertaken to keep the people of the area aware about various burning social issues. Pamphlets on "Diabetes", "AIDS" and "Drug Addiction" were distributed in order to create awareness among the people of the area about these fastly spreading diseases.

In the Session 2011-2012, the college organized Human Chain Ralley for the promotion of literacy.

48. **Give the details of "beyond syllabus scholarly activities" of the department:**

Quiz in the area of Commerce and English was organized in the college to promote thinking in the student's. Peer group discussions are promoted in the Class room.

49. **State whether the programme/department is accredited/ graded by other agencies? If, yes give the details**. : No

50. **Briefly highlighted the contributions of the department in generating new knowledge, basic or applied**:

The college is situated in academically highly backward area, where gross enrolement ratio is very poor. Main focus of college is to provide affordable quality education to the masses in the middle border area where the college is situated, so, basic fundamental knowledge at bachelor's level is provided to the youth of rural border area.

51. **Detail five major Strengths, Weaknesses, Opportunities and challenges (SWOC) of the department**:

1. Strength:

- Dedicated and committed faculty.
- Highly qualified staff appointed by the University.
- Support by UGC.

- Infrastructure required for imparting the knowledge.
- College being constituent college of the University and can rely upon the faculty in the form of guest faculty, and other requirements from the University.

2. Weaknesses:

- College is situated in very remote area.
- Lack of transportation facility for the students.
- College building still in the initial stages and requires further improvement.

3. Opportunities:

- Opportunity for extension of education activities.
- Education of rural masses apart from students.
- Desire to acquire scientific knowledge by the youth of the area.
- Women empowerment through education of girl students.

4. Challenges:

- Dependence of the local people upon their nature to involve politics in education.
- Lack of awareness toward role of education is society.
- Indifferent attitude of the people in the area toward education to women.
- Remoteness of the college served as barrier for better qualified teachers to serve as faculty.
- To arrange and manage grants from different agencies

52. Future plans of the department:

Future plan of the college is to produce aware, academically sound and responsible citizens of India. College is planning to bring about women empowerment, especially by inculcating awareness among girls. College is giving stress to promote scientific, humanistic and critical outlook among students. Future vision of the college is to motivate students to rise above self-interest and to put their valuable contribution for the sake of collective, national and international interest.

1. **Name of the department:** Guru Nanak Dev University College, Narot Jaimal Singh, Pathankot.
2. **Year of establishment:** 2011
3. **Is the department part of a School/Faculty of the university?** Constituent college
4. **Name of programs offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters, Integrated Ph.D., D.Sc., D.Litt., etc.):**
   - U.G.
   - P.G. (PGDCA)
5. **Interdisciplinary programmes and departments involved:** None
6. **Courses in collaboration with other universities, industries, foreign institutions etc. :** None
7. **Details of programs discontinued, if any, with reasons:** None
8. **Examination system: Annual/Semester/Trimester/Choice based Credit System**
   - Semester / Annual(Last Year)
9. **Participation of the department in the courses offered by other departments**
   - Commerce department participates in information technology department
   - Chemistry department participates in fashion designing department
   - Maths department participates in computer department
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Principal	1	1	1
Professors	-	-	-
Associate Professors	-	-	-
Assistant Professors (2013-14)	15	5	5
Others (2013-14)	Contract + Part-time Assistant Professor	Contract =09 + Part-time Assistant Professor =13	22

11. Faculty Profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualifi-cation	Designa-tion	Specializa-tion	No. of Years of Experience		No. of Ph.D./ M.Phil. students guided for the last 4 years
				Teach-ing	Re-search	
Dr. Barinder Kaur	Ph. D	Principal	Punjabi	10	10	NA
Mr. Sarbjit Singh	M.Phil.	Assistant Professor	Mathematics	10	1	
Dr. Poonam Mahajan	Ph.D.	Assistant Professor	Commerce	5	3	
Mr. Gurpreet Singh	M.Phil.	Assistant Professor	Physics	2	2	
Mrs. Sukhjinder Kaur	M.Com	Assistant Professor	Commerce	7	1	
Dr. Ruchi Kohli	Ph.D.	Assistant Professor	Chemistry	5	5	
Ms. Ramandeep Kaur	M.Phil.	Assistant Professor	Punjabi	1	2	
Mr Sukhjinder Singh	M.Phil.	Assistant Professor	History	1	-	
Dr. Madanjit Aryan	Ph.D.	Assistant Professor	Punjabi	1	5	
Kompal Katal	P.G.	Assistant Professor	English	-	-	
Madan Lal	P.G.	Assistant Professor	Pol. Science	6	6	
Mrs. Indu Bala	P.G.	Assistant Professor	Computers	3	-	
Mrs. Jyoti Mahajan	P.G.	Assistant Professor	Fashion Designing	1	-	

Ms. Kumari Sarita	P.G.	Assistant Professor	Computers	-	-	
Ms. Rimple	P.G.	Assistant Professor	Physics	4	-	
Ms. Priya Saini	P.G.	Assistant Professor	Mathematics	-	-	
Mr. Sandeep Sharma	M.Phil.	Assistant Professor	Chemistry	10	1	
Ms. Ranjana	P.G.	Assistant Professor	Computers	2	-	
Mr. Harkanwaljit Singh	P.G.	Assistant Professor	Geography	8	2	
Mrs. Savita Pathania	P.G.	Assistant Professor	Computers	1	-	
Ms. Sukhraj Kaur	M.Phil.	Assistant Professor	Punjabi	3	1	
Ms. Harpreet Kaur	P.G.	Assistant Professor	Punjabi	-	-	
Ms. Rubia Mahajan	M.Phil.	Assistant Professor	English	1	1	
Ms. Aarti Sharma	P.G.	Assistant Professor	Commerce	2	-	
Mr. Sandeep Kumar	P.G.	Assistant Professor	Commerce	-	-	
Poonam Sharma	P.G.	Assistant Professor	English	1	-	
Poonam Mahajan	P.G.	Assistant Professor	Sociology	1	-	
Skattar Singh	P.G.	Assistant Professor	Economics	-	-	

12. **List of Senior Visiting fellows, adjunct faculty, emeritus Professors:** NA
13. **Percentage of classes taken by temporary faculty-program-wise information**

Programme	% of classes by temporary faculty
B.A.	100
B.Sc. (NM)	50
B.Sc (CS)	50
B.Com (R)	50
B.Com (P)	50
Bsc (FD)	100
Bsc (Eco)	50

BCA	100
PGDCA	100
DCA	100

14. Program-wise student teacher ratio (2013-14)

Program	Ratio
B.A.	50:1
B.Sc. (NM)	10:1
B.Com (R)	10:1
B.Com (P)	10:1
B.Sc (CS)	10:1
PGDCA	10:1
DCA	10:1
BCA	15:1
B.Sc (FD)	7:1

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual (2013-14)

Designation	Sanctioned	Filled
Clerk cum Jr. data entry operator	(1 Permanent) (1 on contract)	1 Temporary but likely to continue
Librarian	1	-
Security guard	4	4 (contract)
Maali	1	1 (contract)
Peon	2	2 (contract)
Safai karamchari	4	4 (contract)

16. Research thrust areas as recognized by major funding agencies: None

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies. Project title and grants received project-wise.

- Dr. Barinder Kaur, Principal, has got sanctioned a grant of 5.5 lac from UGCfor Major Research Project entitled " Literary and cultural study of the subcultures of Punjab" 2012-2014

18. Inter-institutional collaborative projects and associated grants received

a) National collaboration b) International collaboration: None

19. Departmental projects funded by DST-FIST, UGC-SAP/CAS, DPE, DBT, ICSSR, AICTE etc. total grants received: None

20. Research facility/centre with: Nil

- **State recognition** -
- **National recognition** -
- **International recognition** -

21. **Special research laboratories sponsored by /created by industry or corporate bodies:** None
22. **Publications**

    Number of papers published in peer reviewed journals (national/international): 5
    - **Monographs:** Nil
    - **Chapter in Books**: Nil
    - **Edited Books:** Nil
    - **Books with ISBN with details of publishers**: 2
23. **Details of patents and income generated:** NA
24 **Areas of consultancy and income generated:** None
25 **Faculty selected nationally/internationally to visit other laboratories/institutions/industries in India and abroad:** None
26 **Faculty serving in a) National Committees b) international Committees c) Editorial Boards d) any other (please specify)**
    - Dr. Barinder Kaur
        - Member of World Punjabi Organization (WPO, Toronto, Canada)
        - Executive member, Punjab University Chandigarh Sports Committee 2010-2011
        - Executive member of sports Sub-Committee of S.G.P.C., Amritsar from 2002-2006
        - Nominated member of Advisory Committee of Women Studies Centre sponsored by UGC at SGGS Khalsa College, Mahilpur (Hoshiarpur)
        - Executive member of Guru Nanak Dev University Sports Committee (W) for tenure of two years
        - Programmed Committee member to organize 28th North-Zone Inter-University Youth Festival held at GNDU, Amritsar from 7th-11th Nov. 2012
        - Charted Member & Vice-President of Lion's club Harimandir Sahib, Amritsar during 2002-2003.
        - Nominated Jury member of Lok Adalat, Talwandi Sabo, Bathinda 2003-2005
        - Member of Global Punjabi Organization to Promote Punjabi Lagauge & Heritage Worldwide
27 **Faculty recharging strategies (UGC, ASC, Refresher/orientation programs, workshops, training programs and similar programs:** None
28. **Student projects**

    Percentage of students who have done in house projects including inter-departmental projects: None

    Percentage of students doing projects in collaboration with other universities/industry/institute: None

29. **Awards/recognitions received at the national and international level by**

Faculty

- Dr. Barinder Kaur (Principal)
  (1) Received "Rural Olympic Heritage Award-2010" at 75th Qila Raipur Sports Festival known as Mini Olympics
  (2) Recipient of "Swiss Award -2010 by Shaheed Memorial Sewa Society (Regd.) Ludhiana

Doctoral/post doctoral fellows None

Students None

30. **Seminars/conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any:** None

31 **Code of ethics for research followed by the departments:** NA

32 **Student profile program-wise:**

(2012-13) Semester results. Pass % is approximate (based on 2nd sem results).

Name of the program	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
U.G.	800	210	283	70	74

33 **Diversity of students**

Name of the program	% of students from same university	% of students from other boards within the state	% of students from other boards outside the state	% of students from other countries
U.G.	97.5	2.5	0.3	-
PGDCA	100	-	-	-

34. **How many students cleared civil Services and Defence Services examinations, NET, SET, GATE and other competitive examination? Give details category-wise.**

None. Since the college is in infancy years

35 **Student Progressions:** NA

Student Progression	Percentage against enrolled
U.G. to P.G.	-
P.G. to M. Phil	-
P.G. to Ph.D.	-
Ph.D. to Post Doctoral	-
Employed Campus selection Other than campus recruitment	-
Enterpreneurs	-

36 Diversity of staff

Percentage of faculty who are graduates	
Of the same university	95
From other universities within the state	-
From universities from other states	5
From universities outside the country	-

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period

Ph.D. = 2

M. Phil = 3

38. Present details of departmental infrastructural facilities with regard to

a) Library

- The College has big well furnished library with nearly 5000 books, displayed on twelve book racks. There are 72000 online books available. With twenty five tables and hundered chairs it has good sitting capacity. Six different newspapers are purchased every day. Library possesses a variety of magazines of different interests.

b) Internet facilities for staff and students: Wi-Fi Campus

c) Total number of class rooms: 28

d) Class rooms with ICT facility: Two computer labs + 4 Class Rooms

e) Students Laboratories

- The college has well set up and modernized labs in the subjects of Physics, Chemistry, Geography, Fashion designing, Computer and Psychology.

f) Research laboratories: NA

39 List of doctoral, post doctoral students and research Associates

a) From the host institution/university: NA

b) From other institutions/universities: NA

40. Number of post graduate students getting financial assistance from the university NA

41. Was any need assessment exercise undertaken before the development of new programs? If so, highlight the methodology

For the Add on courses in fashion designing and web designing, need assessment exercise was undertaken. Methodology adopted was that survey of the area was conducted. According to people, most of the schools of the area offer vocational course. Students and teachers asked for some advanced diploma after +2 which make them aware with advanced technology and employment oriented job so that people of this backward and rural area do not lag behind skilful education.

42 Does the department obtain feedback from?

a) faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

- Yes, For the welfare of the students and learning and growth experience of teachers

b) Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

- Yes, continuous evaluation in terms of teaching excercises, teacher-taught relationship and improvement of learning process

c) alumni and employers on the programs offered and how does the department utilize the feedback?

43 List the distinguished alumni of the department (maximum 10): None

44. Give details of student enrichment programs (special lectures/workshops/seminar) involving external experts.

- On 8th march 2011, NSS department of college organized a seminar on the eve of women's Day" by highlighting Social Evils of the society.
- On 8th Nov 2011, a seminar was organized on life of Guru Nanak Dev Ji and his teachings. Professor Avtar Singh Dupalpur (GNBC Ramgariah college, Phagwara and Professor Jagdish Singh, Director Naad Pargars, Amritsar presented lectures on this day.
- On 8 Feb 2012, Extension lecture on the topic "Awareness about procedure to open various accounts in Banks" was organized by commerce department. Mr. Kohli manager of PNB Bank was invited to deliver the lecture.
- On 7th march 2012, a documentary film regarding social evils like early marriages, dowry, illiteracy etc was showcased. Mr. Ajit Rai, an eminent film critic delivered his valuable thoughts as Role of Indian Cinema in Education.
- In Oct 2012, Lecture on "Networking and its applications and security issues" was delivered by Dr. Sandeep Sood, Head and Associate Dean at GNDU regional campus, Gurdaspur

45. List the teaching methods adopted by the faculty for different programs

- class room teaching with chalk and talk
- power point presentations
- Group discussion
- Relating theory with practical by performing experiments in labs
- Quiz/puzzles related to subject
- Making Assignments and models
- Using internet for e-books, journals etc.
- Project-works

46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
    By interaction of students with teachers, group discussions, holding quiz competitions on programs, continuous evaluation by class tests, evaluation through house tests and also through practicals.
47. **Highlight the participation of students and faculty in extension activities**
    Organizing educational camps to create awareness among the people in backward and border area to fight against social evils like 'Drug addiction", Population explosion. Faculty makes effort to make people think and work for environment cleanliness and its protection, tree plantation, women empowerment, removing illiteracy and offering opportunity for higher education. Guest lectures are also organized on different topics for personality and all round development of students.
48. **Give details of "beyond syllabus scholarly activities" of the department**
    - Visits to industries, banks, educational tours and trips to Historical Places.
    - Participation in inter-college sports, Youth Fest, inter-college competitions, Tech-fest etc.
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details:** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied**
    GNDU college, Narot Jaimal Singh is the only its own kind of college in Pathankot and Gurdaspur Districts. It is a co-educational college established in rural, educationally backward and border area to provide economical education to students of this area. College is a boon for the students of the area. Highly qualified staff has been appointed to give best education to the financially weak students at very nominal fees. Vast campus of college, huge library, well furnished laboratories, quality education are the main features of college. College offers many undergraduate courses like B.A., B.Sc. (Economics, Non-medical, Fashion Designing, Information Technology, BCA, B.Com (R), B. Com (P), BBA along with DCA and PGDCA. The teachers visit to all surrounding senior secondary schools in Jan-Feb months to apprise the students with courses being run by the college. NSS unit of college and Eco club works actively to aware the students and residents of area about cleanliness, environmental protection, spreading peace, fighting against social evils, women empowerment etc. ECA wing motivates students to participate in different cultural activities. Sports and physical education department looks after games and sports which are important for mental and physical growth of students. All round personality development of the students and to make them ideal citizen is primary goal of college.

51. Detail five major strengths, Weakness, Opportunities and challenges (SWOC) of the department

Strengths

1. College has been started in a very backward and rural area for uplifting education standard of remote area which is devoid of many basic facilities. Kathua- a town of J& K border is 16 km and college can cater the students of J & K also.
2. College is providing high quality education to students on very nominal charges
3. Disciplined students putting hard work in studies, well qualified staff dedicated towards teaching and moral support and guidance to the students as well as localites.
4. College has huge campus covering 12.5 acres of land, good infrastructure, huge library and modernized well equipped labs.
5. College offers a number of professional courses that enable students to acquire required knowledge and skills in their respective fields.
6. It is Constituent College getting Grant from State Government and is under the management of GNDU, Amritsar.
7. Sports and library facilities are available, not only for the students but also for the local people.

Weakness

1. Poor approach to college.
2. College requires a Multipurpose Gymnasium cum Hall for indoor games and other cultural activities.
3. Proper Canteen to cater the students hygienic and healthy food.
4. Need proper infrastructure for sports.
5. There is no hostel available for students and staff accommodation.
6. There is need for more vocational/skillful courses.

Challenges

1. Schooling background of students of this rural area is very poor.
2. There is no nearby market (upto 35 km) to buy books and other study materials.
3. People are financially so poor they can't even pay the nominal fees.
4. College should be residential so that faculty should stay back in campus and give maximum time for guidance of students.
5. Poor transportation facility in the area.
6. Poor viability of jobs in the area.

52. Future plans of the college

- To bring the top most multinational companies for the placement of students.
- To start the Master level courses.
- To introduce new courses like diploma in web designing, computer graphics etc.
- To create infrastructure for sports.

- To conduct seminars, workshops, guest lectures, educational tours in different subjects for enhancing the knowledge of students.
- To update the library with good quality books.
- To construct hostel.
- To bring grants through projects from UGC or other govt. bodies for betterment of College.
- To start a carrier counselling cell to help students to opt the right course during admission.
- To bring quality education.
- To start a community radio to highlight the problems of the area and achievements of the students.
- To remove all the weakness of college and raise its standard.

The College aims at excellence of students in academics, extracurricular activities and other social facets.

1. **Name of the College:** ASSM College, Mukandpur(SBS Nagar)
2. **Year of establishment:** 1993 (taken over by GNDU on 04-07-2007)
3. **Is the Department part of a School/Faculty of the University:** Constituent College
4. **Names of programmes offered** (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.)

   Under Graduate Curses:

   a. BA
   b. B.Sc.(Non Medical, Medical, Economics, Computer Science)
   c. BCA
   d. B.Com(Regular)

   Post Graduate Curses:

   a. M.C.A.(TYC)
   b. MBA(FYIC)
   c. MBA(Two Years)
   d. M.Sc.(IT)
   e. MA (Eco.)
   f. MA(Punjabi)
   g. Post Graduate Diploma in Computer Application(PGDCA)
   h. Post Graduate Diploma in Financial Services(PGDFS)
5. **Interdisciplinary programmes and departments involved**

   CBM Deptt:

   a) Advances in Operating System.
   b) Fundamentals of Computers
   c) Information System

   Computer Science Deptt:

   a) Fundamentals of Communication Engineering
   b) Basic Electrical and Electronics
   c) Emerging Trends in Library and Information Science
6. **Courses in collaboration with other universities, industries, foreign institutions, etc:** None
7. **Details of programmes discontinued, if any, with reasons**:
8. **Examination System:** Annual, Semester
9. **Participation of the department in the courses offered by other departments:** None
10. **Number of teaching posts sanctioned, filled and actual (Professors/ Associate Professors/ Assistant Professors/ others)**

    Teaching Staff

Post	Sanctioned	Filled	Actual
Principal	-	-	1
Associate Professor	06	06	06
Assistant Professor (Regular)	13	10	10
Assistant Professor (Contract)	38	28	28

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

HUMANITIES

Name	Qualification	Designation	Specialization	Experience (Years)
Gurjant Singh	M.A (Pbi), M.Phil., Ph.D.	Principal	Fiction	23
Shamshad Ali	M.A (Music), M.Phil.	Associate Professor	Indian Classical Music(V)	22
Charanjeet Kaur	M.A, M.Phil., Ph.D.	Associate Professor	Punjab History	22
Nirdosh Kaur	M.A, M.Phil., M.LIB	Associate Professor	-	22
Jagwinder Singh	M.A(Pbi)	Assistant Professor	-	18
Ranjit Singh Gill	M.A. (Eng), M.Phil., Ph.D.	Assistant Professor	-	17
Ramanpreet Kaur	M.A (Eco), M.Phil.	Assistant Professor	-	10
Rupinder Singh	M.A (Eco), M.Phil.	Assistant Professor	Industrial Economics	11
Kusum Bidla	M.A, (Pbi), Ph.D.	Assistant Professor	Punjabi Natak	9
Sandeep Kaushal	M.A. (Eng)	Assistant Professor	-	11
Mandeep Kaur	M.A (Eng), B.Ed	Assistant Professor	-	1
Mamta	M.A. (Eco)	Assistant Professor		4
Mandeep Kaur	M.A (Sociology)	Assistant Professor	-	7
Arun Prabha	M.Sc. (Nutri)	Assistant Professor	Nutrition	8
Sonia Minhas	M.Sc. (Nutri)	Assistant Professor	Food science Nutrition	2
Sarabjit Kaur	M.A.(Pbi)	Assistant Professor	-	1
Mandeep Kaur	M.A. (Pbi), M.phil.Ph.D.	Assistant Professor	-	8

SCIENCE DEPARTMENT:

Name	Qualification	Designation	Specialization	Experience (years)
Sanjay Dhawan	M.Sc., M.Phil. (Math) Post Msc. Dip in CSc.	Associate Professor	Numerical Analysis	22
Manjit Singh	M.Sc, JPT (Physics)	Associate Professor	Electronics	22
Sangeeta	M.Sc. (Math), Ph.D.	Assistant Professor	Approximation Theory	13
Ashima Passi	M.Sc, Ph.D. (Chem)	Assistant Professor	Physical Chemistry	10
Anita Bhardwaj	MSc (Math)	Assistant Professor	-	1
Reena Dhanda	M.Sc.(Bot)	Assistant Professor	-	3
Lovleen	M.Sc, (Zoo) Ph.D.	Assistant Professor	-	1
Rachna Devi	M.Sc, (Zoo) B.Ed	Assistant Professor	-	-
Saroj Kumari	M.Sc. (Chemistry) B.Ed	Assistant Professor	-	-

DEPARTMENT OF COMPUTER SCIENCE & IT:

Name	Qualification	Designation	Specialization	Experience (Years)
S.D. Bawa	B.Tech (ECE), M.Tech (IT)	Assistant Professor	Embedded Systems	10
Sarabjit Singh	M.C.A.	Assistant Professor	-	9
Anuradha Minhas	Msc (Math), M.Tech (CS)	Assistant Professor	-	-
Supriya Mahindru	M.C.A.,B.Ed	Assistant Professor	-	-
Ashish Kumar	M.C.A.	Assistant Professor	-	-
Satinderjit Kaur	M.C.A.	Assistant Professor	-	1
Gauravpreet Singh Bajaj	M.C.A.	Assistant Professor	-	1

Vaishally Saini	M.C.A.	Assistant Professor	-	-
Jaspreet Kaur	M.C.A.	Assistant Professor	-	-

COMMERCE DEPARTMENT

Name	Qualification	Designation	Specialization	Experience
Karamjit Kaur	M.Com(Gold Medal), Ph.D.	Assistant Professor	Accounting & Finance	13
Meghna Agarwal	M.Com, Ph.D.	Assistant Professor	Marketing & HR	3
Jaswinder kaur	M.com	Assistant Professor	Accounting & Finance	2
Silky Batra	MBA	Assistant Professor	Marketing	-
Bandna Rani	M.com	Assistant Professor	Accounting & Finance	2
Gurpreet Kaur	MBA	Assistant Professor	HR. Finance	1
Hardeep Kaur	M.Com	Assistant Professor	Accounting & Finance	1
Gurpreet Singh Kalsi	M.Com	Assistant Professor	Accounting & Finance	1

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors**: NA
13. **Percentage of classes taken by temporary faculty – programme-wise information:** 64%
14. **Programme-wise Student Teacher Ratio:**
    Humanities: 25:1
    Science: 8:1
    Computer Sci. & IT: 31:1
    Commerce: 15:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**

	Sanctioned	Filled
Admin Staff	07	06
Technical	17	14

16. **Research thrust areas as recognized by major funding agencies**: None

17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.**
    a) Dr. Meghna Aggarwal got major research project from UGC worth Rs. 5,65,000 titled, "Tourism Marketing in Northern India- An Empirical study of the need , importance and strategies for adopting a consortium approach"
    b) Dr. Sangeeta got minor research project from UGC worth Rs. 60000 titled"A Study of nearest and farthest points in abstract spaces", in Dec 2011:
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**: None
20. **Research facility / centre with**:
    - **State recognition -**
    - **National recognition -**
    - **International recognition -**
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
    - **Number of papers published in peer reviewed journals (national /International)**: 40
23. **Details of patents and income generated**: None
24. **Areas of consultancy and income generated**: None
25. **Faculty selected nationally / internationally to visit other laboratories / Institutions / industries in India and abroad:** None
26. **Faculty serving in**
    a). National committees b) International committees c) Editorial Boards d) any other (please specify)
    a) Dr. Gurjant Singh (Principal) member faculty of languages, GNDU, Amritsar.
    b) Mr. Sanjay Dhawan member faculty of Sciences, GNDU, Amritsar.
    c) Mr. Shamshad Ali member faculty of Fine Arts, GNDU, Amritsar.
    d) Mr. Manjit Singh member faculty of Sciences, GNDU, Amritsar.
    e) Dr. Charanjit Kaur and Ms. Nirdosh Kaur member faculty of Social Sciences, GNDU, Amritsar.
    f) Dr. Karamjeet Kaur member faculty of CBM, GNDU, Amritsar.
    g) Dr. Sangeeta member faculty of Sciences, GNDU, Amritsar.
    h) Er. S.D. Bawa member faculty of Engineering, GNDU, Amritsar.
    i) Dr. Ashima Passi member faculty of Sciences, GNDU, Amritsar.

27. **Faculty recharging strategies (UGC, ASC, Refresher/orientation programs, workshops, training programs and similar programs).**
    a. Research methodology workshops participation: 6 teachers
    b. Capacity Building of women managers in Higher Education: 1 teacher
    c. Refresher Courses: 6 teachers
    d. Orientation course: 3 teachers
    e. Winter School in Mathematics: 1
28. **Student projects**

    • Percentage of students who have done in-house projects including inter- departmental projects

    Commerce

Session	Percentage of students who Have done in-house projects	Percentage of students doing projects with Industry
2008-09	None	11.00
2009-10	None	14.11
2010-11	None	23.90
2011-12	None	17.33
2012-13	2.80	14.60

    • Percentage of students doing projects in collaboration with other universities /Industry / institute

    Computer Sci & IT

Session	Percentage of students who Have done in-house projects	Percentage of students doing projects with Industry
2008-09	10.0	None
2009-10	10.0	None
2010-11	11.0	11.6
2011-12	10.0	11.8
2012-13	10.8	11.6

29. **Awards / recognitions received at the national and international level by**:
    • **Faculty:** None
    • **Doctoral / post doctoral fellows :** NA
    • **Students:** None
30. **Seminars/ Conferences/ Workshops organized and the source of funding (National/ international) with details of outstanding participants, if any:**
    Self financed Workshop: National Workshop on Research Methodology (Interdisciplinary) May 2011.
31. **Code of ethics for research followed by the departments**: As per University rules.

32. **Student profile programme-wise:**
No. of applications received: 677
No. of students selected: 642
Pass percentage: 70 for males and 75 for females

33: **Diversity of Students**
80 per cent from the same university and 20 per cent from other University within the state

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise**. CBM Department(UGC NET) :2; Punjabi Department(UGC NET): 2; Music Department (UGC NET): 2.

35. **Student progression:**

Science:	
Session (2012- 2013)	
Student progression	Percentage against enrolled
U.G. to P.G.	56.00
Employed	
• Campus selection	02.00
• Other than campus recruitments	22.00

CBM	
2012-13	
U.G. to P.G.	82.00
Employed	
-Campus Selection	20.00
-Other than campus Selection	20.00

Humanities:	
2012-13	
U.G. to P.G.	44.23

36. **Diversity of staff:**

Percentage of faculty who are graduates of the same University: 58.13
From other university within state: 27.9
From university from other states: 13.9
From University outside the country: --

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period

Humanities:

Name	Designation	Degree Awarded
Dr. Charanjit Kaur	Associate Professor	Ph.D. (24.2.2010)
Dr. Arun Prabha	Assistant Professor	Ph.D. (22.12.2008)
Dr. Sonia Minhas	Assistant Professor	Ph.D. (9.8.2010)
Dr. Kusum Bidla	Assistant Professor	Ph.D. (August, 2008)
Dr. Mandeep Kaur	Assistant Professor	Ph.D. (8.6. 2011)
Session (2009- 2010)		
Dr. Sangeeta was awarded Ph.D. in Science		

38. Present details of departmental infrastructural facilities with regard to

a) Library

- Total number of Books 27577
- Total number of Journals/Magazines 42
- Total number of Newspapers 15
- Internet Facility: In college Library internet connection is available . Students and teachers can access internet facility during library hours.
- Xerox Machine: Two photocopiers are available in college library. Student's and faculty members can get photocopy at reasonable rates.
- Book Bank: College Library is also providing facility of book bank to needy students.
- E-Resources Through N-List Programme of INLIBNET
- Department Library : For the convenience of the students and teachers of Punjabi Department. There is a separate library of Punjabi literature in Punjabi Department.
- Library in Shri Gurdwara Sahib

b) Internet facilities for staff and students: Dedicated Internet connection (5 mbps) has been provided through Radio Link. Facility spreads to Computer labs, Library and Girls hostel

c) Total number of class rooms:

College 34

School 16

Total 50

d) Class rooms with ICT facility: 04

e**) Students' laboratories**: 17

f) Research laboratories: NA

39. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university: NA

b) **From other institutions/universities**: NA

40. **Number of post graduate students getting financial assistance from the university.**
    2 students of M.C.A. got full fee concession.
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology**: NA
42. **Does the department obtain feedback from?**
    a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?** NIL
    b. **students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**
    M.C.A. and MBA
    Actions taken
    - A test series is conducted for the placement preparations.
    - Extra lectures are arranged to improve the communication skills.

    c. **alumni and employers on the programmes offered and how does the department utilize the feedback:** NIL
43. **List the distinguished alumni of the department (maximum 10)**

S.No.	Name	Course	Achievement
1	Mukhtiar Rai	MA (Eco.)	Selected in PPS
2	Raman Dadra	MA (Pbi)	Cleared JRF
3	Rajiv Kaplish (Roshan Prince)	BA	Renowned Film Star/Punjabi singer
4	Nagender	MBA(Two Year)	Axis Bank
5	Mahip Sharma	MBA(Two Year)	Yes Bank
6	Jaspreet Kaur	M.C.A.(TYC)	TCS
7	Shikha Abbhi	M.C.A.(TYC)	TCS
8	Navneet Kaur	M.C.A.(TYC)	TCS
9	Manmeet Kaur	M.C.A.(TYC)	Accenture
10	Kanika Chabba	M.C.A.(TYC)	Headstrong

44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.**
    Periodic lectures are organised to make the students aware of various issues
45. **List the teaching methods adopted by the faculty for different programmes.**
    a) Chalk and talk
    b) Multimedia projectors
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
    a) Class tests are conducted at regular intervals
    b) Database of the score card is maintained
    c) Further improvement efforts are made by analyzing the database
47. **Highlight the participation of students and faculty in extension**

activities.

Achievements in Cultural Activities: Session 2012-13

Zonal Youthfestival

1. Group Shabad First
2. Folk Song ,,
3. Geet ,,
4. Folk Orchestra Second
5. Poster Making ,,
6. Phulkari ,,

Final Youth festival

1. Geet Second
2. Folk Song Third
3. Poster Making ,,

Punjab State Inter-University Youth Festival

1. Kali Gayan (Folk Song) Second
2. Geet Third

Activities of NCC

- Cadets of college NCC unit attended following Camps:

1. Combined Army Attachment Camp –I from 19 Sept. 2010 to 28 Sept.2010.
2. Combined Army Attachment Camp –II from 20 Dec. 2010 to 29 Dec.2010.

- Certifications:

1. 3 cadets of College NCC Unit accredited with 'BEE' Certificate.
2. 1 cadet of College NCC Unit accredited with 'CEE' Certificate.

N.S.S. Activities

Sr. No.	Camp Date	One Day/ Ten Day NSS Camp	Venue	Purpose	Volun-teers	Boys/ Girls
1.	04-09-2010	One Day Camp	College Campus	Personality Development	150	
2.	24-09-2010	24th Sept.NSS, one day Celebration day	College Campus	Role of National Service Scheme	130	
3.	31-10-2010	One Day	College Campus	Beautification of college campus	125	
4.	10-11-2010	One Day	College Campus	Tree Plantation	150	

5.	12-11-2010	One Day	College Campus	Beautification of college campus	120	
6.	29-11-2010	One Day	College Campus	Adult Education	150	
7.	19-12-2010 to25-12-2010	Ten Days	VPO.- Sukar	Adult Education	150	
8.	02-03-2011	Annual Function of NSS units	College Campus	Tree Plantation	150	

COMMUNITY DEVELOPMENT PROGRAMMES:

i) Role of youth in literacy
ii) Drug abuse
iii) Health problems
iv) AIDS Awareness
v) Motivating parents to send children to school
vi) Family welfare
vii) Health education and nutrition
viii) Women and child development
ix) Immunization programme
x) Adult education

Activities of the Red Ribbon Club

- A poster making competition on the topic "Health Awareness" was organized by the club on Jan 28, 2010 students from different streams participated in the competition.
- The active members (Students) of the RRC went to participate in the HIV/AIDS awareness function organized by Civil Hospital, Mukandpur.
- The Active member (Students) of the RRC welcomed the Red Ribbon club officers at Nawanshahr on Nov 09, 2010.
- Dr. Sangeeta (Lect. In Mathematics) and Dr. Ashima (Lect. In Chemistry) compiled and translated a book titled "AIDS its causes & its preventions".

48. Give details of "beyond syllabus scholarly activities" of the department: None

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details: No

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

College implemented these programmes under the directions of University syllabi

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths: discipline, cultural activities, punctuality, regularity of teaching, team work

Weaknesses: Less availability of facilities due to rural interior location, conservative psyche of the locale

Opportunities: This institute is proving itself as a hinterland to the rural deprived youth

Challenges: To educate and uplift the rural youth at par with modern society

52. Future plans of the department.

a) To strengthen the courses like IT , Business management and Science
b) To start P.G. courses like MA Music(v), M.Com., M.Sc.(Maths),P.G. diploma in Web Designing.
c) B.Tech (if university permits).
d) Hostel for boys.

1. **Name of the College**: Guru Nanak Dev University College, Patti
2. **Year of establishment**: 2012
3. **Is the Department part of a School/Faculty of the university?** Constituent College
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.)**: U.G., P.G.
5. **Interdisciplinary programmes and departments involved**: None
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons**: Nil
8. **Examination System**: Annual/Semester
9. **Participation of the department in the courses offered by other departments:**
   - Teachers teach papers of their subjects/specialisation to the students of other faculties/departments as per their syllabi.
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Principal	1	-	-
Associate Professors		-	-
Assistant Professors	15	19	19

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifi-cation	Designation	Speciali-zation	No. of Years of Experi-ence	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr Mehal Singh	MA MPhil Ph.D.	Principal	Fiction, prose, novel	Lectureship -10 yrs 6 months Principal-13 yrs	
Hem Raj	M.C.A.	Assistant Professor (Comp. Science)			
Harsandeep Kaur	M.C.A.	Assistant Professor (Comp. Science)			

Aman Chopra	M.C.A.	Assistant Professor (Comp. Science)			
Gurjit Kaur	M.Com, NET	Assistant Professor (Commerce)			
Kuljit Kaur	M.Com.	Assistant Professor (Commerce)			
Manmeet Kaur	M.Com.	Assistant Professor (Commerce)			
Ranjit Kaur	M.Com.	Assistant Professor (Commerce)			
Kulbir Kaur	M.A., M.Phil.	Assistant Professor (Punjabi)			
Satbir Singh	M.A., M.Phil.	Assistant Professor (Punjabi)			
Sarish Khera	M.A.	Assistant Professor (Geography)			
Jaspal Singh	M.A. M.Phil.	Assistant Professor (English)			
Sukhbir Singh	M.A.	Assistant Professor (English)			
Niru Sandhu	M.Sc.	Assistant Professor (Physics)			
Vipan Goyal	M.A.	Assistant Professor (Pol. Sci.)			
Gurpreet Pal	M.A.	Assistant Professor (History)			
Pardeep Singh		Assistant Professor (Phy Ed)			
Amandeep Kaur	M.A.	Assistant Professor (Economics)			
Amandeep Kaur	M.Sc.	Assistant Professor (Chemistry)			
Karamjit Kaur	M.Sc.	Assistant Professor (Mathematics)			

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors**: NA
13. **Percentage of classes taken by temporary faculty – programme-wise information**:
    P.G. about 100%
    U.G. about 100%
14. **Programme-wise Student Teacher Ratio**:
    P.G. 20:1
    U.G. 40:1

15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**

Sanctioned	Filled	Actual
C Class 04 D Class 11	Nil Nil	02 11

16. **Research thrust areas as recognized by major funding agencies**. None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.** None
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration**
    None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.** None
20. **Research facility / centre with:** NA
    - **State recognition -**
    - **National recognition -**
    - **International recognition -**
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:**
23. **Details of patents and income generated** NA
24. **Areas of consultancy and income generated** None
25. **Faculty selected nationally / internationally to visit other laboratories /Institutions / industries in India and abroad** : None
26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify) None
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).**
    Dr. Mehal Singh presented papers in Conferences: 19; special lectures delivered: 15
28. **Student projects**
    - **Percentage of students who have done in-house projects including inter- departmental project** about 12%
    - **Percentage of students doing projects in collaboration with other universities /Industry / institute:** None
29. **Awards / recognitions received at the national and international level by**
    - **Faculty** None
    - **Doctoral / post doctoral fellows** NA
    - **Student** None

30. **Seminars/ Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.** None
31. **Code of ethics for research followed by the departments**: NA
32. **Student profile programme-wise**:

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
P.G.	805	7	5	58	42
U.G.		466	287	62	38

33. **Diversity of students**: Students belong to Punjab

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
U.G.	-	-	-	-
P.G.	-	--	-	-

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.** Nil
35. **Student progression** NA

Student progression	Percentage against enrolled
U.G. to P.G.	--
P.G. to M.Phil.	--
P.G. to Ph.D.	--
Ph.D. to Post-Doctoral	--
Employed • Campus selection • Other than campus recruitment	--
Entrepreneurs	--

36. **Diversity of staff**

Entire staff belongs to Punjab, Largely they are graduated from universities of Punjab, particularly, GNDU Amritsar

Percentage of faculty who are graduates	
of the same university	95.2
from other universities within the State	4.8
from universities from other States	--
from universities outside the country	--

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** None
38. **Present details of departmental infrastructural facilities with regard to**

    a) Library
    - Library collection of 8000 books and reference books are available for circulation.
    - Internet facility is also available.

    b) Internet facilities for staff and students
    - Internet Room for staff available. Whole of the office area is having
    - Wi-Fi facility

    c) Total number of class rooms

    d) Class rooms with ICT facility : None

    e) Students' laboratories
    - Computer Laboratories, fully equipped with multimedia facility and internet connection available for students of different faculties and departments.
    - Geography, Physics and Chemistry Laboratories, fully equipped, cater to the needs of the science students of the college.

    f) Research laboratories : No
39. **List of doctoral, post-doctoral students and Research Associates** NA

    a) from the host institution/university NA

    b) from other institutions/universities NA
40. **Number of post graduate students getting financial assistance from the university.** None
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.**
    - Students and faculty members were consulted and their views were taken regarding the job markets and future employability before starting P.G. programmes.
    - Observing the feeder area of the college such P.G./U.G. programmes and evening shifts for courses were started that would help them to secure a career.
42. **Does the department obtain feedback from?**

    a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? No

    b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
    - Students' feedback on the teaching methods, college infrastructure, general shortcomings and strengths of the college and their suggestions are invited in fortnightly conducted tutorial groups.

    c. **alumni and employers on the programmes offered and how does the department utilize the feedback? No**
43. **List the distinguished alumni of the department (maximum 10)** None

44. **Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.**
    - Guest Lectures organised by various departments
45. **List the teaching methods adopted by the faculty for different programmes**.
    - Lecture and discussion method
    - Seminars and interactive methods
    - LED Power point presentation Projectors
    - Experimental Method
    - Educational tour
    - Case-Studies and group discussion
    - Tutorial Assignments
    - Class Test
    - Assigning advanced topics
    - Providing question banks
    - Use of Audio-Visual aids
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
    - Academic results are evaluated and compare them with university and other reputed institutions affiliated with the university.
    - Frequent staff and departmental meetings are held to discuss and monitor the teaching-learning process and the response of the students in the classrooms.
    - Students are introduced with the latest developments in their respective subjects.
    - Weekly/fortnightly classroom tests and mid-term examinations are conducted.
    - Through various extra-curricular activities, their overall personality development is emphasised.

47. **Highlight the participation of students and faculty in extension activities.**
48. **Give details of "beyond syllabus scholarly activities" of the department.**
    - various debate, declamation, essay writing competitions were organised by different departments.
49. **State whether the programme/department is accredited/ graded by other agencies? If yes, give details.** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.** NA

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

	Strengths	Weaknesses	Opportunities	Challenges
1	Location of the College in the rural area has made higher studies accessible and affordable to the rural students in general and girl students in particular	Research Section in the Library and Hotline service	It is the only Government co-education college in this surrounding with amiable fee-structure.	To materialise the potentials of the institution, College needs to set up a Career Guidance cum Placement Cell
2	College boasts of a large campus for sports grounds and prospects for propping new buildings in the future.	Lacking building for more classrooms, Common Room, college canteen, labs as well as Hostels	College has been granted add-on courses in Communication-skills and sciences by UGC in 2013-2014. College has initiated evening shift for the students also	To introduce more add-on courses and vocational courses for students to make them self-reliant, generate self-employment and enhance their marketability
3	Infrastructure that has been built in about three years including classrooms, furniture, lab equipments, computers, internet, wi-fi, etc. is magnificent	Lacking adequate Internet lab, digitalised library and wi-fi campus	College has been instrumental in distributing scholarships to a substantial number of minority students as well as weaker sections.	To establish as a prestigious and ace institution of the area, spreading education and contributing to the capacity-building of the community and building a healthy and enlightened citizenry.

4	College has a highly qualified, sincere, dedicated and hardworking faculty	Lacking adequate teaching/non-teaching staff		
5	College has a spacious library with a large collection of books			

52. Future plans of the College.

- Construction of New Class Rooms
- Up gradation of Library and Labs
- Emphasis on job-oriented, professional Courses
- Strengthening of P.G. courses
- Construction of a Girls Hostel
- Building up of an Auditorium and a fully furnished Seminar Hall
- Promoting of research amongst the various teaching faculty by building up of a research section in the library
- Setting up of a Career Guidance cum placement cell for promoting employment opportunities
- Construction of well provisioned canteens and a common room with proper staff rooms for teachers
- Enhancement of sports with the construction of a Gymnasium, a stadium, and both the NCC and NSS wings
- Enhancement of co-curricular activities by the establishment of a Study Center
- Combating the Unemployment threat by offering professional courses Improvement of academic performance of SC/ST/OBC/minority students through innovative methods like remedial classes.
- Health facilities such as first aid
- Construction of residential accommodation for the staff

1. **Name of the College**: Shri Guru Teg Bahadur College, Sathiala
2. **Year of Establishment**: 2011
3. **Is the College part of a School/Faculty of the University?**: Constituent College
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., etc.):** U.G. – 3 years
5. **Interdisciplinary programmes and departments involved**: Economics, English, Punjabi, Computer Science, Commerce
6. **Courses in collaboration with other universities, industries, foreign institutions, etc.:** None
7. **Details of programmes discontinued, if any, with reasons**: None
8. **Examination System:** Semester
9. **Participation of the department in the courses offered by other departments**: Economics, English, Punjabi, Computer Science, Commerce
10. **Number of teaching posts sanctioned, filled and actual (Professors/ Associate Professors/ Assistant Professors/ others)**

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	00	Nil	Nil
Associate Professors	00	Nil	Nil
Assistant Professors	30	30	Contract and Part Time
Others	0		

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance:**

Name	Qualifi-cation	Designation	Specialization	Experience (no of years)
Ms. Harjot Kaur	M.Sc	Assistant Professor	Physics	-
Ms.Namrata Kaur	M.Sc	Assistant Professor	Physics	-
Mr. Dushyant	M.Sc	Assistant Professor	Physics	-
Ms. Ajmeet Kaur	M.A	Assistant Professor	Pol Science	
Mr. Amandeep Singh	M.P.Ed	Assistant Professor	Phy Edu	1
Ms. Daljit Kaur	Ph.D.	Assistant Professor	History	1
Ms. Deepali Trehan	M.Com	Assistant Professor	Commerce	-
Ms. Amanpreet Kaur	MBA	Assistant Professor	Commerce	-

Ms. Jaspreet Kaur	M.Com	Assistant Professor	Commerce	-
Ms. Harkiran Kaur	M.Com	Assistant Professor	Commerce	
Ms. Nitika Sodhi	MBA	Assistant Professor	Commerce	2
Ms. Navdeep Kaur	M.A	Assistant Professor	English	-
Ms. Amisha	M.A	Assistant Professor	English	1
Ms. Gurneer Kaur	M.A	Assistant Professor	English	2
Ms. Jasleen Kaur	MA	Assistant Professor	English	-
Mr. Gurpreet Singh	Ph.D.	Assistant Professor	Punjabi	1
Ms. Harwant Kaur	Ph.D.	Assistant Professor	Punjabi	2
Mr. Parminder Singh	Ph.D.	Assistant Professor	Punjabi	4
Mr. Navdeep Singh	M.Sc	Assistant Professor	Chemistry	2
Ms. Navjot Kaur	M.Sc	Assistant Professor	Chemistry	-
Ms. Payal Nagpal	M.Sc	Assistant Professor	Mathematics	-
Ms.Bharti Sharma	M.Sc	Assistant Professor	Mathematics	1
Ms. Shiwani Sharma	M.Sc	Assistant Professor	Mathematics	-
Ms. Amandeep Kaur	M.C.A.	Assistant Professor	Computer Science	3
Ms. Kamalpreet Kaur	M.C.A.	Assistant Professor	Computer Science	3
Ms. Harleen Kaur	M.C.A.	Assistant Professor	Computer Science	4
Mr. Satbir Singh	M.C.A.	Assistant Professor	Computer Science	3
Ms. Navneet Kaur Sandhu	M.C.A.	Assistant Professor	Computer Science	2
Ms. Simranjit Kaur	M.Sc	Assistant Professor	Economics	-
Ms. Mandeep Kaur	MA	Assistant Professor	Sociology	-

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors**: NA
13. **Percentage of classes taken by temporary faculty – programme-wise information**: U.G.-100%
14. **Programme-wise Student Teacher Ratio**: 31:1
15. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**: Technical (Sanctioned=03, Filled=01) Administrative staff (Sanctioned=04, Filled =02)
16. **Research thrust areas as recognized by major funding agencies**: None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise:** None
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration**: None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**: None
20. **Research facility / centre with:** NA
    - **State recognition -**
    - **National recognition -**
    - **International recognition -**
21. **Special research laboratories sponsored by / created by industry or corporate bodies:** None
22. **Publications:** None
23. **Details of patents and income generated:** NA
24. **Areas of consultancy and income generated**: None
25. **Faculty selected nationally / internationally to visit other laboratories / Institutions / industries in India and abroad:** None
26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify): None
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).** None
28. **Student projects:** None
    - **Percentage of students who have done in-house projects including inter- departmental projects:** None
    - **Percentage of students doing projects in collaboration with other universities /Industry / institute:** None
29. **Awards / recognitions received at the national and international level by**
    - **Faculty** None
    - **Doctoral / post doctoral fellows** NA
    - **Students** None

30. **Seminars/ Conferences/Workshops organized and the source of funding (National / international) with details of outstanding participants, if any.** None
31. **Code of ethics for research followed by the departments**. None
32. **Student profile programme-wise:**

Name of the Programme	Applications received	Selected Male	Selected Female	Pass percentage Male	Pass percentage Female
BA Sem I	239	182	57	100	100
BCA Sem I	95	49	46	100	100
B.Com R Sem I	31	20	11	100	100
B.Com P Sem I	45	29	16	100	100
B.Sc (CS) Sem I	56	35	21	100	100
B.SC (NM) Sem I	38	16	22	100	100
BA Sem III	80	46	34	100	100
BCA Sem III	84	41	43	100	100
B.Com R Sem III	18	13	5	100	100
B.Com P Sem III	33	16	17	100	100
B.Sc (CS) Sem III	33	26	7	100	100
B.SC (NM) Sem III	23	8	15	100	100
BA 3rd year	54	28	26	Appearing	
BCA 3rd year	11	2	9	Appearing	
B.Com R 3rd year	04	4	0	Appearing	
B.Com P 3rd year	06	4	2	Appearing	
B.Sc (CS) 3rd year	14	2	12	Appearing	
B.SC (NM) 3rd year	11	4	7	Appearing	

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
U.G.	Students join the course after passing 10+2 system from PSEB, CBSE, ICSE etc			

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise:** NIL

35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	NA
P.G. to M.Phil.	NA
P.G. to Ph.D.	NA
Ph.D. to Post-Doctoral	NA
Employed • Campus selection • Other than campus recruitment	NA
Entrepreneurs	NA

36. **Diversity of staff**

Percentage of faculty who are graduates	
of the same university	80
from other universities within the State	20
from universities from other States	--
from universities outside the country	--

37. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** Ph.D. = 1, M.Phil. = 2
38. **Present details of departmental infrastructural facilities with regard to**
    a) Library: Yes
    b) Internet facilities for staff and students: Yes
    c) Total number of class rooms: 17
    d) Class rooms with ICT facility: 02
    e) Students' laboratories: 03
    f) Research laboratories: NIL
39. **List of doctoral, post-doctoral students and Research Associates**
    a) from the host institution/university: NA
    b) from other institutions/universities: NA
40. **Number of post graduate students getting financial assistance from the university**: NA
41. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.** No
42. **Does the department obtain feedback from?**
    a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
    Yes
    b. students and staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
    The suggestion submitted by the students and staff are given practical

shapes.

c. alumni and employers on the programmes offered and how does the department utilize the feedback?

NA

43. **List the distinguished alumni of the department (maximum 10**) None
44. **Give details of student enrichment programmes (special lectures/ workshops /seminar) involving external experts.** Seminars/workshops and special lectures are routinely arranged by inviting the resource person from different fields.
45. **List the teaching methods adopted by the faculty for different programmes.**

    Lectures, Multimedia, Practicals and Tutorials
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**

    Attendance, Lab Practicals/Projects, Projects are conducted by students to present the technical implementation of the concepts.
47. **Highlight the participation of students and faculty in extension activities.**

    Excursion Trip, Freshers Fest, Youth Festival, Workshops, Seminars and Sports Meet
48. **Give details of "beyond syllabus scholarly activities" of the department.**

    Project making, participation in Tech Fest, Debates, Poster competitions and seminars/ workshop
49. **State whether the programme/department is accredited/graded by other agencies? If yes, give details:** No
50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied.**
    - Networking is done in the College area
    - Established of Multimedia and seminar rooms
51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

    Strengths:

    Merit position in University Result
    Infrastucture of Transportation
    Fee concession, regular classes

    Weakness:

    Lack of research lab
    Lack of regular faculty
    Lack of licensed softwares
    Lack of E-Access

    Opportunities:

    Recruitment in Armed forces/Navy/Police,
    local colleges, P.G. Courses like M.C.A. being introduced.

Challenges:

Desk placement of all candidates, research centre for outside world, organize tech fest, inter-college co-curricular activities, Teaching and administrative staff constraint

52. Future plans of the department.

Open Access Journals
Digital Library
Establishment of Research lab for research work
Introduction of Post Graduate courses
Invitation to senior visiting fellows and emeritus professors

1. **Name of the Department:** Shaheed Ram Singh Pathania Memorial GND University College, Niari
2. **Year of establishment:** 2000
3. **Is the Department part of a School/Faculty of the University?**
   Constituent College
4. **Names of programmes offered**: (U.G.) BA, B.Sc.(Eco), BCA, B.Com.(Prof), PGDCA
5. **Interdisciplinary programmes and departments involved**
   Add-On Courses:
   1. Communication Skills
   2. E-Commerce
   3. Web Designing and Graphics
6. **Courses in collaboration with other universities, industries, foreign institutions, etc**. None
7. **Details of programmes discontinued, if any, with reasons** None
8. **Examination System:** Annual and Semester System
9. **Participation of the department in the courses offered by other departments**:
   Sociology, Hindi, Pol. Science, History
10. **Number of teaching posts sanctioned, filled and actual (Professors/ Associate Professors/ Assistant Professors/ others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor/ Principal	1	1	1
Associate Professors			-
Assistant Professors	6	2 (Regular)+ 6 (Contract)	8
Others	4	6+2 = 8	8

11. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualifica-tion	Designation	Speciali-zation	No. of Years of Experi-ence	No. of Ph.D./ M.Phil. students guided for the last 4 years
Dr. Rakesh Mohan Sharma	Ph.D. in English	Principal	Drama	34	1+3 =4
Mr. Dilbag Singh	MA. Pol Sci, JRF	A.P. in Pol Science		1	

Mr. Barinderjit Singh	M.Sc. Math, JRF	A.P. in Mathematics		1	
Mr. Raj Kumar	M. A	A.P. in Hindi		6	
Mrs. Sunita Sharma	M.A., M.Phil.	A.P. in Sociology		14	
Mrs. Navneet Kaur	M.A	A.P. in English		4	
Ms. Deepika Manhas	M.C.A.	A.P. in Computer Sci.		1	
Ms. Dimple Kohal	M.C.A.	A.P. in Computer Sci.		1	
Ms. Samita	M.C.A.	A.P. in Computer Sci.		3	
Ms. Jiwan Jyoti	M.A.	A.P. in Punjabi		2	
Mrs. Manveet Sharma	M.A.	A.P. in History		12	
Ms. Sakshi Thakur	M.Com	A.P. in Commerce		2	
Ms. Rajni Devi	M.A.	A.P. in Economics		-	
Ms. Archi Sharma	M.C.A.	A.P. in Computer Sci.		-	
Ms. Surbhi Trehan	M.Sc. (Computer)	Department of Communication Skills		-	
Mrs. Poonam	M.C.A.	Department of Computer Science		2	
Ms. Nipun Sharma	M.Com.	A.P. in Commerce		-	
Mr. Joginder Pal	M.A.	A.P. in Punjabi		3	

12. **List of senior Visiting Fellows, adjunct faculty, emeritus professors:** NA
13. **Percentage of classes taken by temporary faculty- programme-wise information**: 80
14. **Programme-wise Student Teacher Ratio**
    B.A/B.Sc.: 18:1
    BCA: 10:1
    B.Com. Professional: 4:1
15. **Number of academic support staff (technical) and administrative staff:**
    Sanctioned 11

Filled 09
Actual 09

16. **Research thrust areas as recognized by major funding agencies:** None
17. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.** None
18. **Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration**: None
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.**: None
20. **Research facility / centre with:** NA
    - **State recognition** -
    - **National recognition** -
    - **International recognition** None
21. **Special research laboratories sponsored by / created by industry or corporate bodies**: None
22. **Publications**:
23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated:** None
25. **Faculty selected nationally / internationally to visit other laboratories / Institutions / industries in India and abroad:** None
26. **Faculty serving in**
    a) National committees b) International committees c) Editorial Boards d) any other (please specify)
    Dr. Rakesh Mohan Sharma, Principal is an Editor of the peer-reviewed academic journal *Forum for World Literature Studies*, brought out by Shanghai Normal University, P.R. China, Purdue University USA and the Wuhan Institute for Humanities**.**
27. **Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).:** None
28. **Student projects**
    •Percentage of students who have done in-house projects including inter- departmental projects: None
    •Percentage of students doing projects in collaboration with other universities / Industry / institute: None
29. **Awards / recognitions received at the national and international level by**
    - **Faculty:** None
    - **Doctoral / post doctoral fellows:** None
    - **Students:** None

30. **Seminars/Conferences/Workshops organized and the source of funding (National/ international) with details of outstanding participants, if any.**
    1. International Literacy Day on 09-09-2011
    2. Seminar on Right to Service Act for Legal Literacy
    3. Seminar on Swami Vivekanands thought and philosophy on 20-02-2012
    4. Teachers Day Celebration on 05-09-2012
    5. Legal Literacy Seminar on 12-02-2013
    6. Seminar on Shaheed Bhagat Singh on 23-03-2013
    7. Legal Literacy Seminar on 10-09-2013
31. **Code of ethics for research followed by the departments:** NA
32. **Student profile programme-wise**:

Name of the Programme	Session	Applica-tions received	Selected Male	Female	Pass percentage Male	Female
BA, I, II,III	2012-2013	249	66	183	78	80
B.Com. Prof. I, II		18	14	4	80	85
BCA I, II, III		55	37	18	65	85

33. **Diversity of students**

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
	100			

34. **How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise**. None
35. **Student progression**

Student progression	Percentage against enrolled
U.G. to P.G.	NA
P.G. to M.Phil.	NA
P.G. to Ph.D.	NA
Ph.D. to Post-Doctoral	NA
Employed • Campus selection • Other than campus recruitment	NA
Entrepreneurs	NA

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	60%
from other universities within the State	40%
from universities from other States	-
from universities outside the country	-

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period. None

38. Present details of departmental infrastructural facilities with regard to

a) Library: Yes
b) Internet facilities for staff and students: 10
c) Total number of class rooms 10
d) Class rooms with ICT facility 1
e) Students' laboratories√ 2
f) Research laboratories NA

39. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university: NA

b) from other institutions/universities: NA

40. Number of post graduate students getting financial assistance from the university: No

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology: NA

42. Does the department obtain feedback from?

a. **faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback**?: NA

b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Of and on the administration interacts with the students and accordingly steps are taken.

c. alumni and employers on the programmes offered and how does the department utilize the feedback? Whenever any alumnus comes to the college, informal interaction with him or her is kept in mind for future planning.

43. List the distinguished alumni of the department (maximum 10): Most of our students are in the teaching profession and in the army.

44. Give details of student enrichment programmes (special lectures/workshops /seminar) involving external experts.

1. We begin our day in the college with prayers to the God.
2. We acquaint our students with the importance of international and national events and days.
3. We invite local social pillars and experts like doctors and advocates to deliver lectures.

4. We also invite University Professors for informative talks.
5. We also invite cultural troops from various states for national integration

45. List the teaching methods adopted by the faculty for different programmes.

Lecture method; let us do together method, laboratories work.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored? Though Periodic meetings with all Stake holders and class test and semester examination as per university rules.

47. **Highlight the participation of students and faculty in extension activities**. Every Year, we organize National Service Camps. Our students participate in youth leadership camp, university youth festivals and Hiking and trekking camps.

48. Give details of "beyond syllabus scholarly activities" of the department.

We organize Quiz contests, Essay writing competition. Every day we share comments on the international and national happenings in the morning assembly. We also send educational tours to places of importance

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details.: No

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied: NA

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Our Major Strengths are:

1. We are contributing to the educational upliftment of the students who come from below poverty line families, remote, hilly and most backward areas where in the transport facilities are negligible and students have to come over as many as ten miles a day to and fro.
2. Our students are highly disciplined and miles away from drug related afflictions.
3. The location of our campus is the most placid, serene and pollution free environment is our great strength.
4. Many of our students serve our Mother India by joining Army as young recruits in the non officer level ranks.
5. The dedicated Lease line for Internet and Wifi network in the college is one of the most productive strengths.

Weaknesses:

1. Our student's strength is very low due to lack of transport facilities.
2. Our students come from DHAR Block area where in their schooling experiences are inadequate due to abysmal lack of faculty members, due to tough terrain and consequent illiteracy of the Ilaqa people.

3. Due to lack of infrastructure including boarding and lodging facilities for the faculty and their wards, it is very difficult to engage the services of faculty.
4. We don't have sports facilities at all due to hilly terrain.
5. Supply of clean drinking water is very inadequate and also our plantation suffers a great deal especially during summer.

Opportunities and Challenges

1. Our college has 27 acres of land out of which 25 acres are forest land. Besides, there are dunes and gorges which need to be properly filled by erecting retaining walls.
2. This type of land offers us many opportunities for starting courses related to Sericulture, Food processing, Preservation of indigenous plants and developing herbal gardens etc.
3. Given the transport facilities, the challenge of lower student strength can be converted into an opportunity by starting need based skill development courses.
4. Efforts in the direction of improvement in school education can provide us with such students who are not handicapped for higher learning due to English language proficiency.
5. In view of the large number of segregated villages, the challenge of providing skill based education can be converted into an opportunity for starting basic courses in the field of elementary health facilities, refrigeration, air-conditioning, repair of electrical gadgets and raising of silk-worms and bamboo-art objects etc.

52. Future plans of the department.

Future Plans of the college

1. Since our college is providing a yeoman's services to the remotest corner of the state of Punjab touching Himachal Pradesh and J&K, Post Graduate classes need to be started both in liberal arts and in technical subjects.
2. The college intends to establish a research centre for National and International scholars in view of its strategic location.
3. Since there is no institution offering legal education, the college has a plan to request the university to start courses in paralegal as well as legal education.
4. The college intends to have a sports complex, stadium, and swimming pool, hostel both for students and faculty along with provision for at least four buses for easy transportation of the students and faculty.
5. Since our college is located deep into the forest land, four walling of the entire college area and construction of the front wall and gate is one of our primary priorities.

1. **Name of the Department**: Guru Nanak Dev University College, Jalandhar.
2. **Year of Establishment**:1973
3. **Is the Department part of a School/Faculty of the University?** Constituent College
4. **Names of programmes offered (U.G., P.G., M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt. etc.)**
   4.a. B.Com (Regular) U.G.
   4.b. B.Com (Professional) U.G.
   4.c. M.Com P.G.
   4.d M.C.A. (FYIC) Integrated Masters
   4.e MBA(FYIC) Integrated Masters
   4.f MBA(TY) P.G.
   4.g M.C.A.(THREE YEARS) P.G.
5. **Interdisciplinary programmes and departments involved**: Computer Science, Economics, Environment Science
6. **Courses in collaboration with other universities, industries, foreign institutions, etc**.: Nil
7. **Details of programmes discontinued, if any, with reasons:**
   - Undergraduate Courses in Humanities were discontinued keeping in view the falling demand.
   - P.G. Diploma in Computer Application (w.e.f. 2009-10) was discontinued due to non-availability of class rooms**.**
8. **Examination System:**
   - Semester for B.Com (Regular), B.Com (Professional), M.Com, MBA (FYIC) and M.C.A. (FYIC) 2009 Batch Only.
   - Choice Based Credit System for M.C.A. (FYIC) Integrated Masters, MBA (FYIC) Integrated Masters, MBA (TYC) P.G. and M.C.A. (Three Years) P.G. from 2010-11 Onwards.
9. **Participation of the department in the courses offered by other departments**: Nil
10. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Assistant Professors/ others)**

	Sanctioned	Filled	Actual (including CAS&MPS)
Professor/Principal		1	1
Associate Professors		4	4
Assistant Professors		3	3
Others Part Time/Adhoc/Contract		31	31

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance (give details of all the faculty members.)

Sr. No.	Name	Qualifica-tion	Designation	Specializa-tion	No. of Years of Expe-rience	No. of Ph.D./ M.Phil. students guided for the last 4 years	Nature of Appoint-ment
1	Dr.Jaspal Singh Randhawa	M.A. M.Phil., Ph.D.	Principal	Literature and language	37	NIL	Contract
2	Mr. M.J. Kalra	M.Com.	Associate Professor	Marketing	38	NIL	Regular
3	Mr. C.K. Mahajan	M.Com, M.Phil.	Associate Professor	Accounting	31	NIL	Regular
4	Dr. J.K. Gulati	M.A., M.Phil. L.L.B, PGDPM, Ph.D.	Associate Professor	Human Resource Management and Industrial Relations	28	One Research Associate, One JRF and Two DOCTORAL(As a Co-Guide)	Regular
5	Dr. T.S. Bagga	M.Com, Ph.D.	Associate Professor	Income Tax	25.5	One Ph.D. Candidate conferred degree and one pursuing (Part time)	Regular
6	Mr. M.S. Dhall	M.P.Ed. NIS	Associate Professor	Physical Education	25	NIL	Regular
7	Dr. Ashish Arora	MBA, Ph.D.	Assistant Professor	Finance	13	Two Doctoral and Two Research Scholars	Regular
8	Mr. Sanjeev Arora	M.Com, MBA, ICWA, PGDFM	Assistant Professor	Finance	13		Regular

9	Anubha	M.C.A.	Assistant Professor in Computer Science	Computer Graphics, Software Engineering, Computer Based Optimization Techniques	9	NIL	Contract
1	Vishal Bajaj	M.C.A., M.Tech	Assistant Professor in Computer Science	Programming Languages	8	NIL	Contract
1	Savita Dhingra	M.C.A.	Assistant Professor in Computer Science	C,C++,Numerical Methods, Artificial Intelligence	7	NIL	Contract
1	Paritosh Chopra	M.C.A., M.Phil.	Assistant Professor in Computer Science	Oracle, C#, Computer Networks	7	NIL	Contract
1	Kanupriya Aggarwal	M.C.A., UGC-NET	Assistant Professor in Computer Science	Computer Architecture, Java, Software Engg.	2	NIL	Contract
1	Ridhima Bhalla	M.C.A.	Assistant Professor in Computer Science	Operating System, Compiler Design, System Simulation	2	NIL	Contract
1	Nikhil Arora	M.C.A.	Assistant Professor in Computer Science	C programming, Data Structure, Web Designing, ASP.Net	2.6	NIL	Contract
1	Hiteshi Singh	M.C.A., UGC-NET	Assistant Professor in Computer Science	C, C++, DBMS	1.6	NIL	Contract

1	Amandeep Kaur	M.C.A.	Assistant Professor in Computer Science	Graphics , Data Structure , OS, C++	2	NIL	Contract
1	Surjit Kaur	M.Tech.	Assistant Professor in Computer Science	Computer Networks, Theory of Computation	1	NIL	Contract
1	Shaveta Sharma	M.C.A.	Assistant Professor in Computer Science	Parallel Processing, DBMS, Programming Languages	2.5	NIL	Contract
2	Richa	M.C.A.	Assistant Professor in Computer Science	Operating System, System Software, Software Engineering, C, C++	3.5	NIL	Part Time
2	Mrs.Jagjit Kaur	M.Com, B.Ed, UGC-NET,	Assistant Professor in Commerce	Finance	12	NIL	Contract
2	Neha Sharma	M.Com, B.Ed, UGC-NET	Assistant Professor in Commerce	Finance	11 mths	NIL	Contract
2	Puneet Chahal	MBA. M.PHIL UGC NET,	Assistant Professor in Management	Marketing	3	NIL	Contract
2	Mrs. Tejinder Kaur	MBA. UGC – NET	Assistant Professor in Management	Finance	3	NIL	Contract
2	Ms. Radhika	MBA. UGC-NET	Assistant Professor in Management	Finance	1	NIL	Contract
2	Mrs. Sonia Kundra	M.Com., UGC-NET	Assistant Professor In Commerce	Finance	2	NIL	Contract
2	Ms. Manbir	M.Com., UGC-NET	Assistant Professor In Commerce	Finance	2	NIL	Contract

2	Ms. Hardeep	M.A.-ENG, UGC-NET	Assistant Professor In English	Fiction-Short Stories	6	NIL	Contract
2	Ms. Kirandeep Kaur	M.A. HONS., M.Phil. UGC-NET, Ph.D.	Assistant Professor in Punjabi	Fiction-Short Stories	8	NIL	Contract
3	Mr. T.S. Dhillon	M.A. (Eco), B.Ed., UGC-NET	Assistant Professor in Economics	Quantitative Techniques, Operations Research, Statistics And International Business	11	NIL	Contract
3	Amandeep Kaur	M.Sc. (Math), B.Ed, UGC NET	Assistant Professor in Mathematics	Mathematics	4	NIL	Contract
3	Ms. Dimple Malhotra	M.A. (Eco.), UGC-NET, M.Phil.	Assistant Professor in Economics	Micro Economics	14	NIL	Part Time
3	Ms. Shelja	MBA.	Assistant Professor	HR	6 months	NIL	Part Time
3	Ms. Sheetal	M.Com, UGC-NET. B.Ed	Assistant Professor	Finance	3	NIL	Part Time
3	Ms. Manisha	MBA	Assistant Professor in Management	Finance, HR	3 .6	NIL	Part Time

12. **List of Senior Visiting Fellows, Adjunct Faculty, Emeritus Professors**: Nil
13. **Percentage of classes taken by temporary faculty –programme-wise information**:
    - B.Com (Regular) U.G.: 100%
    - B.Com (Professional) U.G.: 100%
    - M.Com P.G.: 100%

- M.C.A. (FYIC) Integrated Masters: 100%
- MBA (FYIC) Integrated Masters: 58%
- MBA (TYC) P.G.: 55%
- M.C.A. (THREE YEARS) P.G.: 100%

14. **Programme-wise Student Teacher Ratio:** 23:1
15. **Number of academic support staff (technical) and administrative staff:**

	Sanctioned	Actual
Assistant Librarian	One	One
Superident Grade I	One	One
Sr./Jr.Assistant	Three	Two
Steno Typist	One	One
Restorer (Lib)	Two	One(Professional Assistant) One(Peon)
Clerk/Jr. Assistant	Two	NIL
Jr. Technician	One	NIL
Electrician	One	One
Daftri	One	One
Peon	Two	Two(Permanent) Four(Outsourcing)
Mali	One	One
Security Guard	Three	One(Permanent) One(Fixed) Two(Outsourcing)
Safai Karamchari	Three	Two (Permanent) One(Fixed)
Mali (Fixed 6000 P.M.)	One	One

16. **Research thrust areas as recognized by major funding agencies:** NIL
17. **Number Of Faculty With On Going Projects From A) National B) International Funding Agencies And C) Total Grants Received. Give the Names of the Funding Agencies, Project title and grants received project-Wise.**: NIL
18. **Inter-Institutional collaborative projects and associated grants received a) National collaboration b) International collaboration:** NIL
19. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.**
    Department of Management Studies was allocated grant of Rs. One lac Eighty Seven Thousand Five Hundred by Department of Science and Technology, Ahmedabad (Ministry of Science and Technology, Government of India) to establish Entrepreneur Development Cell which has been set up in November, 2013.

20. **Research facility/centre with**
    •**State recognition:** None
    •**National recognition:** None
    •**International recognition:** None
21. **Special research laboratories sponsored by / created by industry or corporate bodies**: None
22. **Publications**:

	Number of Publications
Number of papers published in peer reviewed journals (National/International)	-
Monographs	-
Chapters in Books	-
Edited Books	-
Books with ISBN with details of publishers	2

23. **Details of patents and income generated:** None
24. **Areas of consultancy and income generated:**
    Mahatma Gandhi Institute of Public Administration, Regional Centre, Jalandhar solicited consultation of Dr. J.K. Gulati, Associate Professor, Management Studies in framing 3 days Training Programme of TQM(An initiative of Department of Personnel, Government of India) for Jalandhar Division officials from different government departments in 2012 and 2013. However, no income was generated for this initiative.
25. **Faculty Selected nationally /internationally To Visit Other Laboratories /Institutions/ Industries in India and abroad**: NIL
26. **Faculty serving in National committees b) International committees c) Editorial Boards d) any other please specify)**
    - Dr. J.K. Gulati, AssociateProfessor, Management Studies was invited as external expert on panel for interviews for Managerial and Commercial Professionals at GNA-IMT, Phagwara on 30-5-2013.
    - Dr. Ashish Arora, Assistant Professor, Management Studies is on editorial Board of Envision (International Journal) and APEEJAY Journal of Management and Technology.
    - Mr. Sanjeev Arora, Assistant Professor, Management Studies has worked in Editorial Team of 'Udaan', a quarterly e-magazine published by Department of Management Studies, IIT Roorkee during 2010-2012 and is member of Reviewer Panel in "Envision", a Refereed International Journal published by Department of Commerce & Business Management of Apeejay College of Fine Arts, Jalandhar.
    - Mr M.S. Dhall, Assistant Professor, Physical Education has been Nominated as :

Member Of Punjab Selection Committee to search the Talent for Sports Wing in Junior Level By Punjab Sports Department Held At Ludiana 23 April 2009; as a observer of Inter College Swimming Championship held at Ludhiana, 15 Sep 2009; Acted as a Chief Judge At All India Inter-University Aquatics Men And Women Championship, Guru Nanak Dev University Campus, Amritsar On 31 Oct-4 Nov 2009; As A Contingent Leader, Programme Officer For Special Adventures Course Of NSS Volunteers For Punjab At WHMI Hatkoti Shimla On 24-May To 2 June 2010 ; As Member Of Punjab Selection Committee To Search The Talent For Sports Wing In Junior Level By Punjab Sports Department held at Ludiana 23 April 2010; As Chief Time Keeper In Inter-College Guru Nanak Dev University Swimming and Water Polo At Amritsar 2-3 Aug 2010; As Co-Chairman Of Punjab Selection Committee to Search the Talent for Sports Wing in Junior Level By Punjab Sports Department, 2011; As a Observer of Inter College Swimming Championship, Bhaddal 25 Aug, 2011; Coaching Assignment Given By G.N.D.U Physical Education, Allied Teaching to Trained Swimming and Water Polo Team for All India Inter University From 1-10-13 To 18 -10-13 at Sports College Jalandhar ; As a Observer of PTU Inter College Swimming Championship Held at Ludhiana 23 Aug 2013; As Coach Cum Manager of Swimming and Water Polo G.N.D.U Team, Which Won the Gold Medal in All India Inter University Championship Amritsar 2013

27. Faculty recharging strategies (UGC, ASC, Refresher /orientation programs, workshops, training programs and similar programs).

1. Dr. J.K. Gulati, Associate Professor, Management Studies attended FDP on Risk Management organized by GNA-IMT, Phagwara on 21-23, December, 2012.
2. Dr.Ashish Arora, Assistant Professor, Management Studies:
   - Attended 7 days workshop on "Analytical Techniques for Research" organised by Department of Commerce and Business Management, Guru Nanak Dev University, Amritsar (1^{st}-8^{th} December, 2009)
   - Attended Management Teachers Programme on Innovation and Technology Strategy organized by SMFI and BIMTECH at BIMTECH, Greater Noida (October 18^{th} to October 22^{nd} , 2012)
   - Attended Management Teachers Programme on Strategic Management Foundation Course organized by SMFI and IIM Bangalore at IIM Bangalore (December 24^{th} to December 28^{th}, 2012)
   - Attended 21 days Refresher Course for Commerce and Management teachers organized by Academic Staff College, Kurukshetra University, Kurukshatra (2^{nd} January to 22^{nd} January, 2013)
3. Mr. Sanjeev Arora, Assistant Professor, Management Studies :

- Attended a UGC sponsored 3-week Refresher Course in Commerce & Business Management (from February 14, 2012 to March 5, 2012) at A.S.C., G.N.D.U. Amritsar

Faculty Development Programme:

- Attended a One-week QIP sponsored Workshop/FDP on 'Case based Learning' conducted by Department of Management Studies, IIT Roorkee in the year 2012
- Attended Management Teacher's Programme on 'Corporate Entrepreneurship' conducted jointly by 'Strategic Management Forum' and Birla Institute of Management Technology (BIMTECH) during April 2 to April 6, 2013 at BIMTECH Campus, Greater Noida

Participations in Conferences, Seminars etc.:

- Attended a Brain Storming Session on "Enhancing Organizational Competitiveness through Knowledge Management" conducted by I.I.T.Roorkee at Dr.B.R.Ambedkar National Institute of Technology, *Jalandhar* on 24th Jan.,2010
- Participated in a one-day workshop on 'Indirect Taxes' organized by the Institute of Cost Accountants of India (ICAI) Kolkata at Chandigarh on May 25, 2012
- Participated in a Brain Storming Session on "Indian Financial System: Preparedness to Meet Any Future Financial Crisis" conducted by IIT Roorkee at New Delhi on 10th July 2010
- Participated in a programme on 'Revitalising Companies: Lessons Learnt' organised by HMA at BHEL, Haridwar on September 9, 2011
- Participated in One-day Workshop on 'Econometrics for Time Series Analysis using Statistical Software' organised by Department of Management Studies, IIT Roorkee on November 15, 2011
- Attended a Brainstorming Session on SMEs organized by Department of Management Studies, IIT Roorkee on January 4, 2012

4. Mr M.S. Dhall, Assistant Professor, Physical Education:
   - Participated in India international congress in sports psychology, Gwalior, India from 21-24 Dec, 2009.
   - Attended a Seminar on Promotion of Volunteer Blood Donation Organized By Punjab State Aids Control Society.

28. Student projects

- **Percentage of students who has done in-house projects including inter-departmental projects:**
  100% students of MBA (FYIC)-10TH Semester, 2009-2010 Batch have been allocated Empirical Projects in fields of Finance, Marketing and Human Resource.

- **Percentage of students doing projects in collaboration with other universities /Industry/Institute:** Nil

29. **Awards/recognitions received at the National and International level byFaculty:**
    1) Dr. Usha Kapoor, Former Principal of College has been conferred upon various awards from time to time, a profile of which is as follows:
        - "Rashtriya Shiksha Jyoti Award" by Indian society for Industry and Intellectual Development, New Delhi (May 8, 2008).
        - "Special Award of Honour and Certificate of Appreciation" for voluntary Blood Donation by Blood Bank, and PAHAL Jalandhar(June ,14,2009)
        - Award of Appreciation by Sainik welfare Board for Guiding PCS students (March 20,2010)
        - Women Achiever's Award by St. Soldier Group of Institutions. (March 8th, 2011).
    2) Mr. M.S.Dhall, Assistant Professor, Physical Education was best owed award of honour by Maharaja Ranjit Singh Hockey Club, Amritsar for valuable contribution to the society.

30. **Seminars/Conferences/Workshops organized and the source of funding (National/ international) with details of outstanding participants, if any.**
    - A Camp of 100 students from different colleges of District Jalandhar was organised from November, 8-10, 2013 for sensitising the campers regarding Entrepreneurship potentials and prospects. Department of Science and Technology, Ahmadabad (Ministry of Science and Technology, Government of India) funded the project.
    - 12 days Faculty Development Programme was conducted from 27 December, 2013 to 7th January, 2014 wherein faculty from different colleges of District Jalandhar, Kapurthala and Ludhiana participated. Resource persons from IIT, IIM, Rohtak, IMT, Ghaziabad, Panjab University, Chandigarh, Punjabi University, Patiala, Kurukshetra University, Kurukshetra, M.D.University, Rohtak, G. N. D. University, Amritsar and Department of Management Studies, G.N.D. University College sensitised participants regarding multiple aspects of Entrepreneurship. Event was funded by Department of Science and Technology, Ahmedabad (Ministry of Science and Technology, Government of India.

31. **Code of ethics for research followed by the departments:** NIL
32. **Student profile programme-wise:**
    Total number of applications is not available as admission process is centralised at G.N.D. University, Main Campus at Amritsar**.**

2012-13

	Male	Female	Total
M.C.A. (FYIC) 1st Sem.	28	14	42
M.C.A. (FYIC) 3rdSem.	20	19	39
M.C.A. (FYIC) 5thSem.	13	07	20
M.C.A. (FYIC) 7th Sem.	12	23	35
M.C.A. (FYIC) 9th Sem.	18	13	31
M.C.A. (TYC) 1st Sem.	20	38	58
M.C.A. (TYC) 3rd Sem.	22	32	54
MBA (FYIC) 1st Sem.	14	12	26
MBA (FYIC) 3rdSem.	04	09	13
MBA (FYIC) 5thSem.	14	07	21
MBA (FYIC) 7thSem.	14	15	29
MBA (FYIC) 9thSem.	15	11	26
MBA (TYC) 1st Sem.	23	30	53
MBA (TYC) 3rd Sem.	23	32	55

33. Diversity of students

Name of the Programme	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	%of students from other countries
M.C.A.(Three Years)	85%	11.66%	3.33%	NA
MBA(TY)	84%	11.9%	2.66%	NA
M.C.A.(FYIC)	100%	NA	NA	NA
MBA(FYIC)	100%	NA	NA	NA
M.Com.	99.17%	0.83%	NA	NA
B.Com.	100%	NA	NA	NA
B.Com(P)	99.17%	0.83%	NA	NA

34. How many students have cleared Civil Services and Defence Services examinations NET, SET, GATE and other competitive examinations? Give details category-wise.

UGC Net- 9

35. Student progression

Student progression	Percentage against enrolled
U.G. to P.G.	100
P.G. to M.Phil.	NA
P.G. to Ph.D.	NA
Ph.D. to Post-Doctoral	NA

Employed • Campus selection • Other than campus recruitment	• 60 [M.C.A.(FYIC)] • 15 (MBA (FYIC) AND MBA (TY) • Nil
Entrepreneurs	NA

36. Diversity of staff

Percentage of faculty who are graduates	
Of the same University	12
From other Universities within the State	37.5
From Universities from other States	50
From Universities outside the country	-

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:

- Mr. J.K. Gulati, Lecturer (Selection Grade), Management Studies was awarded Ph.D. degree by Guru Nanak Dev University, Amritsar in February, 2011.
- Mr. Ashish Arora, Senior Lecturer, Management Studies was awarded Ph.D. degree by Punjabi University, Patialain April, 2013.

38. Present details of departmental infrastructural facilities with regard to

a) Library: A very well developed Library

b) Internet facilities for staff and students: Entire Office and Campus is Wi-Fi enabled. Leased line is installed in College.

c) Total number of class rooms: 16

d) Class rooms with ICT facility: TWO

e) Students' laboratories: THREE

f) Research laboratories: NIL

39. List of doctoral, post-doctoral students and Research Associates

a) From the host Institution/University:

- One Research Associate and One JRF with Dr. J.K. Gulati, Associate Professor, Management Studies.
- Two Doctoral and Two Research Scholars with Dr. Ashish Arora, Assistant Professor, Management Studies.

b) From the other Institutions/Uuniversities:

- Dr. J.K. Gulati, Associate Professor, Management Studies is Co-Guide with Two Doctoral candidates from PTU, Jalandhar.

40. Number of post graduate students getting financial assistance from the University:

The college has been taking initiative of giving financial assistance to needy students in form of fee concessions and poorest student aid fee (PSAF) created by GNDU, breakup of which since 2008-09 session-wise is as follows: 90 students got fincancial help

41. **Was any need assessment exercise undertaken before the development of new programme(s)?If so, highlight the methodology.**
An exercise was undertaken at the time of starting MBA (FYIC) programme in G.N.D.University College, Jalandhar wherein deliberations were held with College faculty by the then authorities of G.N.D.University, Amritsar. Intention behind initiative was to render opportunities for potential plus two pass out students of Doaba region to prepare for managerial positions Business Organisations.

42. **Does the department obtain feedback from?**
a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? No
b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
In December, 2010 the student's assessment of Teachers was attempted in MBA (FYIC), M.C.A. (FYIC) and MBA (TY) and feedback generated was forwarded to G.N.D.University, Amritsar.
c. alumni and employers on the programmes offered and how does the department utilize the feedback? NIL

43. **List the distinguished alumni of the department (maximum10)** Nil

44. **Give detail so of student enrichment programmes (special lectures/workshops/ Seminars) involving external experts**.
It has remained an endeavour on part of college to enhance the skills of the students of the college from different disciplines by roping in working professionals from industry and academicians of repute from various renowned Universities and Institutions. Year-wise profile from 2008-09 to 2012-13 is as follows:

Sr No.	Description
1	Seminar on "Virus and its protection" held on jan1, 2008 by Dr. Harsh Verma, Assistant Professor(NIT, Jalandhar)
2	Lecture on "Ecological Approach to Organization in an Era of Globalization" on Feb 8, 2008 by Dr.S.L.Goyal,Professor Emeritus(Panjab University, Chandigarh).
3	Women Forum of the college organized lecture on "Women Empowerment-Physiological, Psychological and Spiritual Aspects" on Sept 11, 2009 by Dr.Anirudh Kapoor.
4	Computer Forum of the college organized a seminar on "Symbolic Logic and AI" on Sept 18, 2009 by Dr.Renu Dhir(NIT,Jalandhar).
5	A seminar on "Market Research" was organized by Business Forum of Management Studies Department on Oct 30, 2009 by Ranjit Kumar Jha(IMRS company,Ludihana).
6	The Literary Society organized a seminar on "Communication Skills" in 2009.

7	A seminar organized by Business Forum of Management Studies Department is delivered on "Time and Stress Management "on Feb 10, 2010 by Dr Ashwani Sharma.
8	The Computer Forum of the College organised a seminar on "Trends and Challenges in IT" on Feb 11, 2010 by Professor R.S.Salaria(Rayat Institute of Technology).
9	Business Forum of Management Studies Department a seminar on "Emotional Intelligence" on Feb 25, 2010 by Professor M.R.Senapati.
10	Women Forum of the College Organised Lecture on "Adolesent Health and Female Problems" on Aug.,20,2010 by Dr.Amita Sharma.
11	The Literary Society organised a seminar on "Variables of Personality Development " on Oct 6, 2010 by Professor K. K. Ghai.
12	The Computer Forum organised a seminar on "New Trends and Issues in Cryptography" on Oct 7, 2010 by Dr.Harsh Verma (NIT,Jalandhar)
13	Dainik Jagran and PAHAL organised a seminar on "Gestational Diabetes Mellitius(GDM)" on Feb 9, 2011 by Dr.Lakhbir Singh(President ,PAHAL).
14	The Business Forum of the College organised a seminar on "Industrial Relation in Emerging Socio-Economic Environment" on Feb 11, 2011 by S. Inderjit Singh (Assistant Labour Commissioner) and Advocate D.K.Gupta.
15	The Computer Forum organised a seminar on" Placement Scenario in Indian and Foreign IT Companies" on Feb 24, 2011 by Saranjit Singh(Associate Congnigent Solution Ltd,USA).
16	The Computer Forum organised one day workshop on "Latest IT Technologies" on April 21, 2011.
17	A Workshop on Work Ethics was organised for Faculty Development on Aug 25, 2011 by Dr.Ranjeet Singh(Retd,Dean,PAU, Ludhiana).
18	Placement Cell of the College invited Jalandhar Chapter of CS to make MBA student aware of Job Opportunities in the field of Company Secretary by CS Vijay Mahajan and CS Dinesh Gupta on Nov.4, 2011.
19	Department of Management Studies organised a seminar on the Legal and Ethical Issues of Corporate Sector in India on Nov 7, 2011 by Dr. Ranjinder Pawar (Dean, Academic Affairs, GNDU,Amritsar).
20	Woman forum of the College organised a seminar on Adolescent Health and Female Problems in Growing Age on March 1 2012 by Dr.Sushma Chawla.

21	NSS Unit organized Sadbhawna Diwas on 17th August,2012
22	Seminar on "Interview Skills" By Dr. J. K. Gulati on 27th August,2012
23	Seminar on "A Way to Freedom " Organised by Rotary Club in the College
24	Seminar on "Social Security" organized by MBA Department
25	Seminar on Placement by Dr.Hardeep Singh (Placement Cell Director) on 30th Jan,2013
26	Seminar on "Network Communication" by Dr. Jyoteesh Malhotra (Head, GND Regional Campus, Ladhewali, Jalandhar)
27	Seminar on "Holistic Education " by Professor R.S.Salaria
28	Women Forum organized Seminar on "International Women Day" and AIDS Awareness on March 8, 2013.
29	Red Ribbon Club organized Blood Donation Camp and AIDS Awareness Programme on 13th March,2013
30	Seminar on "Data Mining and Data Warehouse" by Mrs. Suman Khurana (Head, Kanya Maha Vidyalaya ,Jalandhar)

45. **List the teaching methods adopted by the faculty for different programmes**:
    - Power point presentation (all MBA, M.C.A.)
    - Field survey (MBA)
    - Case study method (MBA)
46. **How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?**
    Through conducting Minors, Quiz and Major examinations and Seminars during semesters for M.C.A. (FYIC) Integrated Masters, MBA (FYIC) Integrated Masters, MBA (TY) P.G. and M.C.A. (THREE YEARS) P.G. classes wherein Choice Based Credit System has been adopted.
47. **Highlight the participation of students and faculty in extension activities**.
    - STUDENTS EXTENSION ACTIVITIES:

2008-2009

Sr. No.	Description
1.	Youth Festival organized by youth welfare department held at GNDU Amritsar
2.	The Chess team runner-up competition held at GNDU Amritsar

2009-2010

Sr. No.	Description
1.	Students participated in Youth Parliament Contest and Declamation Contest

2.	Students got prices in Poetical Recitation organized by GNDU regional campus ladhewali ,Jalandhar
3.	Students participated in test your skill in Plasma-2010
4.	The college won prize in Synergy-2010 organised by Lyallpur Khalsa college,Jal

2010-2011

Sr. No.	Description
1.	Students got running trophy in Declamation Contest organized by JCI(Sept 14,2010)
2.	The student got prize in Story Writing Competition organized by GNDU regional Campus,Jalandhar
3.	Students got prize in IT Quiz in Plasma-2010 held at Lyallpur Khalsa College,Jalandhar
4.	Students got prize in Radio Jokey organized by Department of Journalism held at GNDU Regional Campus,Jalandhar
5.	Students got prize in Group Discussion in Synergy-2011

2011-2012

Sr. No.	Description
1.	Students got prizes in Declamation Contest organized by Rotary Club Jalandhar west
2.	Students got consolation prize and overall trophy in Poetical Recitation organized by Rotary Club Youth Festival.
3.	Students got prize in Elocution in Zonal Youth festival held at GNDU,Amritsar

2012-2013

Sr. No.	Description
1.	Students got Second Spot in Plazma 2013 organized by Khalsa College Jalandhar
2.	Tug of War Team won third Position
3.	Chess Team won Second Position in Inter-College competition
4.	Students got overall trophy in Poetical Recitation organized by Rotary Club Youth Festival
5.	Three Medal Won by Kulveen Kaur in Swimming Competition in Inter-College Swimming competition organized by GNDU , Amritsar
6.	Students got First Prize in Elocution,Gidda,Mime ,Second in Declamation and Third in Collage at Youth Festival organized by GNDU,Amritsar(B-Division) .
7.	Badminton Team got third position in Inter-College competition.

FACULTY'S EXTENSION ACTIVITIES:

1. Dr. J.K. Gulati, AssociateProfessor, Management Studies

- As a regular Resource person on topics pertaining toBehaviourial, Motivational, TQM and Team Building Skills for Jalandhar Division civil and police officials, at Mahatama Gandhi State Institute for Public Administration (MGSIPA), Jalandhar since 2009.
- As a regular Resource person for District Guidance Counselling Cell of Education Department, Government of Punjab since 2013.
- As a resource person in National Training Workshop for Management Professionals held at Jalandhar by MIDI (A Government Recognised Regd. Body affiliated to Federation of Asian Business in Europe, UK) on 26-28, July, 2012.
- Delivered guest talk on "Interview and Soft Skills" to students of M.C.A., GND University College on March 1, 2013.
- Delivered guest talk on, "Communication Skills for Success in Business" ina camp of 100 students from different colleges of District Jalandhar which was organised by College from November,8-10, 2013.
- Delivered guest talk on Topic, "Communication Skills for Success in Business"12 days Faculty Development Programme which was conducted in college from 27 December, 2013 to 7th January, 2014.
- Chaired one technical session at National Conference on "Building Competitiveness in Manufacturing Sector" at GNA-IMT, Phagwara on 9-3-2013.

2. Dr. Ashish Arora, Assistant Professor, Management Studies

- Delivered guest talks on topics "Motivation at Work Place" and "Decision Making Process'' at Mahatama Gandhi State Institute for Public Administration (MGSIPA), Jalandhar (2009-2012)
- Delivered an expert talk on "Research Techniques and Process" at PTU sponsored FDP on topic " Computer Networks and Computing Technologies" organized by Apeejay College of Fine Arts, Jalandhar on May December 22, 2011
- Delivered an expert talk on "Research Techniques Using MS Excel" at PTU sponsored FDP on topic " Advances in Information Systems and Management" organized by Satyam Institute of Management and Technology, Nakodar on May 16, 2012
- Delivered an expert talk on "Strategic Management" to students of MBA IVth Semester at Apeejay Institute of Management Technical Campus, Jalandhar on March 7, 2013
- Delivered an expert talk on "Usage of Case Study Methodology for Effective Teaching" at FDP organized by Trinity College, Jalandhar on April 13, 2013

- Delivered an expert talk on "Strategic Management" to students of MBA IVth Semester at Apeejay Institute of Management Technical Campus, Jalandhar on May 29, 2013
- Delivered an expert talk on " Corporate Governance" at DAV College Jalandhar at Student Contact programme organized by Institute of Company Secrataries of India on June 25, 2013
- Delivered an expert talk on " Mutual Funds As Investment Alternative" at DAV College Jalandhar at Investor Awareness Programme organized by Institute of Company Secrataries of India on September 15, 2013
- Delivered an expert talk on "Research Basics" to MCOM students at DAV College Jalandhar as on January 25, 2014

3. Mr. Sanjeev Arora, Assistant Professor, Management Studies

- Delivered Two-day Sessions on "Financed for Non-finance Executives" to SeniorManagers of Tata Motors Ltd., Pantnagar Unit, Pantnagar on January 16 and 17, 2013
- Delivered a Guest Lecture on "Strategic Financial Management" at LalaLajpatRai Institute of Engineering & Technology, Moga on September 13, 2013
- Delivered a Guest Lecture on "Strategic Management-Performance Measurement" at Institute of Cost Accountants of India-Ludhiana Chapter on September 21, 2013

4. Mr.M.S.Dhall, Assistant Professor, Physical Education

- Radio talk on Punjab Diyan Tairaki Vich Sambhavanawan on 10 aug, 2010
- Radio talk on physical education subject in Schools and colleges 19 may, 2011
- Radio talk on needs of swimming to students July, 2011
- Radio talk on Safal Jodi All India Radio, Jalandher June, 2012
- Radio talk on all India Radio May 29,2013
- Radio talk on all India Radio Dec.,9, 2013

48. Give details of "beyond syllabus scholarly activities" of the department.

Students of MBA(FYIC) and MBA(TY) pursuing specialisation in HR were taken to Labour Courts and Department of Labour, Jalandhar (Punjab) with a view to enabling them to see and learn practical aspects of Labour Laws working in 2012 as well as 2013.

49. State whether the programme/department is accredited/graded by other agencies? If yes , give details. No

50. Briefly highlight the contributions of the department in generating new knowledge , basic or applied.

With establishment of EDP Cell in College, an endeavour is being put in to generate new knowledge pertaining to Entrepreneurship.

51. Detail five major Strengths, Weakness, Opportunities and Challenges (SWOC) of the Department:

STRENGTHS:

- Carries brand label of G.N.D.University in region.
- Caters to job oriented courses like MBA and M.C.A. in five year as well as two-three years versions exclusively in region.
- Highly experienced, well exposed and talented faculty. In commerce and management courses.
- Provides fully concessional education to privileged section of society for job oriented programmes in particular and in evening for undergraduate courses like B.Com.(R), B.Com.(P) and M.Com.(PG) at cheapest fee rates in district Jalandhar.
- Encourages student community to explore extra-curricular talents by making them participate in multiple youth welfare functions organised by various institutions in region.

WEAKNESSES:

Inspite of inadequate infrastructure, efforts are in process to create it by beginning of 2014-15 academic sessions.

OPPORTUNITIES

- Capacity to cash on brand equity of being GNDU, Amritsar own college.
- Cheapest and affordable fee structure.
- Being first in region to set up EDP cell, an extension of department of science and technology, ministry of science and technology, Ahmadabad.
- Centrally located in Jalandhar town having access to railway station and bus stand.

CHALLENGES

- To create and fill up faculty positions in computer stream with regular staff.
- To create awareness amongst people on availability of affordable, quality and inclusive job oriented education in region.
- To set up own placement cell in college campus with a view to making potential employers visit college campus for hiring purposes.
- To fully cash on advantage of being first in region to set up EDP cell with missionary zeal and continuous linkage with industry.

52. Future plans of the department.

- With addition of undergraduate courses like B.Com(R), B.Com(P), M.Com(semester) in evening shifts w.e.f. 2013-14 session, GND University looks forward to provide cheaper, affordable and convenient education to needy and time constrained working/business people of Jalandhar area.
- With inception of Entrepreneur Development Centre by Department of Science and Ttechnology, Ahmadabad (Ministry of Science and

Technology, Government of India) in department of management studies, where the college looks forward to bridge much needed skill gap in between industry and academic institutions on one hand, on the other hand it expects to create a nodal centre for giving birth to new and innovative ideas for establishment of self employment via entrepreneurship.

- With allocation of Rs Three crore for adding more class rooms, student labs and faculty rooms in existing college building and addition of courses like BBA, MSc (Mathematics) in ensuing 2014-15 academic session, college is poised for further growth and development in the field of higher education in Doaba region.

ANNEXURE - I: RESEARCH PUBLICATIONS

1. BOOKS

FACULTY OF ARTS AND SOCIAL SCIENCES

History

1. Sohal, Sukhdev Singh (2012), *Credit, Rural Debt and the Punjab Peasantry (1849-1947)*. Amritsar: Guru Nanak Dev University Press. ISBN: 978-81-7770- 173-9
2. Sohal, Sukhdev Singh and Amandeep Singh Sekhon (eds.) (2011), *Shaheed Bhagat Singh: Life and Ideology*. Damdama Sahib: Punjabi University Regional College. ISBN: 978 81 8465 450 9
3. Sohal, Sukhdev Singh and Amandeep Singh Sekhon (eds.) (2011), *Shaheed Bhagat Singh: Jiwan ate Vichardhara*. Damdama Sahib: Punjabi University Regional College. ISBN: 978 81 8465 451 6
4. Sohal, Sukhdev Singh (2008), *The Making of the Middle Classes in the Punjab (1849-1947)*. Jalandhar: ABS Publications. ISBN: 978-81 -7072-093-1

Political Science

5. Bindra, S. Singh (2011), *Dynamics of Pakistan's Foreign Policy*. New Delhi: Deep & Deep Publications. ISBN: 9788184502855

Sociology

6. Arora, Balwinder (2009), *Female Feoticide in Punjab-A Sociological Study*. Amritsar: Guru Nanak Dev University. ISBN No. 978-81-7770-142-5
7. Gill, M.S. and Jasleen Kewlani (2009), *Environmental Conscience: Socio-Legal and Judicial Paradigm*. New Delhi: Concept Publishing Company. ISBN-13: 978-81-8069-601-5
8. Judge, Paramjit S. and Gurpreet Bal (eds.) (2008), *Reconstructing Identities: Society through Literature*. Jaipur: Rawat. ISBN 81-316-01885-4
9. Judge, Paramjit Singh (2009), *Max Weber*. New Delhi: Punjabi Academy.
10. Judge, Paramjit Singh and Gurpreet Bal (2009), *Mapping Dalits: Contemporary Reality and Future Prospects in Punjab*. Jaipur: Rawat Publications. ISBN No. 81-316-0268-0.
11. Judge, Paramjit Singh (2010*), Changing Dalits: Exploration Across Time.* Jaipur: Rawat Publications. ISBN No. 81-316-0361-X
12. Judge, Paramjit Singh (2012), *Foundations of Classical Sociology: Functionalism Conflict and Action*. New Delhi: Pearson. ISBN No. 978-81-317-6941-6

13. Judge, Paramjit S. (ed.) (2014), *Mapping Social Exclusion in India: Caste, Religion and Borderlands*. New Delhi: Cambridge University Press. ISBN No. 978-1-107-05609-1
14. Judge, Paramjit S. (ed.) (2014), *Towards Sociology of Dalits*. New Delhi: Sage. ISBN No.978-81-321-1379-9
15. Kahlon, Neena Rosey (ed.) (2010), *Problematics of Indian Immigrants* (Harchand Singh Bedi and Neena Rosey Kahlon), New Delhi: Rajat Publications, Pp 124-139, ISBN No. 978-81-7880-502-3.
16. Sandhu, R.S. (2009), *Drug Addiction in Punjab: A Sociological Study*. Amritsar: Guru Nanak Dev University. ISBN No. 978-81-7770-143-2.
17. Sandhu, R.S.; Jasmeet Sandhu and Balwinder Arora (eds.) (2009), *Urban Poverty in Developing Countries: Issues and Strategies for Sustainable Cities.* New Delhi: Bookwell. ISBN No. 978-81-89640-85-9.
18. Sandhu, Jasmeet and Gurpreet Bal (eds.) (2013), *Urban Development and Governance: Issues, Concerns and Challenges.* Jaipur: Rawat Publications, ISBN No. 978-81-310-0562.

Namdhari Guru Ram Singh Chair

19. Singh, Joginder (2010), *Namdhari Guru Ram Singh: A Biography.* Delhi**:** National Book Trust. ISBN 978-81-237-5918-0
20. Singh, Joginder (2010), *A Short History of Namdhari Sikhs of Punjab*. Amritsar: Guru Nanak Dev University Press. ISBN 978-81-7770-156-2

21. Singh, Joginder (2012), *Punjabi Journalism: Issues and Concerns*, Patiala: Punjabi University. ISBN 978-81-302-0111-5

22. Singh, Joginder (2013), *The Namdhari Sikhs: Their Changing Social and Cultural Landscape.* New Delhi: Manohar Publishers. ISBN 978-81-7304-996-5

FACULTY OF ECONOMICS AND BUSINESS

Punjab School of Economics

23. Dhindsa, Paramjeet (2013), *Punjab Economy – Performance and Prospects*. New Delhi: Regal Publications. ISBN 978-81-8484-280-7

Business and Commerce

24. Randhawa, Gurpreet (2012), *Human Resource Management (UGC)*. New Delhi: APH Publishing Corporations. ISBN No. 978-81-313-1660-3.
25. Randhawa, Gurpreet (2009), *Dictionary of Human Resource Management.* New Delhi: Atlantic Publishers. ISBN No. 978-81-269-1256-8.

26. Bhatia, Aparna (2012), *Diversification Strategies and Corporate Performance*. New Delhi: Regal Publications, ISBN No. 978-81-8484-140-4.

FACULTY OF HUMANITIES AND RELIGIOUS STUDIES

Guru Nanak Studies

27. Rai Jasbir Singh (2009), *Guru Khalsa Panth Ke Hukamname*. Amritsar: Chattar Singh Jiwan Singh. ISBN-978-81-7601-992-7
28. Sandhu, Bharatbeer Kaur (2010), *Sri Guru Tegh Bahadur Bani Da Chehan Prabandh*. Chandigarh: Lok Geet Parkashan. ISBN 978– 81–7142 –992–0
29. Dhillon, Balwant Singh (2011), *Eighteenth Century Persian Historiography on Banda Singh Bahadur*. Amritsar: Singh Brothers. ISBN-81-7205-470-X
30. Gursharanjit Singh (2012), *Bani Siddhant Itihas*. Amritsar: Angel Publications. ISBN-978-81-907106-3-3
31. Shashi Bala (2013), *Sikh Concept of Freedom and Determinism*. Amritsar: Singh Brothers. ISBN 81-7205-509-9
32. Sandhu, Bharatbeer Kaur & Chanchal Singh Cheema (eds.) (2010), *Batan Mudh Qadim Diyan***.** New Delhi: Educational Publishing House. ISBN 978– 81–8223–678– 3.

FACULTY OF LAWS

Laws

33. Singh, Rattan (2009), *Socio Economic Offences in India*. Faridabad: Allahabad Law Agency. ISBN 978-93-80231-31-0 ISBN 978-81-8038-897, 2012.
34. Singh, Rattan (2013), *Legal Research Methodology*. Gurgaon: Lexis Nexis.
35. Kapoor, Viney (2013), *Perspectives on Indian Personal Laws: Status of Women*. Hyderabad: Asia Law House. ISBN 978-93-82740-10-0.

FACULTY OF LANGUAGES

English

36. Singh, Sukhdev; Singh, Balbir (2012), *Grammar of the Modern English Language* (Co-author). Delhi: Foundation Books (Cambridge University Press India Pvt. Ltd.).
37. Singh, Sukhdev; Kalia, Divya (2013), *The Culture of Sikligarh Tribe*. Patiala: University Press, Punjabi University.

Hindi

38. Jitender, Sudha (2013), (ed.) *Mahadevi ka gadya Sahitya*. Patiala: Bhasha Vibhag, Punjabi University. ISBN 978-81-302-0238-9.
39. Jitender, Sudha (2010), (ed.) *Dr. Ajay Sharma Ka Katha Sansar*. Jalandhar: Sahitya Silsila Prakashan.
40. Jitender, Sudha (2008*), Kathakaar Dronveer Kohli.* New Delhi: Sanjay Prakashan, ISBN 97881-7453-381-4
41. Jitender, Sudha (2008), *Jagdish Chander Ki Upanyaas Yaatra.* New Delhi: Sanjay Prakashan, ISBN 97881-7453-385-2

School of Punjabi Studies

42. Bedi, Harchand Singh (ed.) (2008), *Parvasi Punjabi Sahit : Sandarbh Kosh (Natak), Vol. 4*. Ludhiana: Chetna Parkashan.ISBN 81-78883-347-3
43. Bedi, Harchand Singh (ed.) (2008), *Parvasi Punjabi Sahit Sandarbh Kosh, (Novel), Vol. 5*. Ludhiana: Chetna Parkashan. ISBN 81-7883-392-1
44. Bedi, Harchand Singh (ed.) (2008), *Desh Hoeya Pardes*. Amritsar: Ravi Sahit Parkashan.ISBN 978-81-71043-1.
45. Bedi, Harchand Singh and Raminder Kaur (2009), *Path te Parsang: Babal Jayi Kee Kare.* Chandigarh: Lokgeet Parkashan. ISBN 81-7142-696-4.
46. Bedi, Harchand Singh (ed.) (2009), *Aurtan Dian Kahaniyan (Parvasi Punjabi Kahani), Vol. 1,* Chetna Parkashan, Ludhiana.
47. Bedi, Harchand Singh (ed.) (2009), *Aurtan Dian Kahaniyan (Hind-Pak Kahani), Vol. 2*. Ludhiana: Chetna Parkashan.
48. Bedi, Harchand Singh (ed.) (2010), *Vishav Punjabi Kahani.* Chandigarh: Lokgeet Parkashan.
49. Bedi, Harchand Singh (ed.) (2010), *Path te Parsang: Harminder Chahel da Novel 'Bali.* Samana: Sangam Publication.
50. Bedi, Harchand Singh (ed.) (2011), *Parvasi Punjabi Sandarbh Kosh (Vol. 6, Kahani*), Amritsar: Guru Nanak Dev University. ISBN 978-81-7770-174-6.
51. Bedi, Harchand Singh (ed.) (2011), *Parvasi Kahani.* Ludhiana: Chetna Prakashan.
52. Bedi, Harchand Singh (ed.) (2013), *Jalavatani (Amriki Punjabi Kahani)*. Amritsar: Ravi Sahit Prakashan, ISBN 978-81-7143-594-4.
53. Bedi, Harchand Singh (ed.) (2013), *Pachhon di Vaa: Bartanavi Punjabi Kahani.* Amritsar: Ravi Sahit Prakashan, ISBN 978-81-7143-592-0.
54. Bedi, Harchand Singh (2013), *Chappa Ku Suraj*. Amritsar: Ravi Sahit Prakashan. ISBN 978-81-7143-592-0.
55. Bedi, Harchand Singh (ed.) (2013), *Baharla Banda (Chonvi Parvasi Punjabi Kahani), Vol. 4*. Amritsar: Ravi Sahit Prakashan. ISBN 978-81-7143-595-1.

56. Bhatia, H.S. (ed.) (2008), *Ravinder Ravi da Chintan Shastar.* Ludhiana: Chetna Prkashan.
57. Bhatia, H.S. (2010), *Chintan —Punar Chintan*. Amritsar: Ravi Sahit Prakashan. ISBN 978-81-7143-504-3.
58. Bhatia, H.S. (2012), *Sanwad —Punar Sanwad*. Amritsar: Ravi Sahit Prakashan. ISBN 978-81-7143-598-4.
59. Bhatia, H.S. (2013), *Bharti Sahit de Nirmata: Mohan Singh Diwana*. New Delhi Sahit Academy. ISBN 978-81-260-4233-3.
60. Bir, Sohinder; Kaur, Raminder (2008), *Gyani Kesar Singh : Jivan ate Rachna.* Amritsar: Guru Nanak Dev University. ISBN 978-81-7770-154-8.
61. Bir, Sohinder (2008), *Shaheed Bhagat Singh Inqlab da* Bani. Amritsar: Kasturi Lal & Sons. ISBN 81-88887-40-4.
62. Bir, Sohinder (2008), *Niranjan Singh Noor : Jivan ate Kavita*. Amritsar: Varis Shah Foundation. ISBN 13-978-81-7856-1999-13.
63. Bir, Sohinder (2009), *Harappa ton Hiroshima* Vall. Amritsar: Varis Shah Foundation. ISBN978-81-7856-254-4.
64. Bir, Sohinder (2013), *Gurdas Singh Parmar Jivan te Rachna*. Amritsar: Varis Shah Foundationmritsar.ISBN 978-81-7856-373-2.
65. Bir, Sohinder (2013), *Mahan Sutantarta Sangrami: Shaheed Udham Singh.* Amritsar: Kasturi Lal & Sons. ISBN 978-938-27850-5.
66. Darya, (2008), *Punjabi Lok Dharam Adhunik Paripekh (ed.),* CIRS, Batala.
67. Darya, (2008), *Punjabi Lok Vishvas: Samajik Paripekh,* CIRS, Batala.
68. Kaur, Harjit (2010), *Lok Nat Swang: Roop te Parampara*. Amritsar: Nanak Singh Pustakmala. ISBN 978-93-81439-00-5.
69. Kaur, Manjit Pal (2010), *Sant Singh Sekhon Ikaangi Rachnavali (Kav Sangreh)*. Patiala: Punjabi University.ISBN 81-302-0267-0
70. Kaur, Manjit Pal (2010), *Sant Singh Sekhon Kav Rachnavali.* Patiala: Punjabi University.
71. Kaur, Raminder; Rahi, Joginder Singh, (2009), *Punjabi Kahani da Safar,* Singh Brothers, Amritsar. ISBN 81-7205-424-6
72. Kaur, Raminder; Bedi, H. S. (2011), *Simarti Granth (ed.),* Singh Brothers, Amritsar. 81-7205-464-5
73. Khahra, S.S. (ed.), (2013*), Chitta Lahu : Adhyan da Nav Paripekh* (Revised). Amritsar Ravi: Sahit Prakashan. ISBN 81-71430-607-2
74. Sidhu, Paramjit Singh (ed.) (2010), *Gurmat ate Sufi Kav*. Chandigarh: Panjab University.
75. Sidhu, Paramjit Singh (2011), *Manav Vigyanak Bhasha Vigyan (Reprint),* Patiala: Punjabi University. ISBN 81-7380-458-3
76. Sidhu, Paramjit Singh (2011), *Shabad: Bharti Paripekh.* Amritsar: Ravi Sahit Prakashan.ISBN 978-81-7143-582-1
77. Singh, Dharam (2008), *Punjabi Khoj Sandarabh.* Amritsar: Ravi Sahit Prakashan. ISBN 7143-465-7

Sanskrit, Pali and Prakrit

78. Sharma, Lekh Ram and Chahal, Dalbir Singh (2009), *Panjab Ka Sanskrit Sahitye Ko Yogdan.* Delhi: Independent Publishing Company, ISBN – 81-85359-41-5.

Urdu

79. Aziz Abbas (2010), *Qissa-e- Naz-o-Niaz Az Shah Faqirullah 'Afrin' Laahori*. New Delhi: National Council for Promotion of Urdu Language.

REGIONAL CAMPUSES

Mahraja Ranjit Singh Regional Campus

Punjabi

80. Singh, Sukhvinder (2013), *Apbhasha: Sidhant ate Vihaar*(co-author) Patiala: Gracious Books.
81. Singh, Sukhvinder (2012), *Punjab Vich Punjabi Bataur Ilakai Bhasha Parna Parauna Zarury Kion?* (co-author) Jalandhar: Punjabi Bhasha Akademi,1-62.
82. Singh, Sukhvinder (2012), *Jan Sanchar Madhima di Bhasha* (co-author) Jalandhar: Deepak Publishers.

CONSTITUENT COLLEGES

Guru Nanak Dev University College, Verka

83. Singh, Mehal (2011), *Jeevan Sant Baba Tara Singh Jee*. Amritsar: Ravi Sahit Parkashan. ISBN 978-81—7143565-1.

84. Singh, Mehal ed. (2012), *Dalit Chetna: Sidhant ate Vihar*. Amritsar: Ravi Sahit Parkashan. ISBN 978-81-7143-581-4.

85. Singh, Mehal (2013), *Kar Sewa Sarhali Wale*. Amritsar, Ravi Sahit Parkashan. ISBN 978-81-7143-590-6.

Guru Nanak Dev University College, Narot Jaimal Singh

86. Kaur, Birinder (2012), *Lok Natak.* Jalandhar: Rohini Publishers. ISBN: 978-93-81107-06-5.
87. Kaur, Birinder (2012), *Majhi ate Malwai Upsabhiachar: Tulnatmak Adhyyan*. Amritsar: Waris Shah Foundation. ISBN: 978-81-7856-367-1.

88. Kapoor, U.K. (1995), *Women and Welfare: A Study of Voluntary Agencies.* New Delhi: Indus Publishing Company. ISBN No 81-7387-032-2
89. Kapoor, U.K. (2005), *Lok Prashasan: Siddhant Ate Vihar.* Patiala: Panjabi University. ISBN No 978-81-7380-938-0

2. RESEARCH ARTICLES

FACULTY OF ARTS AND SOCIAL SCIENCES

History

1. Amandeep (2008), "Kashmiris of Amritsar: Development of Political Consciousness in the First Quarter of the Twentieth Century", *Kashmir Journal of Social Sciences*, 3, pp. 94-101.
2. Amandeep (2009), "Bhagat Singh through His Writings", *Punjab Past and Present*, Punjab Historical Studies, Punjabi University, Patiala, pp. 99-113.
3. Amandeep (2010), "Prices, Wages, Diseases and Political Protest: The Rowlatt Agitations in Amritsar in 1919", *Journal of Regional History*, XVI, pp 65-81.
4. Amandeep (2011), "A Traditional Protest: The Kuka Movement", *Journal of Sikh Studies*, Department of Guru Nanak Studies, Guru Nanak Dev University, Amritsar, pp 117-38.
5. Amandeep (2011), "Anarchism to Marxism: Journey of a Revolutionary" in *Shaheed Bhagat Singh: Life and Ideology* (eds.) Sukhdev S. Sohal and Amandeep Sekhon, Punjabi University, Guru Kashi College, Bathinda, pp. 73-95.
6. Amandeep (2011), "Lala Lajpat Rai and the Agrarian Agitation of 1907" *Lala Lajpat Rai: A Visionary par Excellence* (ed. Dr. Arun), Lajpat Rai Centre, Hindu College, Amritsar, pp. 46-61.
7. Amandeep (2011), "Massacre at Ajnala: A Well for Rebels", *Lahu Bhiji Dastan* (ed. Bhupinder Singh), Aalmi Punjabi Virasat, Amritsar, pp. 78-86.
8. Gill, Bir Good (2008), "1857: The Punjab Situation", *Rethinking 1857 and the Punjab*, (ed. Navtej Singh), Punjabi University, Patiala, pp.78-89.
9. Gill, Bir Good (2008), "1857: the Crisis at Peshawar", *The Punjab Past and Present*, Punjabi University, Patiala, Vol. XXXIX, pp.53-59.
10. Gill, Bir Good (2013), "India and Central Asia: Trade Relations During 1880's and 1890's", *India, Central Asia and Russia: Three Millennia of Contacts*, (ed. D.N. Tripathi), Indian Council of Historical Research, New Delhi.
11. Sharma, Radha (2008), "Nature of the Sikh State under Maharaja Ranjit Singh", *Sikh Society, Culture and Polity in Historical Perspectiv*e (ed. B.L. Gupta), Rachna Printers, Jaipur.
12. Sharma, Radha (2010), "Reflections on Punjabi Society in Transition in Bhishm Sahni's ovel Maya Das Ki Madi", *Social Transformation in North Western India during the Twentieth Century* (ed. Chetan Singh), New Delhi: Manohar.

13. Singh, Sulakhan (2008), "Baba Sri Chand: A Contemporary from the House of Guru Nanak", *Journal of Sikh Studies*, Vol.32, Department of Guru Nanak Studies, Guru Nanak Dev University, pp. 119-124.
14. Singh, Sulakhan (2009), "Guru Granth Sahib and Institutionalization of Sikhism", *Guru Granth Sahib: The Eternal Guru,* Khalsa College for Women, Sidhwan, Ludhiana.
15. Singh, Sulakhan (2009), "Giani Gian Singh's Interpretation of Early Namdhari Tradition", *Punjab History Conference Proceedings*, Punjabi University, Patiala, pp. 119-203.
16. Singh, Sulakhan (2012), "The Guru Granth Sahib: An Embodiment of Sikhism and its Institutions", *Perspectives on Guru Granth Sahib*, Centre on Studies in Sri Guru Granth Sahib, Guru Nanak Dev University, Amritsar, pp.83-87.
17. Sohal, Sukhdev Singh (2008), "Dance of Death at Ajnala: Rising Repression and Retribution in 1857", *Rethinking 1857 and the Punjab*, (ed. Navtej Singh), Punjabi University, Patiala, pp.15-27.
18. Sohal, Sukhdev Singh (2008), "The Rising and Retribution in 1857", *Mainstream*, Vol. XLVI, No. 38, September 6, pp.29-31.
19. Sohal, Sukhdev Singh (2010), "A Tale, Toll and Trauma of Two Revolts", *Journal of Regional History*, Vol. XVI, pp. 83-92.
20. Sohal, Sukhdev Singh (2011), "Social Change in North-Western India: The Punjab Experience (1900-50)", *Social Change in India from 1900-50,* (Eds. Gurdip Sharma, Jaspal Singh, Suresh Kumar), Unistar, Chandigarh, pp. 1-19.
21. Sohal, Sukhdev Singh (2011), "The Kalianwala Khuh (Ajnala) on Eighteen Fifty Seven," *1857 Di Azadi Sangram Naal Judi Ajnala Kalianwala Khuh Di Lahu Bhijji Dastan* (Ed. Bhupinder Singh Sandhu), Almi Punjabi Virasat Foundation, Amritsar, pp. 38-59. (in Punjabi)
22. Sohal, Sukhdev Singh (2012), "Situating Women in the Colonial Punjab", Women in the Colonial Punjab: Social, Economic and Political Perspectives, (Eds. Paramjit Kaur and Navdip Kaur) Unistar, Chandigarh, pp.19-36.
23. Sohal, Sukhdev Singh (2013), "Revisiting Jawaharlal Nehru's Idea of History", *Mainstream,* New Delhi, Vol. LI No. 48, November 16, pp.13-17.

Library and Information Science

24. Kaur, Amritpal (2008), "Use of Internet Services and Resources in the Engineering Colleges of Punjab and Haryana (India): A Study", *International Information and Library Review* 40(1), pp 10-20.
25. Kaur, Amritpal (2008), "Marketing of Information Services and Products in the University libraries of Punjab and Chandigarh (India):

An attitudinal assessment of library professionals" *Library Management* (UK), 29(6/7), pp 515-537.

26. Kaur, Amritpal (2008), "Are Prospects Bright for Librarians in Digital Environment?", *Srels Journal of Information Management, 45(2), 143-153.*
27. Kaur, Amritpal (2008), "Future of LIS education Trends towards specialization" in C R Krisidappa and B D Kumbar (eds), Changing face of LIS education: learning styles and teaching methodologies. Dharwad: IATLIS, pp 38-50.
28. Kaur, Amritpal (2008), "Librarians/Information professionals in new information environment: Challenging roles" Kolkata: IASLIC.
29. Kaur, Amritpal (2009), "Digital preservation: Ensuring Long-Term Accessibility to Digital Records In Library and Information Science" in Jagtar Singh et al. (ed.) "The Digital Age" New Delhi: Ess Ess Publications, PP 544-560.
30. Kaur, Amritpal (2009), "UGC Model Curriculum 2001: Need for Radical Changes", *SRELS Journal of Information Management,* 46 (4), 2009: 355-364.
31. Kaur, Amritpal (2010), "Library education in India: Some perennial issues", Jagtar Singh and Trishanjit Kaur (eds.) "Emerging Challenges and Lingering Issues in LIS education, research and training", Patiala IATLIS, PP 1-9.
32. Kaur, Amritpal; Singh, Sarwan (2010), "Use of databases in the university libraries of Canada", *SRELS Journal of Information Management,* 47(6), pp 641-652.
33. Kaur, Amritpal; Aggarwal, Sangeeta, (2010), "Bibliometric Analysis of Research Publications of Department of Chemistry, Guru Nanak Dev University, Amritsar", *IASLIC Bulletin,* 55(1), pp 20-28.
34. Kaur, Amritpal (2010), "Impact of ICTs on Academic Libraries in India" H S Chopra, (ed.) Information Access Initiatives and Rural India/, New Delhi: Shree Publishers, pp 3-10.
35. Kaur, Amritpal (2012), "Academics' attitudes towards use of electronic journals: A case study of Punjab and Chandigarh", *The International Information and Library Review(USA)*
36. Kaur, A.P. (2012), "Academic attitude towards e-publishing: A study with reference to Universities of Punjab and Chandigarh", *SRELS Journal of Information Management.*
37. Kaur. A.P. (2012), "Sources of Misinterpretation in Gurbani", *Journal of Sikh Studies.*
38. Narang, Asha (2009), "Information, information literacy and information needs assessment", *Library and Information Science in the Digital Age*" (Essays in Honour of Prof. M.P.Satija) Ess Ess Publication, I, 173-179.

39. Narang, Asha (2009), "National Knowledge commission: Visions of Guru Nanak Dev University, Amritsar", *University News*, 47(1) pp 25-28.
40. Narang, Asha (2010), "Digital reference service: Issues and Challenges", in *Information Access and Initiatives and Rural India*. New Delhi: Shree Publishers & Distributors, Vol. I, pp 11-19.
41. Narang, Asha; Kumar, Anil (2010), "Indian Journal of Pure & Applied Mathematics: A Bibliometric Study", *SRELS Journal of Information Management.* 47(1), pp 31-39.
42. Narang, Asha (2010), "Preservation of Digital Heritage: Issues and Challenges", in "*Knowledge Management- Issues and Strategies*" New Delhi: U-Day Publishers and Advertisers, 71-76.
43. Satija, M.P. (2008), "Sears List of Subject Headings: An Introduction to the 19th edition", *Pakistan Jl of Lib & Info Sci.* 9, pp 31-48.
44. Satija, M.P. (2008), "Universal Decimal Classification: Past and Present", *Desidoc Jl of Info Tech.,* 28(6) pp 3-10.
45. Satija, M.P. (2008), "UDC in India: Use and Prospects" *Extn & Corrections to the UDC UDC* (Royal Library, The Hague) 30.
46. Satija, M.P. (2008), "Mapping of Social Sciences in Ranganthan's Colon Classification", *Annnals of Lib & Inf studies,* 55(3), 204-11.
47. Satija, M.P. (2008), "Classification of Electronic Documents: Problems and Prospects" in Kanwal Ameen, *et al. (Ed.)* "*Emerging Paradigm in Librarianship: A Call for Innovation"* Lahore: Pakistan Library Association, pp 30-37.
48. Satija, M.P. (2008), "LIS education: Some rambling questions" in C R Karisiddappa and B D Kumbar. In *Changing Face of LIS Education*: *Learning Styles and Teaching Methodologies ed* by Dharwad *:* Karantaka University, pp 20-30.
49. Satija, M.P.; Singh, K.P. (2008), "Information seeking strategies of agriculture scientists working in ICAR Institutions in India". *Desidoc Bulletin of IT,* 28, 37-46.
50. Satija, M.P. (2008), "Mapping of the universe of knowledge in different classification schemes", *Jl & Lib & Information Science* 33(1/2), pp 3-20.
51. Satija, M.P. (2009), Guest "Editorial: Library Education: Some Rambling Questions", *SRELS Jl of information Management,* 45(2) 95-102.
52. Satija, M.P.; Kaur, S. (2009), "Consortia and Cooperative Collection Development in Libraries of Technological Institutes of North India", *Library Philosophy & Practice.*
53. Satija, M.P. (2009), "Papers in Books and Encyclopedias Growth of Technical Education at Degree level in Punjab", in R. Hariharan (ed.) *Recent Trends in Technical Education,* New Delhi: Macmillian, pp1-14.

54. Satija, M.P. (2009), "Adult Education and Public Libraries in Punjab" in S. M Dhawan, *et. al*.(Ed.) *Public Libraries and Knowledge Society,* New Delhi: Shipra, pp. 74-85.
55. Satija, M.P. (2009), "Higher education in the 11th 5YP: Some implications for the LIS education" in Jagtar Singh & Trishanjit Kaur. (Ed.), *Envisioning Employable LIS Courses in Developing Countries,* Patiala: DLIS, Punjabi University, pp 35-40.
56. Satija, M.P. (2010), "What ails doctoral research in library & information science", *Desidoc Bulletin of Library & Information Technology,* 30(5), pp 61-66.
57. Satija, M.P. (2010), "Professor J S Ramdev - A Portrait of a Philanthropist Librarian" *Lib. Progress (Int),* 301(27), pp 133-140.
58. Satija, M.P. (2010), "Need for Revamping Library education in India", *IASLIC Bulletin,* 55(1), pp 3-11.
59. Satija, M.P. (2010), "Library Education in India: Some perennial issues", in Jagtar and Trishanjit Kaur (Ed.), *Emerging Challenges and Lingering Issues in LIS education research and training,* Patiala: IATLIS, pp 1-9.
60. Satija, M.P. (2011), "Remembering the work of S.R. Ranganathan for academic libraries and library", *SRELS Journal of Information Management*, pp 245-250.
61. Satija, M.P. (2011), "Plagiarism:A Templing Snake", *University News (AIU),* 49(21), pp 4-8.
62. Satija, M.P. (2011), "The Digital Age", Kashaf (ISSN 2231-3869) 10(1), pp 109.
63. Satija, M.P. (2011), "LIS Education Research and Training: Then, now and the next 20 years" in Jagtar Singh and Trishanjit Kaur (Ed.) *LIS Education, Research and Training: Vision 2020,* Patiala: IATLIS, pp. 11-19.
64. Satija, M.P. (2011), "Mapping of the universe of knowledge in different classification schemes". in A.S. Chandel (Ed.), *Management in Digita Era: A Memorial Volume for Prof. Knowledge Veena Saraf,* New Delhi: Westvilla Publishing House, pp. 80-94.
65. Satija, M.P. (2011), "An Obituary" In: Professor N. Guruswami Naidu, Library Herald, 49(4), pp 367-368.
66. Satija, M.P.; Gill, AK (2011), "Bharti Bhashavan de Punjabi Vich anuwad di Samsiya" (In Punjabi), A. Ajoke Shilalekh, pp 26-28.
67. Satija, M.P. (2012), "Problems in searching online databases: a case study of select central university libraries in India", *Desidoc JI of Libraries Inf Technology,* pp 32.
68. Satija, M.P. (2012), "Enhancing the subject heading minting capacity of the Sears List of Subject headings: some suggestion", *Knowledge organization*.

69. Bindra, S. Singh (2009), "Chinese Strategies in South Asia", *Indian Journal of Political Science*, 70(4).
70. Bindra, S. Singh (2010), "Nuclear Terrorism in South Asia", *World Politic*s.
71. Deol, Satnam Singh (2012), "Increasing Graph of Crimes against Children in India: An Alarming Concern", Avidhesh Kumar Singh (ed.), *Human Rights, Violence and Crime*, New Delhi, Serials Publications: pp. 137-149. ISBN: 978-81-8387-532-5.
72. Deol, Satnam Singh (2012), "Trafficking of Girl Children in India: Magnitude, Causes and Preventive Measures", *Indian Journal of Human Rights and Law*, 9(1-2), pp 203-214.
73. Deol, Satnam Singh (2012), "Counter-Terrorism Operations in Jammu & Kashmir: A Study of the State of Human Rights", PURVAMAANSA, 3(1), pp 17-24.
74. Deol, Satnam Singh (2012), "Magnitude of Crimes against Scheduled Castes in India: A Human Rights Concern", *Indian Journal of Human Rights & Social Justice*, 7(1-2), pp. 85-105.
75. Kaur, Harpreet (2009), "Diasporic Sikh Organisations" *Indian Journal of Political Science*", 70(4), pp 1085-1098.
76. Kaur, Harpreet(2010), "Baptism by Fire, Survival by Grit: Life in the Borderbelt of Punjab", *Guru Nanak Journal of Sociology*, 31(1-2),
77. Kaur, Harpreet (2010), "The Sikh Diaspora in North America from Beginning till Ghadar Movement, *The Punjab Journal of Politics*", 34(1-2), pp 106-119.
78. Kaur, Harpreet (2012), "Reconstructing Sikh Diaspora" *International Migration*, 50(1), pp 29-142..
79. Sandhu, R. Singh and Sukhjit Singh (2008), "Punjab dian Gathbandan Sarkaran: Ik Moolanakan", (*Punjab vich Coalition Govts: An Analysis*), Dhanwant Kaur and N.K.Dogra (eds.) *Samaj Wigian Pattar*, Pataiala, Punjabi University, pp-103-124, (ISBN: 81-302-0191-7).
80. Sekhon, Jagrup Singh and Madan Lal (2009), 'Sixty Years of India's Independence' (*Bharati Loktantar De Sath Ware),* Dhanwant Kaur and N.K. Dogra (eds.), *Samaj Wigian Pattar,* Patiala, Punjabi University, pp.1-4 (ISBN: 81-302-0191-7).
81. Sekhon, Jagrup Singh (2009), "Human Rights and Terrorist Violence in Punjab", R.S. Ghuman et. al. (eds.), *Globalisation and Change: Perspectives from Punjab,* Jaipur: Rawat Publishers, pp.427-44 (ISBN: 81-316-0332-6).
82. Sekhon, Jagrup Singh and Simon, Kalladayil (2009), 'Christianity in Punjab: An Empirical Outlook', *Punjab Journal of Politics*, 32-33(1), pp 31-46.
83. Sekhon, Jagrup Singh and (2009), "How India Voted: Verdict 2009", *The Hindu*, May 26, pp.1-8.

84. Sekhon, Jagrup Singh and Ashutosh Kumar (2009), 'Punjab: Resurgence of the Congress', *Economic and Political Weekly*, 44(39), pp 183-86.
85. Sekhon, Jagrup Singh (2010), "General Elections 2009: An Assembly-wise Analysis of Jalandhar and Hoshiarpur Parliamentary Constituencies," *Journal of Political Science*, 6(2), pp 5-18.
86. Sekhon, Jagrup Singh (2010), "Running Away of a Mahant from a Dera: A Study", *Guru Nanak Journal of Sociology,* 31(1-2), pp 1-18.
87. Sekhon, Jagrup Singh and Madan Lal (2011), "Awareness among Women in Punjab: An Empirical Analysis", S.S. Randhawa and Sardul Singh (eds.), *Women Empowerment in India,* Jalandhar, Academic Publisher, pp.13-28 (ISBN: 978-93-81107-04-1).
88. Sekhon, Jagrup Singh and Madan Lal (2011), "Punjab de Sarhadi Pindan wich Wasde Lokan Dian Muskalan: Ek Adhian" (Problems of the People Living in the Border Villages in Punjab: A Study), Amarjit Kaur (ed.), *Punjabi Bhasa Vikas De Badalde Peripekh* Patiala: Punjabi Univeristy, pp.240-253 (ISBN: 81-302-0299-9).
89. Sekhon, Jagrup Singh and et. al. (2012), "Fourteen Assembly Elections in Punjab", *Economic & Political Weekly,* 47(14), pp 71-75.
90. Sekhon, Jagrup Singh, (2012), "Punjab Assembly Elections 2012", *Lokniti: Programme for Comparative Democracy*, pp 1-3.
91. Sekhon, Jagrup Singh (2012), "Terror Reaches Homes: Kidnappings during Militancy in Punjab", *Research Journal Social Sciences*, 20(1), pp 60-80.
92. Singh, Gurnam; Manjit Kaur (2008), "Dynamics of Identity Politics: A Comparative Study of Sikh and Mohajir Ethno- Nationalism", *Indian Journal of Political Science,* 69(4).
93. Singh, Gurnam (2010), "Dynamics of Indo-US Nuclear Deal and Strategic Cooperation", *Punjab Journal of Politi*cs, 34(1-2), pp 43-70.
94. Singh, Kuldip (2008), "Globalisation in a Capitalist Mould: A Critique", in P.L. Dash (ed.), *Emerging Asia Focus: Issues and Problems,* Delhi: Academic Excellence, pp.157-174 (ISSN: 978-81-89901-28-8).
95. Singh, Kuldip; and Vijay Lakshmi (2008), "Central Asia as a New Economic Zone and Emerging Politics of the Region", in Paramjit S. Sahai (ed.), *India-Eurasia: The Way Ahead*, Chandigarh: CRRID, pp.139-158-10 (ISSN: 81-85835-53-5).
96. Singh, Kuldip (2008), "Changing Contours of Indo-Russian Economics Ties", in P.L. Dash and Andrei M. Nazarkin (ed.), *Indo-Russian Diplomatic Relations :Sixty Years of Enduring Legacy*, Delhi: Academic Excellence, pp.320-331, (ISBN: 978-81-89901-57-8).
97. Singh, Kuldip (2009), "Globalization in Central Asia with special reference to Kazakhstan", K. Shanthanam, et.al.(ed.), '*Democratic Process in Central Asia: Indo- Kazakh Perspectives*', New Delhi: Aryan Books International, pp.134-141 (ISSN: 978-81-7305-371-9).

98. Singh, Kuldip (2010), "Problems of Trans-Boundary Waters in Central Asia: Implications for the Region", K. Sanathanam (ed.), *Eurasian Security Matter,* New Delhi: Allied Publishers, pp.117-125 (ISSN: 978-81-8424-641-4).
99. Singh, Kuldip (2010), "Globalising Central Asia in Changing Times: A Critical Note", in Ajay Patnaik and Tulsi Ram (ed.), '*Globalisation and Eurasia*'. New Delhi: KW Publishers, pp 73-82, (ISSN: 10:81-87966-82-3).
100. Singh, Kuldip (2010), "Water Related Problems of Central Asia: Challenges for Sustainable Development in the Era of Global Warming', *OIDA Journal of Sustainable Development*, 1(9), pp 75-79.

Psychology

101. Dhillon, R.; Bhardwaj, R. (2014), "A Study of relationship between classroom Environment and Achievement motivation", *Indian Journal of Community Psychology*, Vol. 10, Issue 1st, pp 32-40.
102. Dhillon, R. (2013), "Relationship of Personality with Locus of Control", *Indian Journal of Psychology and Mental Health,* Vol.1, No.7, pp 97-102.
103. Dhillon, R. (2012), "Relationship of Emotional Autonomy With Locus of Control", *Indian Journal of Psychology and Mental Health*, Vol.6, No.1.
104. Dhillon, R.; Tung, S. (2011-12), "Relationship of Family Environment with Self Esteem And Well Being, Personality Study and Group Behaviur", Vol., pp 31 -32.
105. Gupta, S. (2013), "Effect of Religiosity on Psychological Well Being of Senior Citizen Living with family and Living in the Old Age Homes", *Journal of Psychological Research*, Vol. 8, No. 2, pp 209-222.
106. Gupta, S. (2012), "Effect Of Lunch on Stroop Test Performance in High and Low Sociable Individuals", *Journal of Psychosocial Research,* Vol.7(1), pp 127-138.
107. Gupta, S. (2010), "Religious Involvement and Internality in Men and Women", *Journal of Psychological Research*, Vol. 5, pp 267-273.
108. Gupta, S. ( ), "Reducing Anxiety and Depression Among HIV Positive Patents", *Pakistan Journal of Social and Clinical Psychology*, Vol. 7, pp 18-30.
109. Kaur, R.; Anand, G. (2013), "Academic Stress in Relation to Self Efficacy and Adjustment Among Students", *Indian Journal of Community Psychology*, Vol. 9, No.22, pp 393-401.
110. Kaur, R.; Bawa, N. (2011-12), "Psychological Burnout, Occupational Stress and Coping Strategies Among Police Personnel, Personality Study and Group Behaviour", Vol. 31-32, pp 57-70.

111. Sareen, D.; Kaur, R. (2012), Role of Family Environment in Drug Addiction, Indian Journal of Community Psychology, Vol.8, pp 392-400.
112. Kaur, R.; Bawa, N. (2011), "Occupational Stress and Burnout among Police Officers," *Indian Journal of Community Psychology*, Vol. 7 (2) pp 362-372.
113. Kaur, R.; Kapoor, S. (2007-08), "Need for Power and Value Orientations among Students", *Personality Study and Group Behaviour*, Vol. 27-28, pp 53-60.
114. Kaur, R.; Dhillon, U. (2010), "Career Maturity: A Comparative Study of Private and Government Schools", *Indian Journal of Community Psychology*, Vol. 6 (1), pp 114-122.
115. Shabnam; Tung, N.S. (2013), "Familial Characteristics and Successful Intelligence", *Human Behaviour: Journal of Applied Psychology*, Vol. 8, Issue 1.
116. Goel, P.; Tung, N. S. (2013), "Role of Antecedent Variables for Novelty and Meaning Types of Creativity", *Personality Study and Group Behaviour*, Vol. 31-32, pp 11-20.
117. Singh, B.; Tung, N. S. (2011-12), "Child Rearing Practices in Gujjars and Their Effects on their Cognitive Styles", *Journal of Personality Study and Group Behaviour*, Vol. 31-32.
118. Chatha, H.; Tung, N. S. (2013), "A Study of Personality Correlates and Coping Strategies in Substance Abusers", *Journal of Personality Study and Group Behaviour*, Vol.31-32.
119. Singh. H.; Tung, N. S. (2012), "A Factor Analytic Study of Depression, Ways of Coping, Social Support and Personality of HIV /AIDS Patients", *Human Behaviour: Journal of Applied Psychology*, Vol 7(1).
120. Tung, N. S.; Chabra, N.; Chatha, H. (2010), "Adolescent Health Risk Behaviours, Emotional Autonomy and Identity Formations", *Journal of Indian Health Psychology*, Vol. 4, No. 2, pp 1-8.
121. Tung, N. S.; Chhabra, N.; Chatha, H. (2010), "Comparative Study of Addicts and non Drug Addicts using Rorschach Protocols", *Journal of Community Psychology*, Vol.6, No. 1, pp 45-53.
122. Kaur, K.; Tung, S. (2011-12), "Role of Attitude Towards Area of Study in Relation to Achievement Motivation", *Personality Study and Group Behaviour*, Vol. 31-32; pp 43-56.
123. Tung, S.; Dhillon, R. (2013), "Relationship of Achievement Motivation with Family Environment", *Indian Journal of Psychology and Education*, Vol. 3(2), pp 100-104.
124. Tung, S.; Dhillon, R. (2013), "Relationship of Psychosocial Adjustment with Autonomy", *Journal of Indian Health Psychology*, Vol.8, No. 1, pp 95- 102.

125. Sandhu, D.; Singh, B.; Tung, S.; Kundra, N. (2012), "Adolescent Identity Formation, Psychological Well Being and Parental Attitudes", *Pakistan Journal of Psychological Research*, Vol. 27, No. 1.
126. Dhillon, R.; Tung, S. (2009-10), "Relationship of Family Environment with Self-esteem and Well Being", *Personality Study and Group Behaviour*, Vol. 29-30, pp 105-112.
127. Tung, S.; Syal, S. (2009-10), "Comparison of Cognitive –Behaviour Therapy, Medication and Their Combination Treating Moderate Depression", *Personality Study and Group Behaviour*, Vol. 29-30; pp 23-34.
128. Tung, S.; Gupta, R. (2011), "Emotional Autonomy in a Collectivistic Culture: A Relationship Perspective", *Indian Journal of Community Psychology*, Vol. 7, Issue 2, pp 231-240.
129. Tung, S.; Daisy (2011), "Differences in Parental and Peer Attachments of Adolescents: A Gender Perspective", *Indian Journal of Community Psychology*, Vol. 7, Issue 2, pp 329-340.
130. Tung, S.; Kaur, K. (2011), "Psycho-Social Correlates of Achievement Motivation in Students", *Journal of Indian Health Psychology*, Vol. 6, No. 1.
131. Tung, S.; Chharba, N. (2011), "Comparative Study of Neuropsychological Status of Delinquents and Non-delinquents", *International Journal of Culture and Mental Health*, Vol. 4, Issue 2, pp 121-127.
132. Tung, S. (2010), "A Study of Learning and Thinking Style Preferences Among Urban and Rural Children", *Indian Journal of Community Psychology*, Vol. 6, Issue 2, pp 168-180.
133. Tung, S. (2010), "Relationship of Psychosocial Maturity with Parental Attitudes", *Indian Journal of Community Psychology*, Vol. 6, Issue I, pp 69-74.
134. Chhabra, N.; Chatha, H.; Tung, S. (2010), "Personality, Familial and Neuropsychological Factors in Delinquency: A Comparative Study", *Indian Journal of Community Psychology*, Vol.6, Issue I, pp 123-129.
135. Tung, S. (2010), "Relationship of Classroom Environment with Motivation and Adjustment", *Journal of Well-Being*, Vol. 4, No 1.
136. Tung, S. (2009), "Emotional Autonomy in Relation to Achievement Motivation and Psychosocial Adjustment", *Indian Journal of Community Psychology*, Vol.5, Issue 1.
137. Tung, S.; Dhillon, R (2013), "Relationship of Achievement Motivation with Family Environment", *Indian Journal of Psychology and Education*, Vol. 3(2), pp 100-104.
138. Tung, S.; Dhillon, R. (2013), "Relationship of Psychosocial Adjustment with Autonomy", *Journal of Indian Health Psychology*, Vol.8, No. 1, pp 95- 102.

139. Tung, S.; Dhillon, R.; Arya, S. (2010), "Relationship of Classroom Environment with Motivation and Adjustment", *Journal of Well-Being*, Vol.4.
140. Tung, S.; Dhillon, R.; Kaur, J. (2010), "Relationship of Psychosocial Maturity with Parental Attitudes", *Indian Journal of Community Psychology*, Vol. 6, No.1.

School of Social Sciences

141. Kumar, Rajesh (2011), "Non Traditional Issues of Security in South Asia: Challenges and Prospects", in Saurabh and Upreti P.C., (eds.), *Strengthening Cooperation in SAARC: In the Context of Non Traditional Security Threats,* Pentagon Pub. & ICWA, New Delhi. ISBN 978-81-827-4583-4, pp 23 – 39.
142. Kumar, Rajesh (2011), "South Asia and Future of the Nuclear Non-Proliferation Regime", Emanuel Nahar, (ed.), *India's Foreign Policy in the 21st Century*, Pearson Publishers, ISBN 978-81-317-6054-3, pp 107 – 124.
143. Kumar, Rajesh (2012), "Power Games In Nepal: Implications For India", in Saurabh and Ojha AS (eds.), *Constitutional Crisis In Nepal,* Pentagon Pub. & ICWA, New Delhi. ISBN 978-81-827-4567-4, pp 184 – 196.
144. Kumar, Rajesh (2008), "International Legal Framework under the United Nations for the Prevention and Suppression of Terrorism", *Emphasis : A Journal of Social Sciences*.Vol. 2. B. D. Arya College, Jalandhar Cantt, ISSN 2230-8258.
145. Kumar, Rajesh (2008), "Emerging Indo-US. Strategic Partnership and the China Factor", *Punjab Journal of Politics*. Vol. 32, G.N.D.U., Amritsar, ISSN 0253-3960.
146. Kumar, Rajesh (2009), "Emerging Indo-U.S. Strategic Partnership and the China Factor", *Punjab Journal of Politics*, Vol. xxxii, No. 1, G.N.D.U., Amritsar, ISSN 0253-3960.
147. Kumar, Rajesh (2009), "South Asia and Future of the Nuclear Non-Proliferation Regime in the 21st Century", *South Asian Affairs*, Vol-3, Number 1 & 2, A.P. University, Vishakhapatnam.
148. Kumar, Rajesh (2010), "Dynamics of Indo-US Nuclear Deal and Its Strategic Implications", *Punjab Journal of Politics*, Vol. xxxiii, No. 1, G.N.D.U., Amritsar.
149. Kumar, Rajesh (2011), "Nuclear CBMs between India and Pakistan: Prospects and Challenges", *Emphasis*, Vol. 4-5, No. I, B. D. Arya College, Jalandhar Cantt.
150. Kumar, Rajesh (2011), Book Review, South Asian Affairs, Volume. 4, Number 1 & 2, A.P. University, Vishakhapatnam.
151. Kumar, Rajesh (2011), "India's Nuclear Security Environment and Future of the Nuclear Non-Proliferation Regime in the 21st Century",

Journal of Government and Political Studies, Vol. XXXVI, No. 2, Department of Political Science, Punjabi University, Patiala, pp. 1-14.
152. Kumar, Rajesh (2012), "Dynamics of India-US-China Strategic Relations", *World Focus*, Vol. XXXIII, No. 11, 395 (Annual Issue-Series-I), New Delhi, pp. 113-21.
153. Kumar, Rajesh (2012), "Major Powers and India-Nepal Relations", World Focus, Vol. XXXIII, No.4, 388 , (Annual Issue-Series), pp. 79-85.
154. Mehra, Anjali (2009-10), "Strategies Responsible for Financial Turnaround of Indian Railways", *Indian Journal of Quantitative Economics* Vol. XXIV-XXV, No1&2.
155. Mehra, Anjali (2011-12), "People's Perception towards Health providers in Rural Punjab", *Journal of Health Management* 14(4), 409-416 with Richika Nanda.
156. Mehra, Anjali (2011-12), "Textile Industry in Amritsar: Past, Present and Options", *Journal of Regional History*, G.N.D.U., Amritsar.
157. Mehra, Anjali (2008), "Economic Reforms and Employment Intensity in Indian Industry- A Pre and Post Reforms Analysis", *PSE Economic Analyst*. Vol. XXVIII, 115-129.
158. Jayachandran, Jesna (2012), "Why is A Sociological Perspective Important for Media Studies?", *Journal of Global Communication*, (Vol 5, No. 1), ISSN No: 0974-0600.
159. Jayachandran, Jesna (2012), "Media studies in formal school education: Exploring its role in youth empowerment" .

Sociology

160. Bal, Gurpreet (2008), "Religion and Gender Identity in the Writings of a 19th Century Woman Poet Peero" in Paramjit S. Judge and Gurpreet Bal(eds.) Reconstructing Identities: Society through Literature, Rawat Publications, Jaipur. Pp.82-100.
161. Bal Gurpreet. (2008), "Construction of Gender and Religion in the first Punjabi Novel Sundari", in Paramjit S. Judge and Gurpreet Bal (eds.) *Reconstructing Identities: Society through Literature,* Rawat Publications, Jaipur. Pp. 101-120. ISBN 81-316-0185 – 4.
162. Bal, Gurpeet and Paramjit. S. Judge (2008), "Understanding the Paradox of Changes among Dalits in Punjab" *Economic and Political Weekly,* Vol. XLIII(41), Pp.49-55.
163. Bal, Gurpeet and Paramjit S. Judge (2010), "Innovations, Entrepreneurship and Development: a Study of Scheduled Castes in Punjab", *The Journal of Entrepreneurship*, 19(1), (Sage Publications) Pp 43-62.
164. Bal, Gurpeet (2012), "Understanding Failure of Diaspora Development Initiatives in Rural Punjab: Towards Social Entrepreneurship as an

Alternative Model", *Guru Nanak Journal of Sociology*, 33(1&2), Pp 1-18.

165. Gill, M.S. (2009), *"Deforestation: Legislative and Judicial Implications"* in R.B. Patil (Ed.) '*National Resources and Sustainability of Indian Society,* Jaipur: Shruti Publications.
166. Gill, M.S. (2010), *"Deforestation and its Impact on Women", International NGO Journal,* 5(5), Pp 1771-176,
167. Gill, M.S. (2010), "Role of Commission Agents in Rural Finance", in Karnth (Ed.), India, New Delhi: Concept Publishing Company, ISBN 13:978-81-8069-657-2.
168. Gill, M.S. (2010), *"*Sustainable Society: Issues and Mitigation*"* in R.K. Saxena (Ed.) Environmental Imbalance and Global Warning, Rewa: Gaurav Parkashan, pp 52-59. ISBN No. 81-902565-8-0
169. Gill, M.S. (2012), *"*Rural Finance and Commission Agents: Social Reality*"* in M.R. Biju (Ed.) Rural Development: Under Decentralized Governance, New Delhi, Concept Publishing Company Pvt. Ltd., pp 213-227, ISBN:-13: 978-81-8069-838-5.
170. Judge, Paramjit S. (2008), "Intergenerational Unity and Contestations among the Punjabis Abroad", *Guru Nanak Journal of Sociology*, 29, pp. 27 – 48.
171. Judge, Paramjit S. (2008), "Punjabi Novel ate Samajik Paripekh", *Parvachan*, 9(33), pp. 14 – 26.
172. Judge, Paramjit S. (2008), "Religion and Caste in 18th Century Punjab: A Sociological analysis of *Heer* of Waris Shah", in Paramjit S. Judge and Gurpreet Bal (eds.) *Reconstructing Identities: Society through Literature,* Rawat Publications, Jaipur. Pp. 23 – 40.
173. Judge, Paramjit S. (2008), "Social Construction of Gender in *Heer*", in Paramjit S. Judge and Gurpreet Bal (eds.) *Reconstructing Identities: Society through Literature,* Rawat Publications, Jaipur. Pp. 41 – 55.
174. Judge, Paramjit S. (2009), "Social Inclusion of Indian Immigrants in Canada: Conceptual Issues", in Christopher Sam Raj and Marie Mc Andrew (eds.) *Multiculturalism: Public Policy and Problem Areas in Canada and India*, New Delhi, Manak Publications,. Pp. 99 – 117, ISBN 978-81-7831-184-5.
175. Judge, Paramjit S. (2009), "Understanding Continuity in Indian Villages", in Ishwar Modi, B. K. Nagla and Arvind Kumar Aagrawal (eds.) *Themes in Social Stratification and Mobility: Essays in Honour of Prof. K. L. Sharma*. Jaipur: Rawat Publications. Pp. 277 - 292. ISBN 81-316-0116-1
176. Judge, Paramjit S.; Manjit Kaur (2010), "The Politics of Sikh Identity: Understanding Religious Exclusion", *Sociological Bulletin*, 59 (3). Pp. 345 – 366.
177. Judge, Paramjit S. (2010), "Urban Classes in India: Some Methodological Issues", in Ranjit Singh Ghuman, Surjit Singh and Jaswinder Singh Brar (eds.) *Globalization and Change: Essays in*

Honour of Prof. S. S. Gill. Jaipur: Rawat Publications. Pp. 125 – 145.ISBN 81-316-0332-6

178. Judge, Paramjit S. (2011), "An ambiguous Actor: 'People' in the Movements", *Economic and Political Weekly*, XLVI (46), November 11. Pp. 19 – 22.
179. Judge, Paramjit S. (2011), "Diversity within the Punjabi Diaspora and the Construction of Nationhood", in N. Jayaram (ed.) *Diversities in the Indian Diaspora: Nature, Implications, Responses*. New Delhi: Oxford University Press. Pp. 25-48, ISBN 0-19-807146-9
180. Judge, Paramjit S. (2012), "Between Exclusion and Exclusivity: Dalits in Contemporary India", *Polish Sociological Review*, 2 (178) Pp.265 – 280.
181. Judge, Paramjit S. (2012), "Love as Rebellion and Shame: Honour Killings in the Punjabi Literary Imagination", *Economic and Political Weekly*, XLVII (44), Pp. 44 – 50.
182. Judge, Paramjit S. (2012), "Mapping the Social Background of Punjabi Diaspora", in P. S. Sahai, Krishan Chand and Pawan Kumar (eds.) *Indian Diaspora: Migration and Development with Focus on the State of Punjab*. Chandigarh: Centre for Research in Rural and Industrial Development. Pp. 33 – 50, ISBN 81-85835-62-4
183. Judge, Paramjit S. (2012), "Punjab Elections: Entrenching Akali Dominance", *Economic and Political Weekly*, XLVII (13) March 31. Pp. 17 – 20.
184. Judge, Paramjit S. (2012), "Sociology in India in the Context of Globalization: Issues and Challenges", in Ishwar Modi (ed.) *Modernization, Globalization and Social Transformation: Essays in Honour of Professor Yogendra Singh*. Jaipur: Rawat Publications. Pp.63-76. ISBN 978-81-316-0507-3
185. Judge, Paramjit S. (2012), "Punjabis in Europe: Mapping their Caste and Patterns of Migration", *Guru Nanak Journal of Sociology*, 33 (1 & 2). Pp.35-50.
186. Judge, Paramjit S. (2013), "Community within Community: Politics of Exclusion in the Construction of Sikh Identity", *Politics and Religion Journal*, VII (1) Pp.75 – 92.
187. Judge, Paramjit S. (2013), "Satyapal Dang: A Life Lived in Struggle", *Economic and Political Weekly*, XLVIII (29), July 20 Pp. 29-31.
188. Judge, Paramjit S. (2014), "Egalitarian Religion and Caste-based Exclusion in rural Punjab", in Paramjit S. Judge (ed.) *Mapping Social Exclusion in India: Caste, Religion and Borderlands*. New Delhi: Cambridge University Press. Pp. ISBN 108-128.978-1-107-05609-1
189. Judge, Paramjit S. (2014), "Taksals, Akharas and Nihang Deras", in Pashaura Singh and Louis Fenech (eds.) *The Oxford Handbook of Sikh Studies*. London: Oxford University Press. ISBN 978-0-19-9699930-8
190. Kahlon, Neena Rosey and Parminder Kaur (2010), "Status of NRI Women in Family: Continuity and Change in Patriarchy", in

Harchand Singh Bedi and Neena Rosey Kahlon (eds.), *Problematics of Indian Immigrants*, New Delhi: Rajat Publications. Pp 124-139, ISBN No. 978-81-7880-502-3.

191. Sandhu, R.S. and Jasmeet Sandhu (2013), "Urban Development and Small Towns in Punjab" in R.N. Sharma and R.S. Sandhu (eds.) *Small Cities and Towns in Global Era.* Jaipur: Rawat. Pp 177-207, ISBN: 978-81-316-0575-2.
192. Sandhu, R. S. (2009), "Segregation of Scheduled Castes in Indian City: A Case Study of Amritsar City" in R. S. Sandhu , Jasmeet Sandhu and Balwinder Arora's (eds.) *Urban Poverty in Developing Countries: Issues and Strategies for Sustainable Cities*. New Delhi: Bookwell. Pp. 177-207. ISBN 978-81-316-0575-2.

Namdhari Guru Ram Singh Chair

193. Singh, Joginder (2008), "A Note on the Operative Beliefs and Practices of Namdhari Sikhs of Punjab", Proceedings of Punjab History Conference, Punjabi University, Patiala 14th to 16th March, 2008, pp. 554-565.
194. Singh, Joginder (2008), "Migration and Resettlement of Businessmen and Artisans of Amritsar: A Case Study of Namdhari Sikhs, Proceedings of 68the Session of Indian History Congress, Delhi, 2008.
195. Singh, Joginder (2008), "Partition of Punjab 1947; Dispersion of Agriculturists of West Punjab and their Resettlement in East Punjab: A Case Study of Namdhari Sikhs", 69th Session of Indian History Congress, Kannur University, Mangattuparmba (Kerala), December 28-30, 2008, pp. 653-64.
196. Singh, Joginder (2010), "A Note on the Social Background of the Namdhari Sikhs of Punjab" Re-Exploring Baba Ram Singh and Namdhari Movement, (Ed. Navtej Singh), Punjabi University, Patiala.
197. Singh, Joginder (2010), Social Crisis of the Punjab Farmers: Can Religious Ethics Play a Role in Resolving Crisis?, *Punjab Past and Present*, Punjabi University, Patiala,
198. Singh, Joginder (2010), The Muslim Chiefs and Administrative Personnel Under the Sikh Raj: A Case Study of Shifting Allegiance, Institute of Sikh Studies, Chandigarh.

199. Singh, Joginder (2012), "The Conditions of Sikh Women in India: A Perspective of Indian Census Reports", Presidential Address. Punjab History Conference. Patiala: Punjabi University. Pp. 500-513.

FACULTY OF ECONOMICS AND BUSINESS

Department of Commerce and Business Management

200. Ahluwalia, Amardeep Kaur; Raghbir Singh (2011), 'TV Viewing Habits amongst Urban Children', *The IUP Journal of Marketing Management*, 10(1). pp 45
201. Ahluwalia, Amardeep Kaur; Raghbir Singh (2012), 'Understanding of TV Ads amongst Urban Children', *Indian Journal of Marketing*, 42(3), March. pp 51-60.
202. Arora, Sangeeta; Shubpreet Kaur (2009), 'Nature and Extent of Diversification in Indian Banking Sector', *Abhigyan, Fore School of Management*, 27(3), pp. 11-19.
203. Arora, Sangeeta; Shubpreet Kaur, (2009), 'Internal Determinants for Diversification in Banks in India-An empirical Analysis', *International Research Journal of Finance and Economics*, (24), pp.177-185.
204. Arora, Sangeeta; Meenu (2010), 'Microfinance Intervention- An Insight into related literature with special reference to India', *American Journal of Social and Management Sciences*, 1(1), pp 44-54.
205. Arora, Sangeeta; Supreet Sandhu (2011), 'IT Impression on the Dimensionality of the Banking Service Quality- What Customers Have to Say?' *Business Analyst, Shri Ram College of Commerce,* April-September, pp.143-156.
206. Arora, Sangeeta; Meenu (2011), 'Women Empowerment though Microfinance Intervention in the Commercial Banks', *International Journal of Economics and Research,* 2 (2), pp. 35-45.
207. Arora, Sangeeta; Kanika Marwaha, (2011), 'A Typology of investment behavior of investors towards making an investment in the competitive market: a Factor Analytical Approach' , *People's Journal of Management,* Bhopal, (4)
208. Arora, Sangeeta and Meenu (2012), 'Banking Sector Interventions in Microfinance World', *Development in Practice***,** 22(7), pp.991-1005.
209. Arora, Sangeeta and Neha (2012), 'Managing a Global Brand: A case study of State Bank of India', 7(1), pp 156-162.
210. Arora, Sangeeta and Kanika Marwaha (2012), 'Investment patterns of Individual Stock Investors: An empirical analysis of Punjab', *Asia-Pacific Journal of Management Research and Innovation*, 8 (3), pp 239-246.
211. Arora, Sangeeta and Sapna Arora (2012), 'Role of Micro financing in Women Empowerment: An empirical study of urban Punjab', *Pacific Business Review International*, 5 (1), pp 46-60.
212. Arora, Sangeeta and Kanika Marwaha (2012), 'Financial behavior of individual investors: A Segmentation Approach', *Abhigyan,* July-Sep, 30 (2), pp. 34-44.

213. Arora, Sangeeta and Meenu (2012), 'Microfinance services through SHGs: An emerging initiative for Poverty Alleviation', *IME JOURNAL*, *The Research Journal of Institute of Management Education*, 6 (2), pp 28-32.
214. Arora, Sangeeta and Meenu (2012), 'Microfinance Intervention and customers perceptions- A study of rural poor in Punjab', *Decision*, 39 (1), pp 62-76.
215. Arora, Sangeeta and Meenu (2012), 'Self Help Group-Bank linkage program in India: Servicing the Rural Poor', *Asian Journal of Research in Social Sciences and Humanities,* 2 (3), pp.57-60.
216. Arora, Sangeeta and Kanika Marwaha (2012), 'Inflation Resistance as a Criterion for Investment decisions', *ALMANC,* ISBN 978-81-7072-136-9, 2, pp 24-30.
217. Bawa, K. Sumninder; Subhash Chander (2009), 'Prospect of Bancassurance in India', *Journal of Accounting and Finance of Research Development Associates*, 23(2), pp 53-65.
218. Bawa, K. Sumninder; Ruchita Verma (2010), 'Factors Affecting the Brokers' Recommendations', *Asia Pacific Journal of Research in Business Management*, 1(3), pp 25-36.
219. Bawa, K. Sumninder; Navjeet Kaur (2011), 'Performance Measurement Using The Frontier Efficiency Methodology: A Study of Indian General Insurance Sector', *Journal on Banking Financial Services & Insurance Research*, 1(8), pp 20-39.
220. Bawa, K. Sumninder; Smiti Brar (2011), 'Performance Evaluation of Growth Schemes of Mutual Funds in India', *Zenith International Research & Academic Foundation (Ziraf),* 1(7), pp.74-89.
221. Bawa, K. Sumninder; Smiti Brar (2011), 'Performance Evaluation Of Tax Benefit Schemes Of Mutual Funds In India - A Public Private Comparison' *International Journal Of Business Economics and Management Research*, 2(8), pp 19-37.
222. Bawa, K. Sumninder; Smiti Brar (2011), 'Performance Evaluation Of Income Schemes Of Mutual Funds In India - A Public Private Comparison' *International Journal Research in Finance & Marketing,* 1(8), pp 19-34**.**
223. Bawa, K. Sumninder; Ruchita Verma (2011), 'Awareness and Willingness to Pay for Health Insurance: An Empirical Study with Reference to Punjab India' *International Journal of Humanities and Social Science*, 1(7), pp 100-108.
224. Bawa, K. Sumninder; Ruchita Verma (2011), 'Productivity Change in the Indian Health Insurance Business: A Malmquist Total Factor Productivity Analysis' *International Journal of Research in Commerce and Management*, 2(7), pp 115-121.
225. Bawa, K. Sumninder; Ruchita Verma (2011), 'Health Insurance Plans of Indian General Insurance Companies: An Analysis with Reference

to Coverage and Non Coverage', *International Journal of Research in IT and Management*, 1(2), pp 118-139.
226. Bawa, K. Sumninder; Ruchita Verma (2011), 'Third Party Administrators (TPAs) in India: An Insight into Role Defined and Role Played with Reference to IRDA' *Zenith International Journal of Multidisciplinary Research*, 1(3), pp 13-25.
227. Bawa, K. Sumninder; Ruchita Verma (2011), 'Efficiency of Health Insurance Business in India: An Application of DEA', *International Journal of an American Journal of Social and Management Science*, 2(2), pp 237-247.
228. Bawa, K. Sumninder and Navjeet Kaur (2012), 'Evaluation of Efficiency & Productivity of Indian Life Insurers: A non- parametric approach', *Journal on the Social Ion*, 1(1), pp. 1-15.
229. Bawa, K. Sumninder and Prabhjot Kaur (2012), 'Validity of Dividend Policy Models in the Indian Hotel Industry- A Panel Data Approach', *Business Analysts,* 33(1).
230. Bawa, K. Sumninder and Ruchita Verma (2012), 'Factors Affecting the Selection of Health Insurance: An Empirical Study', *Prabandhan: Indian Journal of Management*, 5(2), pp.35-41, ISSN 0975-2854.
231. Bawa, K. Sumninder and Prabhjot Kaur (2012), 'Relevance of Dividend Policy Models in Indian NBFC Sector-A Panel Data Analysis', *Asia Pacific Journal of Research in Business Management*, 4(3).
232. Bawa, K. Sumninder and Prabhjot Kaur (2012), 'Empirical validity of Dividend Policy Models in the Indian Manufacturing MSMEs' *Excel International Journal of Multidisciplinary Management Studies*, 2(1), pp.18-39.
233. Bawa, K. Sumninder and Prabhjot Kaur (2012), 'Impact of Dividend policy on Sustainable Growth- A case study of Hotel Industry in India', *Global Management Horizon*, 1(1).
234. Bhalla, G.S. (2009), "Perceptions of Faculty towards College Management- A Case Study", *The IUP Journal of Management Research*, 8(8), pp. 59-76.
235. Bhalla, G.S. (2010), "College Management: Views of Students", *The IUP Journal of Management Research, 9(5),* pp 6-26.
236. Bhalla, G.S. (2011), 'Indian Higher Education System Revisited', *Indian Journal of Research,* 1(2).
237. Bhalla, G.S.; Mehton, R. (2012), 'Go Green: Opportunity for Sustainable Development", *The Journal of Envision,* 7(1), pp 121-130.
238. Bhalla, G.S.; Mehton, R. (2012), 'Ecological Degradation and Its Awareness-A Case Study', *Gian Jyoti E-Journal,* 1(3), pp 202-213.
239. Bhalla, G.S.; Nischal, S. (2012), 'Defending Human Rights through Right to Information (RTI) Act', *Reflection 2012*, 1(1), pp 88-92.
240. Bhalla, G.S.; Nischal, S. (2012), 'Understanding and Managing of Conflict in Organisations', *COSMOS,* .2, pp. 108-120.

241. Bhalla, G.S.; Nischal S. (2012), 'Trend & Swot Analysis of Foreign Direct Investment- In Context to Indian Retail Segment', *Impact of Foreign Direct Investment on Economic Growth in India,* Dec, pp. 45-52.
242. Bhalla, G.S.; Grover, N. (2012), 'Right to Education: A Ray Hope for Deprived Millions', *Reflection*, 1(1), pp 316-325.
243. Bhalla, G.S.; Grover, N. (2012), 'High Interest Rates & A Threat to India's Growth', *Almaniac,* 1(1), pp 172-177.
244. Bhatia, Aparna; Subhash Chander (2011), 'Stock Market Volatility in India: An Analysis of SENSEX and NIFTY Indices', *Asia Pacific Journal of Research in Business Management*, 2(8), pp 1-17.
245. Bhatia, Aparna, Poonam Mahajan, and Subhash Chander (2012), 'Determinants of Profitability of Private Sector Banks in India', *Journal of Commerce and Accounting Research,* 1(2), April,pp 14-22.
246. Bhatia, Aparna and Megha (2012), 'Customer Perception towards E-Banking Services: Identifying Major Contributing Factors', *GNA Journal of Management and Technology*, 7(1), October, pp 15-24.
247. Bhatia, Aparna and Khushboo Aggarwal (2012), 'Intellectual Capital and Corporate Performance of Indian Pharmaceutical Industry: A Panel Data Analysis', *Management and Change,* 16(1 & 2), 101-121.
248. Bhavet, Jasveen Kaur and Sanjay Bhayani (2012), "Role of Inflation in Investment Decisions-An Analytical Study', *Lingaya's Lalita Devi Journal of Professional Studies,* 2 (1), pp. 19-24.
249. Chadha, Neeru; Raghbir Singh (2008), 'Religious Tourism in Punjab – Needs and Expectations of Tourists', *The ICFAI Journal of Management Research*, 7(6), June, pp 7-22.
250. Chahal H.S; B.S Hundal (2009), 'Brand liking, Brand Loyalty and Brand Switching among Farmers of Punjab: A Study of Pesticides', *Effective Management,* 26(1), pp 1-7.
251. Chahal, H.S.; B.S Hundal (2010), 'Factors Responsible for Brand Linking, Brand Loyalty and Brand Switching Among Farmers of Punjab: A Study of Pesticides', *Indian Journal of Agricultural Marketing,* 24(1), pp 119-131.
252. Dusanjh, Harpreet; A.S Sidhu (2009), 'Spillover Effects of MNCs on Host Countries: A Review of Literature', *Global Business Review*, 10(2), pp 243-260.
253. Dusanjh, Harpreet; A.S Sidhu (2010), 'Policy Framework for Multinational Corporations in India: A Historical Perspective', *Indian Journal of Economics and Business*, 9(3), pp 507-557.
254. Gandhi, Shelly; Lakhwinder Singh Kang, (2011), 'Customer Satisfaction, Its Antecedents and Linkage between Employee Satisfaction and Customer Satisfaction: A Study', *Asian Journal of Business and Management Sciences*, 1(1), pp 129-137.

255. Gautam, Raj Kumar; Raghbir Singh (2011), 'Competitive Perception of Small Indian Manufacturers: A study of Punjab Units', *Journal of Competitiveness,* 3, pp 27-40.
256. Gautam, Raj Kumar; Raghbir Singh (2011), 'Marketing Mix Strategies of Small Manufacturers of India: Punjab Experience', *Management & Marketing,* 9(2), pp 195-216. 92.
257. Gautam, Raj Kumar; Raghbir Singh (2011), 'Branding and Market Practices of Small Entrepreneurs of India', *International Journal of Information, Business and Management,* 3(2), pp 109-137.
258. Gautam, Raj Kumar; Raghbir Singh (2011), 'Marketing Barriers of Small Firms: The Punjab Perspective', *SEDME*, 38(1), pp 61-74.
259. Gautam, Raj Kumar; Raghbir Singh (2012), 'Liberalization Impact on Indian Small Industries: An Empirical Study of Punjab', *Business Intelligence Journal,* 5(1), pp 113-122.
260. Gera, Navneet; Jasveen Kaur (2012), 'The Rising Tide and Development of Indian Economy through Services Sector', *Gyan Management,* 6(1), July-Dec.
261. Grewal, K. Tripta; A.S Sidhu (2012), 'Determinants of Job Satisfaction: A Study of Teachers working in Un-Aided Public Schools in Punjab, *Arth Anvesan* , 7(1), Bi Annual.
262. Grover, Saurabh; B.S Hundal (2010), **'**Consumer Behavior towards Tata Nano: A Perceptual Study' *The IUP Journal of Management Research,* 9 (6), pp29-37.
263. Grover, Saurabh; B.S Hundal, (2011), **'**Perceptual Study of Systematic Investment Plan (SIP): A Case Study of Service Class', *International Journal of Business Economics and Management Research,* 4(2), pp 1-11.
264. Handa, Deepali; Rekha Handa (2011), 'Indian Juggernaut: Rolling Beyond Crisis', *ALMANAC*, 1(1), pp 81-87.
265. Handa, Rekha (2009), 'Book Review-Crafting and Executing Strategy The Quest for Competitive Advantage Concepts and Cases', *Amity Business Review*, 10(2) p 52.
266. Handa, Rekha (2009), 'Carbon Trading: Money in the (Dirty) Air', *Chartered Secretary*, XXXIX (11), pp 1600-1604.
267. Handa, Rekha (2009), 'Banking on the Internet: Feeling the Pulse', in Balram Dogra, Kulwant Kaur and Deepak Kaushik (eds.) *Enterprise Information Systems in 21st Century Opportunities and Challenges* pp 419-428 ISSN: 0975-4733.
268. Handa, Rekha; Balwinder Singh (2011), 'Corporate Governance: The Road Less Travelled', *Global Management Horizon*, 1(1), pp 23-29.
269. Handa, Rekha; Balwinder Singh (2011), 'Evolving Dimensions of Management Education under the Impact of Information Technology', *RMS Journal of Management and IT*, 3(2), pp 93-99.
270. Handa, Rekha and Balwinder Singh (2012), 'Gender Diversity in Boardrooms: Strategizing through Women Power, in Taranjit Rao (ed.)

Business Challenges and Strategies in Emerging Global Scenario, Twenty First Century Publications, pp 83-90 ISBN: 978-93-80144-29-0.

271. Hundal, B.S;; Saurabh Grover (2010), 'Consumer Behavior towards Tata Nano: A Perceptual Study', *The IUP journal of Management Research,* 9 (6), pp 29-37.
272. Hundal, B.S.; Saurabh Grover (2011), 'Consumer Responsiveness towards SMS Advertisements and Its Effectiveness in the Present Scenario', *Gyan Management,* 5(2), pp 81-90.
273. Hundal, B.S.; Saurabh Grover (2011), 'Measurement of Consumer Buying Preferences towards Cars using Conjoint Analysis: A Comparative Study of Urban and Rural Consumers', *Hermeneutics*, 32(I), pp 111-122.
274. Hundal, B.S.; Saurabh Grover (2011), 'A Typology of Promotional Strategies among Purchasers of New Cars: A Factor Analytic Approach', *CGC Management Review*, I (2), pp 77-84.
275. Hundal, B.S.; Saurabh Grover (2011), 'The Power of Branding: A Study of Men's Wear', *Global Management Horizon*, 1(I), pp 67-74.
276. Hundal, B.S.; Saurabh Grover (2011), 'Comparison of Urban and Rural Consumers towards Cars: A Study of Measuring Preferences towards Attributes of Cars', *People's Journal of Management*, pp 58-62.
277. Hundal, B.S.; Saurabh Grover (2011), 'Comparative study of the preference of urban and rural consumers with respect to Attributes of Cars,' *People's journal of management*, 4, pp 58-62.
278. Hundal, B.S; Saurabh Grover (2011), 'Perceptual Study of Systematic Investment Plan (SIP): A Case Study of Service Class', *International Journal of Business Economics and Management Research*, 2(3), pp 1-11.
279. Hundal B.S.; Sukhmani (2012), 'Attitudinal study of portrayal of woman in print advertisement', *Indian Journal of Economics and Development*, 8(4), pp 39-49.
280. Hundal B.S.; Saurabh Grover (2012), 'Levels of aggregation of promotional strategies an empirical evidence of car industry', *Pravara Management Review*, 11(1), pp 9-13.
281. Jain, Abhay; B.S Hundal (2010), 'Examining the Usage Pattern of Mobile Phone Services in Rural Punjab', *Amity Management Analyst,* 24(1), pp 57-62.
282. Kang, Lakhwinder Singh; Payal (2009), 'Corporate Performance vis-à-vis Executive Compensation – An Empirical Analysis of Selected Indian Companies', *Asia-Pacific Business Review*, V(3), pp 19 – 26.
283. Kang, Lakhwinder Singh; Surinder Sharma (2010), 'Improving the Quality of Management Education in Punjab: Stakeholders' perspective', *NICE Journal of Business,* 5(2), pp 49-58.

284. Kang, Lakhwinder Singh; Shelly Gandhi (2010), 'Customer Service Orientation of Employees and Quality of Customer Service: Exploring a linkage', *International journal of Management and Cross Cultural Research*, 1(1).
285. Kang, Lakhwinder Singh; Surinder Sharma (2010), 'Quality of Management Education in Punjab: A Study of Hiring Managers' Perspective', *Indian Management Studies Journal*, 14(2), pp 29-42.
286. Kang, Lakhwinder Singh; Surinder Sharma (2010), 'Quality of Management Education and its Determinants – A Study of Business Schools of Punjab', *Management Dynamics,* 10(1), pp 53-69.
287. Kang, Lakhwinder Singh; Payal (2010), 'Personal Characteristics and Executive Compensation: A Study of Executive Directors in India', *The IUP Journal of Corporate Governance*, IX (3), pp 28 – 37.
288. Kang, Lakhwinder Singh; Surinder Sharma (2010), 'Management Education in Punjab: A Perceptive Study of MBA Alumni', *The IUP Journal of Management Research,* 9(2), pp 37 – 50.
289. Kang, Lakhwinder Singh; Harpreet Sidhu (2011), 'Leadership Development and Succession Planning at ICICI', *Asian Case Research Journal*, 15(2), pp 253-277.
290. Kang, Lakhwinder Singh; Harpreet Sidhu (2011), 'Talent Development at Tata Consultancy Services', *Global Business Review*, 12(2), pp 459-472.
291. Kang, Lakhwinder Singh; Rashpal Singh Sandhu (2011), 'Job and Family Related Stressors among Bank Branch Managers in India', *Indian Journal of Industrial Relations*, 47(3), pp 329-340.
292. Kang, Lakhwinder Singh; Surinder Sharma (2011), 'University and Private Management Institutes in Punjab: A Comparison', *The Fed Uni Journal of Higher Education,* August, VI (3), pp 32-41.
293. Kang, Lakhwinder Singh; Rashpal Singh Sandhu (2012), 'Impact of Stress on Health: A Study of Bank Branch Managers in India', *Global Business Review*, 13(2), pp 285-296.
294. Kang, Lakhwinder Singh; Surinder Sharma (2012), 'Managerial Skills and Attitude of MBA and Non-MBA employees: A Comparison', *Management and Labour Studies*, 37(2), pp 77-92.
295. Kang, Lakhwinder Singh; Payal (2012), 'Women on Corporate Boards of Directors – A Review', *Indian Journal of Corporate Governance*, 5(1), pp 33-49.
296. Kathuria, Lalit Mohan; Raghbir Singh (2008), 'Indian Apparel Export Industry in the Post-MFA Phase-out Period - Challenges and Strategies', *PARADIGM,* 12(2).
297. Kaur, Harminderjit; B.S Hundal, (2011), 'Internet Advertisement in Rural Areas: An Attitudinal Scrutiny', *Global Management Horizon,* I (II), pp 1-8.
298. Kaur, Harsandaldeep; Harmeen Soch and Nidhi Sabharwal (2009), 'Impact of Trust and Satisfaction on Behavioral and Attitudinal

Loyalty: Scale Development and Validation', *Business Analyst*, 3(2), pp. 77-98.

299. Kaur, Harsandaldeep and Harmeen Soch (2012), 'Validating Antecedents of Customer Loyalty for Indian Cell Phone Users', *Vikalpa,* 37 (4), October-December, 47-61.
300. Kaur, Jasveen (2010), "Comparative Analysis of Service Quality Dimensions of CRM Strategy for Customer Satisfaction in the Banking Industry in India"**,** *Sandesh-MastNath Journal of Management,* 4(4, 1, 2), pp 7-13
301. Kaur, Jasveen; Amarbir Singh (2011), 'Testing of Relative Dimensions of Dynamics of Green Marketing', *Global Management Horizon,* 1 (II*),* pp. 53-66.
302. Kaur, Jasveen and Ginni Syal (2012), 'Impact of Global Recession on the Employee Retention in the Indian Banking Industry', *in* Pradeep Kumar & Gangisetty (ed.) *Innovative Management Strategies,* Paramount Publishing House, Hyderabad, ISBN: 978-93-82163-21-3, pp. 43-49.
303. Kaur, Jasveen and Ginni Syal (2012), 'Universal Banking in India: A Yardstick for Competitive Advantage', in S.K. Singla, et al (ed.) *Emerging Management Practices in the Global Business Environment,* ISBN: 978-81-921766-1-1, pp. 157-165.
304. Kaur, Jasveen (2012), 'CRM in Indian Banking', *The Indian Journal of Commerce,* 65 (1), January-March, pp. 71-80.
305. Kaur, Jasveen; Baljit Kaur (2012), 'A Relative Exploration of the Customer Usage of "SSTs" in the Indian Banking Industry', *GNA Journal of Management & Technology,* 7.
306. Kaur, Kamalpreet; Mandeep Kaur (2009), 'Corporate Ownership Structure and Control: Evidence from India', *Icfai University Journal of Corporate and Securities Law,* 6(2), pp 53-65.
307. Kaur, Kamalpreet; Mandeep Kaur (2011), 'Adoption and Diffusion of Electronic Banking by Customers: Critical Analysis of Empirical Evidences', *International Journal of Financial Management,* 1(1), pp 25-39.
308. Kaur, Kuldeep and Gurpreet Randhawa (2012), 'Perception of Organizational Climate of Manufacturing Enterprises in Amritsar: An Empirical Study', *Business Analyst*, 33(1), pp. 177-190.
309. Kaur, Kuldeep and Gurpreet Randhawa (2012), 'Quality of Work Life Issues: A Comparative Study of Multinational and Indian Food Companies of Punjab', *Gian Jyoti e-journal*, 2(3), pp. 91-97.
310. Kaur, Mandeep; Sweety Narang (2008), 'Economic Value Added Reporting and Corporate Performance: A Study of Satyam Computer Services Ltd.', *The Icfai Journal of Accounting Research*, 7(2), pp 40-42.

311. Kaur, Mandeep; Kamalpreet Kaur (2008), 'Development of Plastic Cards Market: Past, Present and Future Scenario in Indian Banks', *Asia Pacific Business Review*, 4(4), pp 62-74.
312. Kaur, Mandeep; Deepak Devgan (2009), 'A Product Oriented Analysis of Shoppers' Choice towards Different Retail Formats', *Management and Labour Studies,* 4(1), pp 114-124.
313. Kaur, Mandeep; Sweety Narang (2009), 'Insights on Shareholder Value Addition from India's Wealth Club: A study of Selected Companies', *The Icfai University Journal of Accounting Research and Audit Practices,* 8(4), pp 20-51.
314. Kaur, Mandeep; Sweety Narang (2009), 'Shareholder Value Creation in India's Most Valuable Companies: An Empirical Study', *The Icfaian Journal of Management Research,* 8(8), pp 16-42.
315. Kaur, Mandeep; Kamalpreet Kaur (2010), 'Innovation Diffusion and Adoption Models: Foundation and Conceptual Framework', *Management and Labour Studies*, 35(2), pp 289-301.
316. Kaur, Mandeep; Sweety Narang (2010), 'EVA Disclosure in the Annual Reports of Different Companies: An Empirical Study', *Global Business Review,* 11(3), pp 395-420.
317. Kaur, Mandeep; Deepak Devgan (2010), 'India and Retailing-Two Promising Bandwagons of the New Millenium', *Gyan Management*, 3(1), pp 139-149.
318. Kaur, Mandeep; Samriti Kapoor (2011), 'Basel II in India: Compliance and Challenges', *Management and Labour Studies*, 36(4), pp 299-318.
319. Kaur, Mandeep; Nitasha Sharma and Samriti Kapoor (2012), 'An Analysis of Relationship between Service Quality and Banking Industry', *Asia Pacific Business Review of Research and Innovation,* 8, pp 399-406.
320. Kaur, Mandeep; Tina Vohra (2012), 'Women and Stock Market Participation: A Review of Empirical Evidences', *Management and Labour Studies*, 37(4), pp 283-293.
321. Kaur, Mandeep; Tina Vohra (2012), 'Understanding Individual Investor Behavior: A Review of Empirical Evidences', *Pacific Business Review International*, 5 (6), pp 10-18.
322. Kaur, Mandeep and Nitasha Sharma (2012), 'Growth and Development of Tourism Industry', *Journal of Hospitality and Application Research,* 7(2), January-June, pp 14-24.
323. Kaur, Mandeep and Samriti Kapoor (2012), 'Basel III Framework: A Road to Banking System', *The Management Accountant*, 47 (8), August, pp 938-943.
324. Kaur, Mandeep and Samriti Kapoor (2012), 'Basel II Regulatory Compliance among Asia-Pacific Countries', *Zenith International Journal* of *Business Economics* & *Management Research*, 2(3), March, pp 29-42.

325. Kaur, Mandeep and Nitasha Sharma (2012), 'Tourists' Perceptions toward E-tourism: An Empirical Evidence from Punjab', *Indian Management Studies Journal,* 16(1), April, pp 129-145.
326. Kaur, Pavleen; Raghbir Singh (2011), 'TV Viewing Practices of Indian Children', *International Journal of Research in Commerce, IT and Management,* 1(5)
327. Kaur, Pavleen; Raghbir Singh (2011), 'Need for Parental Control and Mediation in Food Advertising to Children: A Review of Previous Research', *Information Management and Business Review,* 3(3), PP 171-177.
328. Kaur, Pavleen (2011), 'Foods Promotion to Children: Understanding the Need of Responsibility in Marketing to Children'**,** *Information Management and Business Review*, 2, pp 133-137.
329. Kaur, Pavleen (2011), 'Perception of Consumers towards Processed Foods-A Comparison of Urban and Rural Respondents', *Journal of Management and Information Technology*, Vol. 3, (Available at: http://www.gnimonline.org/journal_index1.aspx)
330. Kaur, Rajwant; A.S Sidhu (2011), 'Re-examining Export-led Growth Hypothesis: A Review of Literature', *International journal of Development Research and Quantitative Techniques*, 1, Spring, pp 13-23.
331. Kaur, Rajwant; A.S Sidhu (2011), 'Performance of Indian Exports during the Post WTO Period: A Critical Evaluation', *DIAS Technology Review-The International Journal for Business & IT*, 8(1), pp 58-73.
332. Kaur, Rajwant; A.S Sidhu (2012), 'Impact of Trade Liberalisation on India's Balance of Trade: A Critical Evaluation', *Business Analyst*, 32(2), pp 145-164.
333. Kaur, Rajwant; A.S Sidhu (2012), 'Impact of Trade Liberalisation on India's balance of trade: A critical evaluation', *DIAS Technology Review-The International Journal for Business & IT*, 8(2), pp 43-53.
334. Kaur, Rajwant; A.S Sidhu (2012), 'Global Recession and Its Impact on Foreign Trade with Special Reference to India', *International Journal of Economics and Business Studies,* 3(1), pp 61-75.
335. Kohli, Reena; Bikram Jit Singh Mann (2012), 'Analyzing Determinants of Value Creation in Domestic and Cross Border Acquisitions in India', *International Business Review*, 21(6), pp 998-1016.
336. Kumar, Sunil; N.K. Gupta & Jasveen Kaur (2011), 'Direct Tax Code Justified But Not a Complete Exercise', *M.M. University Journal of Management Practices,* 5(2), pp. 26-38.
337. Kumar, Sunil; Sambhavna Gupta; Jasveen Kaur (2011), 'Financial and Operating Performance of IT Industry-A Case Study', *EKANSH, Journal of Engineering, ICT & Management, 3,* pp 23-26.

338. Hundal, B.S (2008), 'Significant Consideration in the Purchase of Consumer Durables (A case Study of Rural Consumer)', *The ICFAI Journal of Marketing Management,*.12(2), pp 6-16.
339. Mann, Bikram Jit Singh; Reena Kohli (2008), 'An Empirical Analysis of Bank Mergers in India: A Study of Market Driven versus Non-Market Driven Mergers', *Decision*, 35(1), pp 47-72.
340. Mann, Bikram Jit Singh; Sunpreet Sahni (2008), 'Understanding Customer Service Quality and Customer Loyalty of Internet Banking in Private and Public Sector Banks', *Gyan Management*, 2(1), pp 129-140.
341. Mann, Bikram Jit Singh; Rashmi (2008), 'Case analysis of management case 'Chilli in Soup (A)' *Vikalpa,,* 33(1), pp135-137.
342. Mann, Bikram Jit Singh; Raghbir Singh (2008), 'Mapping Profile of Loyalty Segments: An Application of Discriminate Analysis', in Pramod Rao (ed.) *Micro Marketing: Concepts and Cases*, Hyderabad: The ICFAI University Press, pp ISBN: 81-314-1393-4
343. Mann, Bikram Jit Singh; Reena Kohli (2009), 'Impact of Mode of Payment and Insider Ownership on Target and Acquirer's Announcement Returns in India', *Vikalpa*, 34(4), pp 51-66.
344. Mann, Bikram Jit Singh; Reena Kohli (2009), 'HDFC Bank and CBoP Merger: A Quest for Growth', *ICFAI Journal of Mergers and Acquisitions*, 6(1), pp 38-59.
345. Mann, Bikram Jit Singh; Rashmi, (2010), 'Predicting Repeat Purchase Behaviour: An Indian Experience'*, Asia Pacific Business Review*, 6(4), pp 108-117.
346. Mann, Bikram Jit Singh; Rashmi (2010), 'Demographics as Drivers of Repeat Purchase Behaviour in India', *Management and Change*, 14(1), pp 53-68.
347. Mann, Bikram Jit Singh; Reena Kohli (2011), 'Target Shareholders' Wealth Creation in Domestic and Cross Border Acquisitions in India', *International Journal of Commerce and Management*, 21(1), pp. 63-81.
348. Mann, Bikram Jit Singh; Sahni, Sunpreet (2011), 'Inter-Relationship of Web Site Interactivity and Customer Outcomes: Building Trust in Internet Banking Web Site', *Global Business Review*, 12(1), pp 99-115.
349. Mann, Bikram Jit Singh; Sunpreet Kaur (2012), 'Profiling Adopter Categories of Internet Banking in India: An Empirical Study'*, Vision: The Journal of Business Perspective*, 16(4), pp 283-295.
350. Mann, Bikram Jit Singh; Reena Kohli (2012), 'Do Brand Acquisitions Create Wealth for Acquiring Company Shareholders? Evidence from India'*, Journal of Product and Brand Management*, 21(4), pp 265-274.

351. Mogla, Monika; Fulbag Singh (2008), 'Impact of Mergers on Profitability of Acquiring Companies', *ICFAI Journal of Mergers and Acquisitions*, 5(2), pp 60-76.
352. Mogla, Monika; Fulbag Singh (2010), 'Profitability Analysis of Acquiring Companies', *IUP Journal of Applied Finance,* 16(5), pp 72-83.
353. Mogla, Monika; Fulbag Singh (2010), 'Market Performance of Acquiring Companies', *Paradigm,* 14(1), pp 72-84.
354. Mohindru, Aparna; Subhash Chander (2008), 'Impact of Industry on Nature and Pattern of Diversification in Indian Corporate Sector', *Management & Change,* 12(1), pp 51-80.
355. Mohindru, Aparna; Subhash Chander, (2008), 'Relationship between diversification and corporate Performance: Evidence from Indian Companies', *Pacific Business Review*, 1(2), pp 1-15.
356. Mohindru, Aparna; Subhash Chander (2008), 'Nature and Pattern of Diversification: Review of Empirical Research', *Journal of Accounting and Finance*, 22(2), pp 56-88.
357. Mohindru, Aparna; Subhash Chander (2010), 'Diversification Strategy and Corporate Performance in India: An Empirical Investigation', *Asia Pacific Business Review,* 6(3), pp 124-137.
358. Nagar, Shruti, Sunil Kumar & Jasveen Kaur (2012), 'Time Driven Activity Based Costing-A Better Approach', *MMU Journal of Management Practices,* pp. 11-14.
359. Narang, Leenu; Lakhwinder Singh Kang (2010), 'Human Resource Management Practices and Discretionary Behaviour', *Business Analyst*, 31(2), pp 115-122.
360. Narang, Leenu; Lakhwinder Singh Kang (2010), 'Human Resource practices in Indian Organizations: An Empirical Study', *Management and Labour Studies*, 35(1), pp 25 – 34.
361. Narang, Leenu; Lakhwinder Singh Kang (2011), 'Human Resource Practices and Organizational Trust: An Empirical Study', *Paradigm*, XIV (1&2), pp 66-71.
362. Narang, Leenu; Lakhwinder Singh Kang (2011), 'Human Resource Management Practices and Organizational Commitment', *Prajnan*, XI (2), pp 87-98.
363. Narang, Leenu; Lakhwinder Singh (2011), 'Human Resource Practices and Perceived Organizational Support – A Relationship in Indian Context', *Management and Labour Studies*, 36(3), pp 217-224.
364. Narang, Leenu; Lakhwinder Singh (2012), 'Role of Perceived Organizational Support in the Relationship between HR Practices and Organizational Trust', *Global Business Review,* 13(2), pp 239-250.
365. Prakash, Om; A.S Sidhu (2012), 'Direct Tax Reforms in India: A Comparative Study of Pre and Post-Liberalization Periods', *The IUP Journal of Public Finance,* 9(1), pp 54-76.

366. Randhawa, Gurpreet; A.S. Sidhu (2008), 'Technology Development in India: An Evaluation", *DIAS Technology Review: The International Journal of Business & IT,* 5(1), pp.46-55.
367. Randhawa, Gurpreet (2009), 'Nurture Self-Efficacy for Individual and Organisational Success', *IUB Journal of Social Sciences and Humanities*, 7(1), pp. 67-78.
368. Randhawa, Gurpreet (2009), 'Teachers Stress: Search for Right Vision', *NICE Journal of Business*, 4(1), pp 81-88.
369. Randhawa, G. (2009), 'A Study of Work Performance and its Correlates', *Indian Management Studies Journal*, 13(1), pp 131-135.
370. Randhawa, G. (2010), 'E- Literacy and Rural India', in H.S.Chopra (ed.) *Information Access Initiatives and Rural India*", New Delhi: Shree Publishers & Distributors, pp 472-481, ISBN No. 978-81-8329-368-6.
371. Randhawa, Gurpreet; A.S. Sidhu (2011), 'Status of Public Health Care Services during the Process of Liberalization: A Study of Punjab', *Pravara Management Review (PMR),* 10(2), pp 10-15.
372. Randhawa, Gurpreet (2011), 'Adjustment among the University Students', *Asia Pacific Journal of Research in Business Management*, 2(4), pp. 149-156.
373. Sabharwal, Nidhi; Harmeen Kaur Soch and Harsandaldeep Kaur (2008), 'Service Recover Research: A Review and Future Directions', *Gyan Management*, 2(2), 117-135.
374. Sabharwal, Nidhi; Harmeen Soch and Harsandaldeep Kaur (2010), 'Are We Satisfied with Incompetent Services? A Scale Development Approach for Service Recovery', *Journal of Services Research*, 10(1), 125-142.
375. Saigal, Brinder Singh; Bikram Jit Singh Mann and Rashmi (2010), 'Comparative analysis of Sources and Drivers of information Search Behaviour in UK and India', *Management and Labour Studies*, 35(2), pp 169-188.
376. Saigal, Brinder Singh; Bikram Jit Singh Mann and Rashmi (2010), 'The Mediating Role of Demographics and Time Pressure in Information Search Process: A Comparative Analysis of English and Indian Consumers', *IUP Journal of Marketing Management*, 9(1&2), pp 7-22.
377. Sharma, Reem; Fulbag Singh (2009), 'Voluntary Corporate Governance Disclosure: A Study of Selected Companies in India', *ICFAI Journal of Corporate Governance,* 8(3&4), pp 91-108.
378. Sharma, Surinder; Lakhwinder Singh Kang (2008), 'Contemporary Status of Management Education in India: A critical Appraisal', *Effective Management*, 25(1), pp 22-27.
379. Sidhu, A.S.; Harpreet Dusanjh (2010), 'National Telecom Policy 1999-A Post Implementation Appraisal', *The IUP Journal of Infrastructure*, 8(3), pp 49-57.

380. Singh, Fulbag; Swinder Singh (2009), 'Equity Return and Pricing Mechanism of Equity Shares in India – A Comparative Study of Fixed Price and Book Building Issues', *PCMA Journal of Business,* 1(2), pp 1-31.
381. Singh, Fulbag; Davinder Kaur (2010), 'Banking Business, Profitability and Asset Quality- A Comparative Study', *Punjab Journal of Business,* 6(2), pp 61-82.
382. Singh, Fulbag; Davinder Kaur (2010), 'Service Quality and Customer Satisfaction in Banks: A Review', *Prajnan Journal of Social and Management Sciences*, 39(2), pp 109-126.
383. Singh, Fulbag; Davinder Kaur (2010), 'Customer Awareness Regarding Banking Services: An Empirical Study', *Vinimaya, National Institute of Bank Management*, 31(2), pp 33-41.
384. Singh, Fulbag; Davinder Kaur (2011), 'Customer Perception of Banking Services: A Comparative Study of Rural and Urban Branches', *Asia-Pacific Business Review*, 7(2), pp 37-47.
385. Singh, Fulbag; Manpreet Kaur (2011), 'Declining Industrial growth of SMEs in Punjab: Causes and Remedies', *PCMA Journal of Business*, 3(2), pp 165-175.
386. Singh, Fulbag; Priyansha Mahajan; Manpreet Kaur (2011), 'Switching Barriers and Antecedents to Mobile Number Portability: An Exploratory Study of Switchers vis-à-vis Stayers', *Asia-Pacific Business Review*, 7(4), pp 143-155.
387. Singh, Fulbag; Davinder Kaur; Priyansha Mahajan (2011), 'Measuring Perceived Service Quality: Rural vis-à-vis Urban Bank Customers', *CGC Management Review*, 2(1), pp 1-11.
388. Singh, Fulbag; Davinder Kaur; Priyansha Mahajan (2012), 'Bank and Product Selection: A Comparison of Rural and Urban Customers', *Prajnan,* 60(4), pp 289-305.
389. Singh, Fulbag; Jaspreet Kaur (2012), 'Factors Influencing Investors' Investment Behaviour in Amritsar District of Punjab', *RMS Journal of Management and IT*, 4(1), pp 18-27.
390. Singh, Fulbag; Priyansha Mahajan (2012), 'How Much Socially Responsible the Corporates Are?', *International Journal of Business Ethics in Developing Economies,* 1(2), pp 1-5.
391. Singh, Fulbag; Priyansha Mahajan (2012), 'Debt Restructuring: A Lifeline for Corporates during Economic Recession', *PCTE Journal of Business Management*, 9(1), pp 16-27.
392. Singh, Fulbag; Baljeet Singh (2012), 'Impact of Awareness about History on Trust and Confidence in giving the donation- A Case Study of All India Pingalwara Charitable Society', *IOSR Journal of Humanities and Social Science*, 3(1), pp 1-10.
393. Singh, Fulbag; Davinder Kaur (2012), 'Location and Education Background: A Comparison of their Moderating Role in Customer

Awareness regarding Banking Services', *ICFAI Journal of Marketing Management*, 11(1), pp 42-61.
394. Singh, Jaspal; Gagandeep Kaur (2009), 'Determinants of job Satisfaction in Select Indian Universal Banks-An Empirical Study', *Asia Pacific Business Review*, 5(4), pp 43-55.
395. Singh, Jaspal; Poonam Sharma (2009), 'Revisiting Literature for Taxable Entity Determination and Individual Income Tax Compliance,' *The Accounting World*, 9(1), pp 55-60.
396. Singh, Jaspal; Poonam Sharma (2010), "Income Tax Policy Design & Implementation in India- Individual Assesses' Attitude, *Global Business Review*, 11(2), pp.135-152.
397. Singh, Jaspal; Poonam Sharma (2010), 'Compliance Cost Burden of Individual Income-tax Assessees in India: An Empirical Study, '*Management and Labour Studies*, 35(1), pp.7-24.
398. Singh, Jaspal; Gagandeep Kaur (2011), 'Determinants of Customer Satisfaction: An empirical study of select Indian (Universal) Banks', *The IUP Journal of Bank Management*, 10(1), pp.31-45.
399. Singh, Jaspal; Namrata Sandhu (2011), 'Impact of Television Commercials on Social & Moral Behaviour of Viewers', *International Journal of Humanities and Social Sciences*, 1(7), pp 178-187.
400. Singh, Jaspal; Namrata Sandhu (2011), 'What Interests the Indian Television Audience – An Empirical Study,' *Asia-Pacific Business Review*, 7(3), pp134-145.
401. Singh, Jaspal; Namrata Sandhu (2011), 'Building Ethical Considerations into Advertising Practices – An Indian Evidence, *International Journal of Business and Social Sciences*, 2(18), pp. 291-301.
402. Singh, Jaspal; Gagandeep Kaur (2011), 'Customer Satisfaction and Universal Banks – An Empirical Study, *International Journal of Commerce & Management*, 21(4), pp 327-48.
403. Singh, Lakhwinder; Leenu Narang (2008), 'Behavioral Revelation Concerning E-Recruitments', *ICFAI Journal of Organizational Behavior*, VII (4), pp 45-53.
404. Singh, Parampal; Raghbir Singh (2012), 'Growing Parental Concern about TV Advertising to Children: A Review', *International Journal of Retailing and Marketing*, 4(2), pp 24-30.
405. Singh, Raghbir; Sandeep Vij (2008), 'Public Attitude toward Advertising: An Empirical Study of Northern India', *The ICFAI Journal of Marketing Management,* 7(1), pp 49-66.
406. Singh, Raghbir; Masha Sondeep (2010), 'Consumer Preferences towards New Retail Formats', *Apeejay Journal of Management and Technology,* 5(2), pp 116-125.
407. Sukhmani, B.S Hundal (2009), 'Effectiveness of Television Advertisements of FMCGs: A Perceptual Study of Rural Consumers', *Effective Management,* 26(1), pp 26-32.

408. Singh, Raghbir; Arunesh Garg (2011), 'Satisfaction and Problems faced by Sales force and Sales Agents in General Insurance: A Comparative Study of Public and Private Companies', *Indian Management Studies Journal,* 15(2), pp 1-19.
409. Singh, Raghbir; Neeru Chadha (2011), 'Effect of Income on the Needs and Expectations of Tourists: A case study of Punjab', *Indian Management Studies Journal*, 15(1), pp 1-21.
410. Soni, Pavleen; Raghbir Singh (2012), 'Mediation of TV advertising to Children: An Empirical Study of Indian Mothers', *Society and Business Review*, 7(3), pp 244-259.
411. Sukhmani; B.S. Hundal (2011), **'**Role of Television Advertising and its Effect on the living Habits of Rural Consumers', *Prabandhan: Indian Journal of Management,* 4 (2), pp 39-46.
412. Sukhmani; B.S Hundal, (2011), **'**Role of Television Advertisements and Other Elements of Promotion Mix in Influencing Rural Consumers for Purchase of Toiletries' *International Journal of Business and Information Technology,*1 (1), pp 60-74.
413. Thakur, Anand; B.S Hundal (2008), 'Perception of Consumers towards Promotional Schemes for Durables: A Study in Punjab', *The ICFAI Journal of Consumer Behaviour,* 3(2), pp 17-31.
414. Thakur, Anand; B.S Hundal (2008), 'Examining Rural Urban Purchase Behaviour towards Washing Machines: An Empirical Study in Punjab', *Asia Pacific Business Review*, 4(3), pp 94-99.
415. Thakur, Anand; B.S Hundal (2010), **'**A Rural Urban Study on Purchase Behavior towards Durables Using Factor Analytic Approach' *Invertis Journal of Management,* 2 (2), pp57-62.
416. Thakur, Anand; B.S. Hundal (2012), 'Psychographics of Rural-Urban Purchase Behaviour towards Consumer Durables in Punjab', *IIMS Journal of Management Science*, 3(1), pp 22-33.
417. Vij, Sandeep; Raghbir Singh (2011), 'Dimensions of Consumers' Advertising Beliefs in India', *Indian Journal of Marketing*, 41(3), pp 21-32 & 43.

Punjab School of Economics

418. Arora, Vani; Singh, Parminder (2009), "Economic Reforms and Productivity Growth in Indian Manufacturing Sector", ICFAI Journal of Industrial Economics, 5(3), pp. 35-47.
419. Bhatia, Seozy; Dhindsa, Paramjeet (2008), "Public Health Expenditure and Health Status in India- An Inter-state analysis (Abstract)", *ISLE*, pp.43-45.
420. Bhatia, Seozy; Dhindsa, Paramjeet (2008), "Rural Development and Microfinance", *SEDME,* pp.1-11.

421. Bhatia, Seozy; Dhindsa, Paramjeet (2008), "Micro Credit and Rural Development- A Case Study of Amritsar", by Rais Ahmed, Mittal Publications, New Delhi.
422. Bhatia, Seozy; Dhindsa, Paramjeet (2009), "Micro Credit and Rural Development- A Case Study of Amritsar", *Micro finance and Women Empowerment*, pp.513-20.
423. Bhatia, Seozy; Dhindsa, Paramjeet (2009), "Female work participation in the emerging labour market –case study of Sarhali village of Tarn-Taran District", *International Journal of Development and Agricultural Economics*, 1(6), pp.127-31.
424. Bhatia, Seozy; Dhindsa, Paramjeet (2010), "Gender Development Index: An Inter-State Analysis", *Indian Journal of Economics and Business*, pp.15-25.
425. Bhatia, Seozy; Dhindsa, Paramjeet (2011), "Health Status in India- An Inter-State Analysis", *PSE Economic Analyst.*
426. Bhatia, Seozy; Dhindsa, Paramjeet (2011), "Child Labour in Rural Areas-A Case study of Amritsar", *Indian Journal of Human Rights*.
427. Bhatia, Seozy; Dhindsa, Paramjeet (2011), "Regional Disparities of Gender Development Index", *Kashmir Journal of Social Sciences*, pp.1-15.
428. Bhatia, Seozy; Dhindsa Paramjeet (2013), "Child Health and Malnutrition in India – A Study of Border Villages of Punjab", *Indian Journal of Social Development – An International Journal,* 13(2), December, pp.231-40.
429. Bharadwaj, R.K., Makkar, Urvashi (2009), "Trends and Determinants of Foreign Direct Investment in India (Post Liberalisation Period)", *Recent Practices in Retail in India*, Bharati Bank Organisation, Delhi, pp.58-69.
430. Bhullar, Gurinderjit S.; Dhillon, Sharanjit S. (2010), "Human Capital Formation and Economic Development : A Causality Analysis", *Journal of Economic and Social Development*, 6(2).
431. Chadha, Vikram (2008), "Reflections on the Quality of Teaching in Indian Universities", *University Today,* July, pp.6-7.
432. Chadha, Vikram (2008), "Stock of Technical Manpower in India: Prospects for Employment in the Emerging Labour Markets", *Indian Journal of Labour Economics*, 51(4), pp.831-42.
433. Chadha, Vikram and N. Chadha (2008), "A Regional Perspective on Rural Industrialisation in India: The Case of Punjab Economy", *Journal of Rural Development*, 27(2), pp.213-30.
434. Chadha, Vikram (2008), "The State of Agricultural Research in Punjab: Imperative for Rejuvenation", in Autar Dhesi and Gurmail Singh (eds.), *Rural Development in Punjab: A Success Story Gone Astray,* London and New Delhi: Rutledge, pp.179-87.
435. Chadha, Vikram (2009), "Geo-Economic Dynamics of the ICT Sectors Location in India: Determinants and Implications for Growth

(Abstract)", *The IEA 92nd Annual Conference Volume Part-I,* Bhubaneswar, Orissa: School of Management, KIIT University, December, pp.875.
436. Chadha, Vikram (2009), "Responsibilities and Moral Obligations of Universities", *PunjabNewsline.com,* November.
437. Chadha, Vikram; Kapoor, S. (2010), "Globalisation and the Emergence of India' Knowledge Economy", in K.C. Roy and A. Medhekar (eds.), *Globalisation and Development: Country Experiences*, New York, USA: Nova Science Publishers, pp.31-46.
438. Chadha, Vikram; Kapoor, S. (2012), "Role of ICT in Exacerbating the Knowledge Economy of India", *World Journal of Social Sciences (Australia),* 2(1), January, pp.101-15.
439. Chadha, Vikram; Kumar, N. (2012), "Impact of India's New Competition Policy on the Competitiveness of Indian Industry", *World Review of Business Research (Australia),* 2(2), March, pp.120-35.
440. Chadha, Vikram; Kapoor S. (2012), "Performance of ICT Sector in India under Globalized Regime: 1991-2007", *World Journal of Social Sciences (Australia),* 2(3), May, pp.1-14.
441. Chadha, Vikram; Kapoor, S.; Choudhary, P. (2012), "Growth and Structure of Employment in India's ICT Sectors in the Post Reforms Period: Status, Problems, Policies and Prospects", *The Indian Society of Labour Economics: 54th Annual Conference – Summaries of Conference Papers, Varanasi:Banaras Hindu University*, pp.55-57.
442. Chadha, Vikram; Kapoor, S. (2013), "Role of Information and Communication Technology (ICT) in the Knowledge Economy of India", *Journal of Regional Economic Studies,* 3(1), pp.23-42.
443. Chadha, Vikram (2014) "India's Global Integration and the Emergence of India's Knowledge Economy : The Role of ICT Sectors" *Journal of South Asian Economy*.
444. Chadha, Vikram; Kapoor, S. (2013), "Performance of ICT Sectors in India Under Globalized Regime : 1991-2007", in S.Kar; M.A. Roberts and E. Ali (eds.), Human Development in the New Millenium, New Delhi: Regal Publications, pp.101-11.
445. Dhillon, Sharanjit S.; Sehgal, Ajay (2008), "Educational Expenditure and Attainments in India: An Inter-State Analysis", *Indian Journal of Labour Economics,* 51(4), December.
446. Dhillon, Sharanjit S.; Kaur, Manjinder (2009), "An Empirical Analysis of Premium on Indian Depository Receipts", *International Journal of Business Research*, 9(1).
447. Dhillon, Sharanjit S.; Singh, Kuldip (2010), "Economic Development and Environment Degradation: An International Experience", *The Indian Economic Journal*, Special Issue on Climate Change, Environment and Economic Development, December.

448. Dhillon, Sharanjit S.; Sehgal, Ajay (2010), "Global Financial Crisis and its Impact on Health Sector in India", *Social Medicine*, 4(2) & (1), March and September.
449. Dhillon, Sharanjit S.; Kaur, Prabhjot (2010), "Measuring Human Poverty in India: An Inter State Analysis", *OIDA International Journal of Sustainable Development*, 2(5), pp 29-40.
450. Dhillon, Sharanjit S.; Singh, Jatinder Bir (2011), "Cost of Hospitalisation of Tuberculosis Patients in Indian Punjab", *Proficient – an International Journal of Medicine*, 2(1), January.
451. Dhillon, Sharanjit S.; Kaur, Manjinder (2011), "Testing Weak Form of Efficiency Hypothesis for Indian Stock Market", *Finance India*, 25(3), September.
452. Dhillon, Sharanjit S.; Singh, Kuldip (2012), "Educational Development Index of Punjab – An Inter-District Analysis", *Journal of Educational Planning and Administration*, 26(3), July. pp.413-25.
453. Dhillon, Sharanjit S.; Singh, Kuldip (2012), "Economic Development and Environment Degradation : An International Experience", Anil Kumar Thakur and Mithilesh Kumar Sinha (Eds.), *Climate Change and Environment Management,* Regal Publications (Published on behalf of The Indian Economic Association), New Delhi, pp.58-71.
454. Gill, Geetinder; Singh, Parminder (2010), "Economic Efficiency in Indian Small Scale Sector: A Comparative Analysis of Pre and Post-Liberalization Period", *Punjab Journal of Business Studies*, 6(2), September, pp.44-62.
455. Gill, Maneet; Kaur, Kuldip (2009), "Ownership Pattern, Size and Growth of Firms in India – An Analysis", *Anvesak*, 39(1), June, pp.93-117.
456. Kalra, Priya; Dhindsa, Paramjeet (2011), "Networking of Firms in Industrial Clusters: A Case of Sports Goods Cluster at Jalandhar", *Gyan Management.*
457. Kalra, Priya; Dhindsa, Paramjeet (2012), "Factors Determining the Growth of Sports Goods Cluster at Jalandhar", *HSB Research Review*, 5.
458. Kaur, Baljit; Sethi, A.S. (2008), "Liberalisation and Social Sector Expenditure in India: An Inter-state Analysis", *The Journal of Indian Association for Research in National Income and Wealth*, *29*, (1): pp.79-92
459. Kaur, Gian; Bawa, Sherry (2008), "Demand for Money by Business Firms in India", *Journal of Accounting and Finance*.
460. Kaur, Gian; Kaur, Sarabjit (2008), "An Econometric Study of Relative Effectiveness of Monetary and Fiscal Policy in India", *Paradigm*, 12(1), pp. 98-103.
461. Kaur, Gian; Kaur, Sarabjit (2008), "Innovations in Consumer Payments: A Survey in India", Innovations and Applications of IT &

Management for Economic Growth of India, Deep & Deep Publications, New Delhi.
462. Kaur, Gian; Kaur, Lavleen; Joshi, A.S. (2010), "An analytical Study of Kasan Credit Card Scheme 12 in Amritsar District of Punjab", *Journal of Agricultural Development and Policy*, 20(1), pp. 89-100.
463. Kaur, Gian (2010), "Stability of the Demand for Money Function by Business Firms in India", *IUP ICFAI Journal of Monetary Economics*, 8(4).
464. Kaur, Gian; Bawa, Sherry (2010), "Impact of Mergers on the Cost Efficiency of Indian Commercial Banks", *Eurasian Journal of Business and Economics*, 3(5), pp. 27-50.
465. Kaur, Gian; Kaur, Pardeep (2010), "Bank Mergers and Cost Efficiency Gains Among Commercial Banks in India", *Indian Journal of Economics & Business*, 9(1), pp.189-206.
466. Kaur, Gian; Mohindra, Versha (2011), "Efficiency of Regional Rural Banks in India : An Application of DEA" *Economic Affairs*, 56(2), June 2011, pp.189-198.
467. Kaur, Gian; Mohindra, Versha (2011), "An Examination of Technical, Pure Technical and Scale Efficiencies of Regional Rural Banks in India", *Using Data Envelopment Analysis*, 56(3), September.
468. Kaur, Gursharan; Dhindsa, Paramjeet (2011), "Women in Unorganized Sector- A Case Study of Female Domestic Workers of Amritsar City", *Conference Volume of 53rd Annual Conference of the Indian Society of Labour Economics*, pp.28-29.
469. Kaur, Gursharan; Dhindsa, Paramjeet (2012), "Consumption Pattern and Expenditure Elasticities of Rural Poor Households in Punjab", *International Journal of Research in Commerce Economics and Management*.
470. Kaur, Gursharan; Dhindsa, Paramjeet (2012), "Pattern of Consumption of Food and its Nutrient Value among Rural Households of Punjab", *Special Issue of Crop Improvement Journal*, 2(10), pp. 1173.
471. Kaur, Gursharan; Dhindsa, Paramjeet (2012), "Panchayati Raj Institutions and Rural Development- Post 73rd Amendment Scenario", *Journal of Research in Peace Gender and Development*, May, 2(5), pp.123-31.
472. Kaur, Kuldip; Dhindsa, Paramjeet (2009), "Asian Economic Integration: Gateway to Prosperity", *WTO and Asian Vision,* New Delhi: Deep and Deep Publication. Pp.538-546.
473. Kaur, Kuldip (2008), "The Determinants of Debt Equity Mix – An Analysis of Indian Firms", *Finance India,* 22(2), June, pp.487-500.
474. Kaur, Kuldip (2008), "Structural Changes in Indian Economy – Role of Service Sector", *IPE Development Convention*, 1, Concept Publishers, New Delhi, pp.231-243.
475. Kaur, Kuldip (2008), "Education, Growth and Wages in India- An Interrelationship", Conference Volume Part-II, December, pp.777-87.

476. Kaur, Kushwinder; Kaur, Kuldip (2008), "Growth and Profitability of Acquiring Firms in India - An Analysis", *Anavesak,* 38(2), December, pp.72-88.
477. Kaur, Kuldip; Kaur, Kushiwnder (2008), "Factors in Gender Discrimination in India – An Inter State Analysis", *Indian Journal of Human Rights and Social Justice*, 3(1-2), pp.375-88.
478. Kaur, Kuldip (2008), "Economic Reforms, Efficiency and Profitability of Capital in Some Indian Firms", *PSE Economic Analyst*, 28, pp.63-74.
479. Kaur, Kuldip; Gill, Maneet (2009), "Determinants of Non- Farm and Farm Wage Differentials in Punjab – An Inter District Analysis", Labour and Sustainable Development, Serials Publications, New Delhi, pp.85-94.
480. Kaur, Kuldip; Gandhi, Meenakshi (2009), "Micro Finance and Women Empowerment in Jalandhar – A Case Study", Micro Finance and Women Empowerment (Part – I), Mittal Publications, New Delhi, pp.119-30.
481. Kaur, Kuldip (2009), "Primary Agricultural Co-operative Societies in Punjab – An Evaluation", Co-operative Management and Development (Part – II), Mittal Publications, New Delhi, pp.241-50.
482. Kaur, Kuldip (2009), "Asian Economic Integration: Gateway to Prosperity", *WTO and Asian Union*, Deep & Deep Publications Pvt. Ltd., pp.538-46.
483. Kaur, Kuldip; Gill, Maneet (2009), "Banking Sector Reforms and Efficiency of Banks in India – A Comparative Analysis", *,Apeejay Journal of Management and Technology*, 4(1), pp.60-69.
484. Kaur, Kuldip; Kumar, Sunil (2010), "Corporate Ownership and the Technical and Scale Efficiency of Pharmaceutical Firms in India – Empirical Evidence*", South East European Journal of Economics and Business*, 5(2), November, pp.95-106.
485. Kaur, Kuldip (2010), "Corporate Ownership and Efficiency of Firms – An Empirical Evidence from Indian Manufacturing Industry", *International Journal of Economics*, 4(2), December, pp. 249-65.
486. Kaur, Kuldip; Gill, Maninder (2011), "Risks Associated with Celebrity Endorsements – An Empirical Analysis from Punjab", *Indian Journal of Marketing*, 41(5), May, pp.10-19.
487. Kaur, Kuldip; Saini, Seema (2011), "Impact of Urbanization on Environment and Socio-Economic Variables in Punjab", *Indian Journal of Regional Science*, 43(3), pp.40-47.
488. Kaur, Kuldip; Gill, Maninder (2011), "Comparative Effectiveness of Film Star and Sports Celebrity Endorsement on Purchase Decision of Consumer Durables – An Empirical Analysis", *International Journal of Marketing and Management Research*, 2(8), August, pp.51-67.

489. Kaur, Kuldip (2011), "Disparities in Growth Structure of State Economics", Measurement of Regional Disparities, Deep and Deep Publications, New Delhi, pp 3-13.
490. Kaur, Kuldip; Kaur, Tushinder Preet (2013), "Long-term Relationship Between FDI and Infrastructure Development in India – An Empirical Investigation", *Asian Journal of Research in Business Economics and Management*, 3(9), September, pp 01-12.
491. Kaur, Kushwinder; Kaur, Kuldip (2010), "An Analysis of Growth and Size Relationship of Acquiring Firms", *Apeejay Journal of Management and Technology*, 5(1), January, pp.60-71.
492. Kaur, Manjinder; Dhillon, Sharanjit S. (2010), "Determinants of Foreign Institutional Investors' Investment in India", *Eurasian Journal of Business and Economics (EJBE),* (6), November.
493. Kaur, Manjinder; Dhillon, Sharanjit S. (2012), "Empirical Analysis of Indian Depository Receipts", *Journal of Economic Policy and Research*, 7(2), September, pp.81-98.
494. Khosla, Rajiv; Sidhu, H.S.; Dhillon, Sharanjit S. (2009), "Performance and Prospects of Agro Based Industries in Punjab", *Artha vijnana,* 51(3), September.
495. Khosla, Rajiv; H.S. Sidhu and Sharanjit S. Dhillon (2010), "Production Linkages between Agriculture and Non-Agriculture sectors in India", *The Indian Economic Journal*, Special Issue on Role of Non-Farm Sector in Rural Development, December 2010.
496. Khosla, Rajiv; H.S. Sidhu and Sharanjit S. Dhillon (2012), "Inter-Industry Differences in Efficiency of Agro-Processing Industries in Indian States", *International Journal of Arts and Commerce*, 1(3), August, pp.188-208.
497. Khosla, Rajiv; Sidhu, H.S.; Dhillon, Sharanjit S. (2012), "Production Linkages between Agriculture and Non-Agriculture Sectors in India", Anil Kumar Thakur and S. M. Jawed Akhtdar (Eds.), *Non Farm Sector and Rural Transformation*, Deep & Deep Publications Pvt. Ltd. (Published on behalf of The Indian Economic Association), New Delhi, pp.237-280.
498. Malhotra, Neena; Meenu (2008), "Import-Growth Relationship in India: Causality Analysis" *The Asian Economic Review, Journal of The Indian Institute of Economics*, 50(1), April, 2008. Also published in *The Indian Journal of Economics*, 90(356), July 2009, ISSN 0019-5170.
499. Malhotra, Neena; Meenu (2008), "Growth Structure and Instability of Agricultural Exports and Imports of India", *Anvesak,* 38(1), June.
500. Malhotra, Neena; Kaur, Hardip (2008), "Trends in Indian Energy Sector and Implications for Sustainable Growth" *Indian Economic Association Conference Volume,* December.

501. Malhotra, Neena; Kaur, Hardip (2009), "Growth and Structure of Indian Energy Sector, Challenges and Reforms" *Business Analyst,* September, 4(1) ISSN 0937-211X.
502. Malhotra, Neena; Gupta, Deepakshi (2011), "Human Resource Development Climate in Information Technology Industry in India", *Envision, International Journal of Commerce and Management* Annual 2011, ISSN; 0973-5976.
503. Malhotra Neena; Parul (2010), "Amartya Sen's Concept of Gender Disparity-Evidence from India", *The Indian Economic Journal, Journal of the Indian Economic Association* Special Issue December.
504. Malhotra, Neena; Deepika (2010), "India's Trade Relations with ASEAN", *The Indian Economic Journal, Journal of The Indian Economic Association* Special Issue December, also published in book *International Trade-Regionalism and Multilateralism*, (eds.), Anil Kumar Thakur and Manish Dev, Regal Publications, New Delhi.
505. Malhotra, Neena; Meenu (2010), "Import Policy in India-Impact of WTO" *The Indian Economic Journal,* Journal of The Indian Economic Association Special Issue December, also published in *ANVESAK* 40(1&2), December.
506. Malhotra, Neena; Meenu (2011), "India's Import Demand Functions", *Journal of International Economics*, 2(1), June, ISSN 0976-0792.
507. Malhotra, Neena (2011), "Gender Gap in Elementary Education in India", *The Indian Economic Journal, special issue,* December.
508. Malhotra, Neena; Meenu (2011), "Measuring Structural Changes and Concentration of India's Imports" published in book, *International Trade in Emerging Economies,* edited by Shahid Ahmad and Shahid Ashraf Bloomsburry Publishing House New Delhi.
509. Malhotra, Neena (2011), "Human Resource Development Practices in Information Technology Industry in India", *International journal of Research in Commerce, IT and Management,* 1(4) September.
510. Malhotra, Neena (2011), "Economic Infrastructure and Development-An Inter-state Analysis"*, Share Journal of Multidisciplinary Research and Studies,* 2(2), pp.-72-81.
511. Malhotra Neena (2012), "Growth, Structure and Instability of India's Exports", *Journal of International Economics*, 3(2), December, pp.57-72
512. Malhotra, Neena; Gupta, Deepakshi (2012), "Transformation of Indian Economy into Knowledge Economy- Prospects and Challenges", *Asian Journal of Research in Business Economics and Management,* 2(2), pp. 273-293.
513. Malhotra, Neena (2012), "Schedule Castes and Schedule Tribes Exclusion in Elementary Education in India," in *Social, Economic and Political Exclusion of SCs and STs,* Manglam Publications, New Delhi.
514. Mehra, Anjana; Kaur, Gian (2011), "Determinants of Exports of Textile Industry in Punjab", Journal of Foreign Trade Review, 46(1).

515. Mehta, Swati (2010), "Technology Dynamism: Analyses of Changing Structure of Trade Organized Manufacturing Industries in India", *Man and Development*, 32(1), March, pp.17-48.
516. Mehta, Swati (2010), "Economic Reforms and Technological Dynamism : A Study of Exports of Indian Manufacturing Industries", *NITTE Management Review*, 4(2), December, pp.59-74.
517. Mehta, Swati (2010), "Book Review of Liberalizing Research in Science and Technology : Studies in Science Policy", Asheulova, Pattnaik, Kolchinsky and Sandstorm (eds.) in *Millennial Asia*, 4(1), pp.113-16.
518. Mehta, Swati (2011), "Economic Reforms, Technological Intensity and Industrial Development in India", *Economic and Political Review*, 46(17), April, pp.60-68.
519. Mehta, Swati (2012), "Structural Transformation and Industrialization: A Panel Analysis of Indian Manufacturing Industries", *Journal of Comparative Asian Development,(Routledge),* 11(1), pp.152-94.
520. Mehta, Swati (2013), "Technology Spillover and Industrialization: Analysis of Indian Manufacturing Industries", *Innovation and Development* (Routledge), 3(1), pp.55-69.
521. Mehta, Swati (2013), "(In)efficiency in the Manufacturing Industry in India : A stochastic Frontier Approach' Forthcoming in Kathuria, V., Raj, R. and Sen, K. (eds.) *Productivity in Indian Manufacturing: Measurement, Methods and Analysis, (Routledge),* New Delhi.
522. Mohindra, Versha; Kaur, Gian (2011), "Total Factor Productivity in Regional Rural Banks in India: a Malmquist Approach", *Abhinav*, 1(3).
523. Nanda, Paramjit; Mahajan, Priyanka (2008), "Trends and Determinants of Exchange Rate of Rupee in India", *Journal of Management Studies,* 6(7), pp.55-69.
524. Nanda, Paramjit; Kaur, Sandeep (2008), "Growth and Performance of India's Trade with SAARC", *APPEEJAY JOURNAL of Management and Technology*, 3(2), July, pp.116-125.
525. Nanda, Paramjit; Kaur, Veerpal (2008), "Impact of Globalisation in Labour Market in India: Evidence from Manufacturing Sector", *Indian Journal of Labour Economics,* 5(4), December, pp.545-558.
526. Nanda, Paramjit; Kaur, Sandeep (2009), "Rural Employment Diversification in Punjab: Explain some Linkages", *ICFAI University Journal of Agricultural Economics,* 6(2), April, pp.43-51.
527. Nanda, Paramjit; Kaur, Sandeep (2009), "Performance of Special Economic Zones in India" *ICFAI University Journal on Corporate Reputation Management,* April, pp.51-56.
528. Nanda, Paramjit (2009), "Trends and Determinants of Foreign Direct Investment in India (Post-Liberalisation Period)", *Journal of IMS Group,* 6(1), June, pp.57-65.

529. Nanda, Paramjit (2009), "Impact of Liberalisation and Globalisation on Balance of Payment Problem of India-A Comparative Study",Amity *Global Business Review,* 4(1), February, pp.59-69.
530. Nanda, Paramjit (2009), "Analysis of Non-Performance Assets (NPAs) in Priority Sector: A Comparative Study of Public and Private Sector Banks", *PCMA Journal of Business,* 1(2), June, pp.188-217.
531. Nanda, Paramjit; Narula, Rajni (2009), "Trends in International Competitiveness of Indian Textile Industry: A Comparative Study of Pre and Post-WTO Period", *Research Journal Social Sciences*, P.U., Chandigarh, 17(2), p.104-123.
532. Nanda, Paramjit (2009), "Education, Human Develpoment and Economic Growth: An Inter-District Analysis", *Earth Arth Anvisan*, 1 and 2, pp 5-15.
533. Nanda, Paramjit; Kaur, Sandeep (2010), "India's Export Potential to other SAARC Countries: A Gravity Model Analysis", *Journal of Global Economy*, 6(3), June, Pp 167-185.
534. Nanda, Paramjit; Kaur, Sandeep (2010), "Export and Import Potentials of Pakistan to other SAARC Countries in Gravity Panel Data Models (1981-2005)", *Applied Econometric and International Development*, 11, June.
535. Nanda, Paramjit; Mahajan, Priyanka (2010), "Trade Liberalisation, Wage Discrimination and Inequalities in Indian Manufacturing Industry", *Indian Journal of Economics and Business,*9(3), September, pp.485-502.
536. Nanda, Paramjit (2010,) "Dynamic Effects of SAARC", *International Journal of Economics*, 4(2), December.
537. Nanda, Paramjit; Mahajan, Priyanka (2010), "Gender Disparity in Literacy Status of Punjab : An Inter-District Analysis", *Guru Nanak Journal of Sociology,* 31(1 & 2), p.75-91.
538. Nanda, Paramjit; Kaur, Sandeep (2010), "Education, Human Development and Economic Growth in Punjab: A Causal Analysis", *Artha Vijnana*, 52(3), September, pp.197-221.
539. Nanda, Paramjit; Mahajan, Priyanka (2011), "Structural Changes in Commodity Composition and Direction of Agricultural Exports in India under WTO Regime" *The IUP Journal of Agricultural Economics, ICFAI*, 8(3), July, p.7-24.
540. Nanda, Paramjit; Kaur, Arvinder (2011), "Competitiveness of India's Manufactured Exports: A Constant Market Share Analysis", *Indian Journal of Economics and Business*, 10(2-3), September, p.267-281.
541. Nanda, Paramjit; Mahajan, Priyanka (2011), "External Sector Reforms and Balance of Payments Constrained Economic Growth in India – An Application of Vector Error Correction Mechanism", *94th IEA Conference Issue on Market Efficiency and Reforms*, December, pp.149-159.

542. Nanda, Paramjit; Kaur, Sandeep (2011), "Globalisation of Finance: India's Experience of Capital Flows", International *Journal of Global Economy*, 7(2), June.
543. Nanda, Paramjit (2012), "Globalization and its Impact on Agricultural Export Performance", *Journal of Agricultural Development and Policy*, 22(2), July, p.99-106.
544. Saini, Seema; Kaur, Kuldip (2011), "Investment Climate and International Growth of Punjab and Haryana", *Anvesak*, 41(1), June, pp.1-14.
545. Sethi, A.S.; Kaur, Baljit (2008), "Social Sector Expenditure in India: An Examination of Inter-state Divergences", The Indian Economic Association 91st Conference Volume, pp.229-41.
546. Sethi, A.S.; Kaur, Baljit (2012), "Are Indian States Coverging on Public Expenditure? An Empirical Evidence", *The Journal of Income and Wealth*, 34(2), p.73-88.
547. Sethi, A.S.; Kaur, Baljit (2008), "Social Sector Expenditure in India: An Examination of Inter-state Divergences", included in the *Conference Volume of 91st Annual Conference of the Indian Economic Association, Part-I*: pp.229-41.
548. Sethi, A.S.; Sunaina (2008), "Capital Formation in Punjab and Haryana – A Comparative Analysis", included in the *Proceedings of the 27th Annual Conference of Indian Association for Research in National Income and Wealth* held at the Institute for Social and Economic Change, Bangalore (Nov 27-29): A7, 01-22.
549. Sethi, A.S. (2008), "Some Methodological Aspects of Rates of Growth Computations: Limitations and Alternatives", *South Asia Economic Journal*, 9(1), pp.195-209.
550. Sethi, A.S. (2008), "Intellectual Property Rights and Pharmaceutical Sector in India", in Prankrishn Pal (ed.), *Intellectual Property Rights in India.* New Delhi: Deep & Deep Publications Pvt. Ltd): 144-55.
551. Sethi, A.S. (2009), "Trends in Urban Poverty in India", in Ranvinder Singh Sandhu, Jasmeet Sandhu and Balwinder Arora (eds.), *Urban Poverty in Developing Countries: Issues and Strategies for Sustainable Cities.* (New Delhi: Bookwell.
552. Sethi, A.S.; Sunaina (2009), "Capital Formation in Punjab and Haryana – A Comparative Analysis", *The Journal of Indian Association for Research in National Income and Wealth*, *31* (1), pp.34-52.
553. Sethi, A.S.; Taneja, Gagandeep (2009), "Growth and Transformations in Agricultural Output and Inputs in India: Need for Structural Adjustments", included in the *Conference Volume of 92nd Annual Conference of the Indian Economic Association, Part-II*: pp. 425-40.
554. Sethi, A.S.; Kaur, Navpreet (2010), "Environmental Degradation — A Case Study of Ambient Air Quality in Some Industrial Pockets of Punjab", included in the Proceedings of *National Seminar on Management of Natural Resources and Environment in India,*

Organised by GAD Institute of Development Studies, Amritsar: 564-75.

555. Sethi, A.S.; Kaur, Gurwinder (2010), "Some Dynamic Aspects of Net Domestic Product in India – A Sectoral Analysis" Included in the *Proceedings of the 28th Annual Conference of the Indian Association for Research in National Income and Wealth* held at the Centre for Development Studies, Thiruvanthapuram (January 08-10): Article No. F-5.
556. Sethi, A.S. (2010), "Some Further Aspects of Rates of Growth Computations", *Journal of International Economics, 1*(2), pp. 57-70.
557. Sethi, A.S.; Kaur, Gurwinder (2011), "Some Dynamic Aspects of Net Domestic Product in India – A Sectoral Analysis", *The Journal of Indian Association for Research in National Income and Wealth*, *33* (1), pp.113-24.
558. Sethi, A.S.; Pandhi, Ritu (2011), "Nutritional Expenditure among Indian States: An Evidence from Divergence Analysis", *Indian Economic Journal* (Special Issue on *Enhancing Human Resources for Inclusive Growth, Employment and Welfare*, released during the *94th Annual Conference of the Indian Economic Association,* December, pp.783-92.
559. Sethi, A.S.; Pandhi, Ritu (2011), "Differential Inequalities in Calorie Intake among Indian States: Evidence From Different Rounds of NSS", included in the *Proceedings of the Annual Conference of the Indian Association for Research in National Income and Wealth* at the Centre for Economic and Social Studies, Hyderabad (March 11-13): Article No B1.
560. Sethi, A.S. (2012), "Global Financial Crisis and its Impact on India's GDP Growth", *Arth Anvesan, 5*(1 & 2), March, pp.102-11.
561. Sethi, A.S. (2012), "Performance of Small-Scale Agro-Based Industry in Punjab: Need for its Revival", *Research Journal Social Sciences,* 19(3), March, pp.01-14.
562. Sethi, A.S.; Pandhi, Ritu (2012), "Differential Inequalities in Calorie Intake among Indian States: Evidence from Different Rounds of NSS", *The Journal of Indian Association for Research in National Income and Wealth*, *34*(1).
563. Singh, Fulwinder Pal and Parminder Singh (2012), "Factor Substitution and Technical Progress in Indian Manufacturing Sector", *Indian Journal of Quantitative Economics (Silver Jubilee Issue),* 24-25(1 & 2), May, pp.57-72.
564. Singh, Irrenpreet; Dhindsa, Paramjeet (2008), "Quality Management Practices and its Impact on Performance", *PCTE Journal of Business Management*, pp.86-90.
565. Singh, Irrenpreet; Dhindsa, Paramjeet (2009), "Quality Management Practices in the Textile Manufacturing units of Punjab", *Effective Management*, pp.18-25.

566. Singh, Irrenpreet; Dhindsa, Paramjeet (2009), "Quality Management System: A Study of Textile Manufacturing units of Punjab", pp.86-90.
567. Singh, Kamaljit; Dhindsa, Paramjeet (2010), "Efficiency Analysis of Ancillaries of Rail Coach Factory Kapurthala in Punjab : An Empirical Study", 24-25(1&2), pp.29-56.
568. Singh, Maninder; Kaur, Kuldip (2010), "Celebrity Endorsement and Purchase Decision – An Study from Major Districts of Punjab", *Apeejay Journal of Management and Technology*, 5(1), January, pp.1-7.
569. Singh, Parminder (2008), "Analysis of Total Factor Productivity Growth in Indian Agriculture", *PSE Economic Analyst*, 26, pp. 87-102.
570. Singh, Parminder; Arora, Vani (2008), "Economic Reform and Productivity Growth in Indian Manufacturing Sector – An Inter-state Analysis", *Journal of Industrial Economics*, 5(3), August, pp. 35-47.
571. Singh, Parminder; Singh, Amarjit (2010), "Technical and Scale Efficiency in District Central Co-operative Banks of Punjab – A Non-Parametric Analysis", *Indian Co-operative Review*, 47(3), pp.181-201.
572. Singh, Parminder; Arora, Vani (2010), "Globalisation and Indian Manufacturing Sector – An Assessment", *Anvesak*, 39(2), June. pp.83-96.
573. Singh, Parminder; Singh, Fulwinder Pal (2011), "Production Structure and Technical Progress in Indian Manufacturing Sector: A Production Function Analysis", *Apeejay Journal of Management and Technology*, 5(2), July, p.84-93.
574. Singh, Parminder; Kumar, Satinder (2012), "Technical Efficiency in the Small Scale Industrial Sectors of Punjab and Haryana – A Comparative Analysis", *South East European International Journal of Economics and Business*, 6(2), November, pp.115-129.
575. Singh, Parminder; Arora, Vani (2012), "Economic Reforms and Factors Affecting Regional Industrial Disparities in India", *Indian Journal of Regional Science*, 44(1), 2012, pp.33-42.
576. Singh, Parminder; Kumar, Satinder (2012), "Productivity Growth and Production Structure in Small Scale Industrial Sector: A Comparison of Punjab and Haryana", *International Journal of Research in Commerce, Economics and Management (IJRCM),* 6(1), October, pp.25-32.
577. Singla, N; S. Singh; Dhindsa, Paramjeet (2011), "Linking Small Farmers to Emerging Agricultural Marketing Systems in India: The Case Study of Fresh Food Retail Chain in Punjab", *Agricultural Economic Research Review*, 24(1), pp.155-159.
578. Verma, Satish and Deepali (2008), "Inflation-Unemployment Trade-off in India", *Global Business Review*, 4, p.32-38.
579. Verma, Satish; Rohit (2008), "Competition and Market Power in Indian Banking Industry in the Post Reform Scenario", *ICFAI Journal of Bank Management*, 7(1), February, pp.7-19.

580. Verma, Satish; Deepali (2008), "Phillips Curve in India: Theory and Evidence", *Indian Journal of Economics*, (353), October.
581. Verma, Satish (2008), "Devaluation", *Bal Kosh*, Patiala: Punjabi University.
582. Verma, Satish; Gupta, Sanjeev; Batra, Roopali (2009), "Survey of Capital Budgeting Practices in Corporate India", *Vision*, 13(3), September, pp.1-17.
583. Verma, Satish; Gogna, Anita (2009), "An Empirical Investigation into Relation Between Education and Development Amongst Social Groups in Punjab – A Case Study", *Indian Journal of Regional Science*, 31(2), pp.96-102.
584. Verma, Satish; Arora, Rahul (2009), "FDI and Economic Growth in India: A Macroeconomic Appraisal", *Asian Economic Review*, 51(2), August, pp.229-248.
585. Verma, Satish; Arora, Rahul (2010), "Does the Indian Economy Support Wagner's Law: An Econometric Analysis", *Eurasian Journal of Business and Economics*, 3(5), May.
586. Verma, Satish; Gogna, Anita (2010), "Education and Development Amongst Social Groups in the Doaba Region of Punjab – A Case Study", published in Thakur, A.K. and Mohan Patel (eds.) *Challenges of Education in 21st Century*, Deep & Deep, pp.461-470.
587. Verma, Satish (2010), "United Nations' Indicators of Sustainable Development" published in B.S. Bhatia and Dilraj Sharma (eds), *Sustainable Development: Contemporary Issues & Emerging Perspectives*: New Delhi Deep & Deep Publications.

FACULTY OF ENGINEERING AND TECHNOLOGY

Computer Science and Engineering

588. Arora, Rishab; Sharma, Sandeep (2012), "Performance Analysis of Cryptography Algorithms", *International Journal of Computer Application,* 48(21), pp 35-39.
589. Chhabra, Amit; Singh, Gurvinder (2010), "Cluster Based High Throughput Computing", International *Journal of Computer Sciences and Engineering Systems* 4(3), pp 229-234.
590. Chhabra, Amit; Singh, Gurvinder (2011), "The Framework for Performance Modeling and Evaluation of Parallel Job Scheduling Algorithms", *International Journal of Computer Applications,* 34(10), pp 30-39.
591. Ganpati, Anita; Singh, Hardeep; Kalia. A.K. (2012), "Maintainability Index over Multiple Releases: A Case Study PHP Open Source Software ", *International Journal of Engineering Research & Technology,* 1(6), pp 1-3.

592. Ganpati, Anita; Singh, Hardeep; Kalia, A.K. (2012), "Software Evolution: An Empirical Study of Mozilla Firefox ", *International Journal of Computer Technology & Applications,* 3 (3), pp 992-996.
593. Kaur, Amandeep (2012), "Study of Parameters for Evaluation of Software as a Service", *International Journal of Computers and Technology*, 2(2), pp 59-63.
594. Kaur, Bhavneet; Kahlon, Karanjeet Singh; Sharma, Sandeep (2013), "Traffic Engineering with Contour Channel Shift", *International Journal of Computer Science and Network Security, 13(6)* pp 45-48.
595. Kaur, Bhavneet; Kahlon, Karanjeet Singh; Sharma, Sandeep (2013), "Safety Criterion in Inter-Domain routing protocol with pseudo renewals", *Journal of Computer Science* 9(5), pp 626-634.
596. Kaur, Bhavneet; Kahlon, Karanjeet Singh; Sharma, Sandeep (2013), "Stability of Inter domain routing protocol with regressive peak counter", *International Journal of Computer Science,* 10(3), pp. 256-262.
597. Kaur, Bhavneet; Kahlon, Karanjeet Singh; Sharma, Sandeep (2013), "Safety of Inter-Domain routing protocol with RPR and RPC", *IJARCSSE* 3(6), pp 21-25.
598. Kaur, Bhavneet; Kahlon, Karanjeet Singh; Sharma, Sandeep (2013), "Inter domain routing with Shilded Infrastructure and Buzzer Techniques", *International Journal of Computer Application,*74(15), pp. 29-33.
599. Kaur, Daljit; Kaur, Parminder (2012), "Secure Web Development Based on Vulnerabilities", *International Journal of Electronics Communication and Computer Engineering,* 3(1), pp 112-117.
600. Kaur, Daljit; Kaur, Parminder; Singh, Hardeep (2012), "Secure Spiral: A Secure Software Development Model", *Journal of Software Engineering, Science Alert,* 6(1), pp 10-15.
601. Kaur, Gagandeep; Sharma, Sandeep (2012), "Modified Fault Tolerant Double Tree Network-2", *International Journal of Computer Application*, 40(4), pp 40-44.
602. Kaur, Gurinder; Kaur, Japinder; Kaur, Kuljit (2011), **"**Reusability Aspects of Component Based Systems", *ApeeJay Journal of Computer Science and Applications,* 2(1), 88-92.
603. Kaur, Harjot; Kahlon, Karanjeet Singh; Virk, Rajinder Singh (2013), "A Formal Dynamic Model of Artificial Agent Societies", *International Journal on Information & Communication Technologies*, 6, pp.67-70.
604. Kaur, Kamaljit; Chhabra, Amit; Singh, Gurvinder (2010), "Heuristics Based Genetic Algorithm for scheduling Static Tasks in Homogeneous Parallel Systems", *International Journal of Computer Science & Security,* 4(2), pp 183-198.
605. Kaur, Kamaljit; Chhabra, Amit; Singh, Gurvinder (2010), "Modified Genetic Algorithm for Task Scheduling in Homogeneous Parallel

Systems using Heuristics", *International Journal of Soft Computing,* 5(2), pp 42-51.
606. Kaur, Kamaljit; Chawla, Heena (2012), "A Novel Approach for the Implementation of Classification Algorithms for Detecting Shadow and Non-Shadow Regions of an Image", *International Journal of Computer Applications*, 47(20), pp 33-37.
607. Kaur, Kawalpreet; Sharma Sandeep (2013), "Improved Meta-Flattened Butterfly Multistage Interconnection Network" *International Journal of Computer Applications,* 74(9), pp 34-37.
608. Kaur, Kuljit; Singh, Hardeep (2009), "Candidate Process Models for Component- Based Software Development**"**, *Journal of Software Engineering,* 4(1), pp 16-29.
609. Kaur, Kuljit; Singh, Hardeep (2009), "Metrics to Evaluate Symptoms of Bad Software Design", *ACM SIGSOFT Software Engineering Notes*, 34(1), pp 1-4.
610. Kaur, Kuljit; Kaur, Parminder; Singh, Hardeep (2010), "Metrics and Models in Software Reuse Technology", *International Journal of Information Science and Application,* 6(2), pp 453-459.
611. Kaur, Kuljit; Singh, Hardeep (2010), "Exploring Design Level Class Cohesion Metrics", *Journal of Software Engineering and Applications,* 3(4), pp 384-390.
612. Kaur, Kuljit; Singh, Hardeep (2010), "Candidate Process Models for Component Based Software Development", *Journal of Software Engineering,* 4(1), pp 16-29.
613. Kaur, Kuljit; Singh, Hardeep (2011), "Analyzing Software Evolution Using the MOOD Metric Set", *International Journal of Advanced Research in Computer Science,* 2(1), pp 509-512.
614. Kaur, Kuljit; Singh, Hardeep (2011), "Understanding the Real Issues to Move towards a Systematic Reuse Based Approach", *International Journal of Advanced Research in Computer Science,* 2(1), pp 442-446.
615. Kaur, Kuljit (2012), "Dependency Management in Component Based Evolving Software Systems", *IUP Journal of Computer Sciences*, pp 7-20.
616. Kaur, Kuljit; Singh, Hardeep (2012), "Investigating Class Cohesion Metrics", *International Arab Journal of Information Technology*, 9(1), pp 66-73.
617. Kaur, Kuljit; Jindal, Swati; Bansal, Lovleen (2012), "Performance Analysis and Comparison of MANET Routing Protocols", *International Journal of Computer Science and information Technology*, 2(5), 20-25.
618. Kaur, Kulwant; Singh, Hardeep (2010), "Empirical study on Usage of Object Oriented Analysis and Design Techniques among Software Development Professionals", *IMS Manthan (The Journal of Innovations),* 5(2), pp 31 – 38.

619. Kaur, Kulwant; Singh, Hardeep (2010), "Study of System Behaviour for Object Oriented Systems using Metrics", *CSI Communications,* 33(12), pp. 16 – 22.
620. Kaur, Kulwant; Singh, Hardeep (2011), "Determination of Maintainability Index for Object Oriented Systems", *ACM SIGSOFT Software Engineering Notes*, 36(2), pp 1-6.
621. Kaur, Parminder; Singh, Hardeep (2009), **"**Version Management and Composition of Software Components in Different Phases of software Development Life Cycle", *ACM SIGSOFT Software Engineering Notes,* 34(4), pp 1-9.
622. Kaur, Parminder; Singh, Hardeep (2009), "A Layered Structure for Uniform Version Management in Componenet Based Systems", *ACM SIGSOFT Software Engineering Notes,* 34(6), pp 1-7.
623. Kaur, Parminder; Singh, Hardeep (2010), "A Metric-Based Analysis of Component Dependencies", *Journal of Computer Society of India,*38(4), pp 29-37.
624. Kaur, Parminder; Singh, Hardeep (2010), "Metrics Suite for Component Versioning Control Mechanism in Component Based Systems", *Journal Of Software Engineering,* 4, pp 231-243.
625. Kaur, Parminder; Singh, Hardeep (2011), "Practice Based Guidelines for Effective Software Architecture of Web Based Applications", *Journal of Software Engineering, Science Alert,* 5(3), pp 102-107.
626. Kaur, Parminder; Singh, Hardeep (2011), "A Model for Versioning Control Mechanism in Component-Based Systems", *ACM SIGSOFT Software Engineering Notes,* 36(5), pp 1-8.
627. Kaur, Parminder; Singh, Hardeep (2012), "Configuration Management Issues in Software Process Management", *American Journal of Engineering and Applied Sciences,* 5(3), pp 261-265.
628. Kaur, Parminder; Singh, Hardeep (2012), "A Modified Version Control Tool for Component-Based Systems", *ACM SIGSOFT Software Engineering Notes*, 37(6), 1-10.
629. Kaur, Prabhpreet; Seth Sugandh; Kaur, Navinderjit (2012), "Distributed Enterprise Data Storage: Case Study", *International Journal of Information Sciences and Application,* 2(3), pp 491-495.
630. Kaur, Sukhpreet; Sohal, Harwinder Singh; Cheema, Rajbir Singh (2013), "Implementing UPGMA and NJ method for Phylogenetic Tree construction using Hierarchical Clustering", *International Journal on Information & Communication Technologies*,
631. Khiva, Navdeep Kaur; Sandeep, Sharma (2013), "Secure cloud Architecture for Preserving privacy in Cloud Computing using OTP/WTP", International *Journal of Computer Applications,* 74(18), pp 18-20.
632. Kumar, Gauarv; Sharma, Sandeep (2012), "Improved Arbitrary Size Benes Network", *International Journal of Computer Application,* 48(21), pp 30-34.

633. Kumar, Koushal (2012), "Advanced Applications of Neural Networks and Artificial Intelligence" *International Journal of Information Technologies and Computer Science,* 4(6), pp 57-68.
634. Kumar, Koushal (2012), "Artificial Neural Networks for Diagnosis of Kidney Stones Disease" *International journal of information technologies and computer science*, 4(7), pp 20-25.
635. Kumar, Koushal (2012), "Efficient Networks Communication Routing using Swarm Intelligence" *International Journal of Information Technologies and Computer Science,* 4(12), pp 67-75.
636. Kumar, Koushal (2012), "Knowledge Rules Extraction from Trained Neural Networks", International *Journal of Information and Network Security,* 1(4), pp 282-293.
637. Kumar, Koushal (2012), "Extracting Explanation from Artificial Neural Networks" *International Journal of Computer Science and Information Technologies*, 3(2), pp 3812-3815.
638. Raj, Gaurav; Kaur, Kamaljit (2012), "Secure Cloud Communication for Effective Cost Management System through MSBE", *International Journal on Cloud Computing: Services and Architecture,* 2(3), pp 19-31.
639. Ratti, N.; Kaur, P. (2009), "Comparative Analysis of Software Development Process in Different Software Development Paradigms", *International Journal of Software Engineering,* 64(6), pp 837-846.
640. Sachdeva, Monika; Singh, Gurvinder; Kumar, Krishan; Singh, Kuldip (2010), "Measuring Impact of DDoS attacks on Web Services," *International Journal of Information Assurance and Security*, 5, pp 392-400.
641. Sachdeva, Monika; Singh, Gurvinder; Singh Kuldip (2011), "A Distributed Approach to Defend web service from DDoS attacks," *International Journal of Computer Science and Security*, 5(3), pp 346-354.
642. Sachdeva, Monika; Singh, Gurvinder; Kumar, Krishan (2011), "Deployment of distributed defense against DDoS attacks in ISP domain," *International Journal of Computer Applications*, 15(2), pp 25-31.
643. Salwan, Sonia (2012), "A Survey on the Comparison of Various Images De- Noising Filters", *InternatIonal Journal of electronics & communication technology*, 3(2), pp 35-41.
644. Salwan, Sonia (2012), "A Modified Non-Linear Image Denoising Filter for Denoising Very High and Low Level Impulse Noise", *International Journal of Electronics & Communication Technology*, 3(3), pp 81-84.
645. Sharma, Aman; Singh, Hardeep; Kalia; A.K. (2012), "An Analysis of Optimum Software Quality Factors" *International Organization of Scientific Research Journal of Engineering*, 2(4), pp 663-669.

646. Sharma, Aman; Singh, Hardeep; Kalia, A.K. (2012), "Empirical Analysis of Object Oriented Quality Suites", *International Journal of Engineering and Advanced Technology*, 1(4), pp 163-166.
647. Sharma, Aman; Singh, Hardeep; Kalia A.K. (2012), "Taxonomy of Metrics for Assessing Software Quality", *International Journal of Engineering Research and Technology,* 1(6), pp 3336-3339.
648. Sharma, Aman; Singh, Hardeep; Kalia, A.K. (2012), "Metrics Identification for Measuring Object Oriented Software Quality", *International Journal of Soft Computing and Engineering,* 2(5), pp 255-258.
649. Sharma, Manik; Singh, Rajinder; Singh, Gurdev (2012), "Analysis of Join and Semi joins in Distributed Database queries", *International Journal of Computer Applications*, 49(16), pp 14-18.
650. Sharma, Manik; Singh, Rajinder; Singh, Gurdev (2012), "Analysis of DSS Queries in Distributed Database System", *International Journal of Networking and Parallel Computing,* 1(3), pp 5-17.
651. Sharma, Manik; Singh, Gurvinder; Virk, Rajinder (2013), "Analysis of DSS Queries in Distributed Database System using Exhaustive and Genetic Approach", *International Journal of Advanced Computing, Recent Science,* 36(2) pp 1165-1174.
652. Sharma, Meenakshi; Sharma, Pankaj; Sharma, Sandeep (2012), "Efficient load Balancing Algorithm in VM cloud Environment" *International Journal of Computer Science and Technology*, 3(1), pp 439-441.
653. Sharma, Sandeep; Kahlon, K.S.; Bansal, P.K.; Singh, Kawaljeet (2008), "Improved Irregular Augmented Shuffle Multistage Interconnection Network", *International Journal of Computer Science and Security,* 2(3), pp 28-33.
654. Sharma, Sandeep; Kahlon, K.S.; Bansal, P.K (2008), "On a class of Multistage Interconnection Network in Parallel Processing", *International Journal of Computer Science and Network Security,* 8(5), pp 287-291.
655. Sharma, Sandeep; Kahlon, K.S.; Bansal P.K.; Singh. Kawaljeet (2008), "Irregular class of Multistage Interconnection Network in Parallel Processing", *Journal of Computer Science,* 4(3), pp. 220-224.
656. Sharma, Sandeep; Singh, Sarabjit and Sharma, Meenakshi (2008), "Performance Analysis of load balancing algorithms", *Proceedings of World Academy of Science, Engineering and Technology,* 28, pp 269-272.
657. Sharma, Sandeep; Kahlon, K.S.; Bansal, P.K. (2010), "Reliability and Path Length Analysis of Irregular Fault Tolerant Multistage Interconnection Network", *ACM SIGARCH Computer Architecture,* 37, pp 16-23.

658. Sharma, Sandeep (2012), "On permutation capabilities of Fault Tolerant Multistage Interconnection Networks", *International Journal of Computer Science*, 9(6), pp 167-171.
659. Singh, Gurpreet (2011), "Red Tacton", *International Journal of Computer Science and Technology,* 2(3), pp 452-455.
660. Singh, Gurpreet (2011), "Zigbee – A Review", *International Journal of Computer Science and Technology*, 3(1), pp 328-331.
661. Singh Gurpreet (2012), "Vehicular Ad Hoc Networks", *Journal of Global Research in Computer Science*, 3(3), pp 61-64.
662. Singh, Gurvinder; Singh, Jasbir (2012), "Improved Task Scheduling on Parallel System using Genetic Algorithm", *International Journal of Computer Applications*, *Foundation of Computer Science,* 39(17), pp 17-22.
663. Singh, Gurvinder; Singh, Jasbir (2012), "Task Scheduling using Performance Effective Genetic Algorithm for Parallel Heterogeneous System", *International Journal of Computer Science and Telecommunications*, pp 21-26.
664. Singh, Hardeep; Singh, Rupinder (2010), "On Formal Models and Deriving Metrics for Service-Oriented Architecture", *Journal of Software,* 3(8), pp 866-871.
665. Singh, Hardeep; Kalia A.K. (2012), "Comparative Study of Maintainability Index of Open Source Software ", *International Journal of Emerging Technology and Advanced Engineering,* 2(10), pp 228-230.
666. Singh, Jarnail; Dhillon, Gurupdesh; Kaur, Parminder (2013), "Analysis of Component Selection and Component Integration in Component-based Development Paradigm", *International Journal on Information and Communication Technologies*, 6(1-2), pp 188-192.
667. Singh, Manpreet; Singh, Gurvinder (2011), "Cluster Analysis Technique based on Bipartite Graph for Human Protein Class Prediction" , *International Journal of Computer Applications*, 20(3), pp 22-27.
668. Singh, Manpreet; Singh, Gurvinder (2011), "Development of Predictor for Sequence Derived Features from Amino Acid Sequence using Associate Rule Mining" , *International Journal of Computer Science and Security,* 5(1), pp 14-27.
669. Singh, Manpreet; Singh, Gurvinder; Kahlon, Karanjeet Singh (2012), "Machine Learning Classifiers for Human Protein Function Prediction" *International Journal of Computer Science and Technology,* 3(10), pp 21-25.
670. Singh, Manpreet; Singh, Gurvinder; Kahlon; Karanjeet Singh (2012), "Cluster Algorithm using Distributed Processing for Human Protein Function Prediction" *International Journal of Applied Information Systems*, 4(4), pp. 24-28.

671. Singh, Manpreet; Singh, Gurvinder; Sharma, Sonam (2012), "Human Protein Function Prediction from Sequence Derived Features using See5", *International Journal of Scientific & Engineering Research*, 3(7), pp 1-10.
672. Singh, Paramvir; Singh, Hardeep (2010), "Class-level Dynamic Coupling Metrics for Static and Dynamic Analysis of Object-Oriented Systems", *International Journal of Information and Telecommunications Technology* (IJITT), 1(1), pp 16-28.
673. Singh, Paramvir Singh, Hardeep (2009), "Runtime Coupling Metrics for Object-Oriented Software Systems", *Apeejay Journal of Management and Technology,* 4(1), pp 33-39.
674. Singh, Rajinder; Singh, Gurvinder (2011), "Optimized Access Strategies for DDB", *International Journal of Data Engineering,* 2(3), pp 102-110.
675. Singh, Rajinder; Singh, Gurvinder; Virk, Varinder Pannu (2011), "A Stochastic Simulation of Optimized Access Strategies for a Distributed Database Design", *International Journal of Scientific & Engineering Research,* 2(11), pp 1-6.
676. Singh, Rajinder; Singh, Gurvinder (2011), "Optimizing Access Strategies for a distributed Database design using Genetic Fragmentation", *International Journal of Computer Science and Network Security*, 11(6), pp.180-182.
677. Sookham, R.P. Singh; Virk, R. S. (2013), "Staging Cervical Cancer Using Genetic Algorithms", *International Journal on Information & Communication Technologies*, 6, pp 58-61.
678. Sookham, R.P.Singh; Singh, Gurjit; Virk, R.S. (2013), "Efficacy of Genetic Algorithms in Staging Cervical Cancer", *International Journal of Cancer Research,* 47(2) pp.1164-67.

Electronics Technology

679. Arora, Mamta; Kaur, Hardeep (2013), 'Performance Analysis of Communication System with Convolutional Coding over Fading Channel', *International Journal of Scientific Engineering Research*, 4(5), pp 1116-1120.
680. Bahel, Shalini; Narang, S. B. (2012), 'Synthesis and dielectric properties of a temperature stable ceramic: $Ba_4La_{3.73}Sm_{4.66}Bi_{0.93}Ti_{18}O_{54}$', *Ferroelectrics Letters Section,* 39(1-3), 31-37.
681. Bahel, Shalini; Narang, S. Bindra (2009), 'Temperature dependent dielectric properties of Ba-La-Sm-Bi-Ti-O ceramic system', *Integrated Ferroelectrics*, 107(1), pp 92-104.
682. Bahel, Shalini; Narang, S. Bindra (2010), 'Optimization of dielectric properties of barium rare-earth titanate by complex substitution', *Ceramic International*, 36, pp 251-255.

683. Bahel, Shalini; Narang, S. Bindra (2008), 'Dielectric and structural characteristics of Sm doped $Ba_4La_{9.33}Ti_{18}O_{54}$ microwave ceramic', *Material Science – Poland*, 26(3), pp 555-561.
684. Dalhio, Hardeep Singh; Mian, M.; Singh, Jasvir (2010), 'VoIP Signal Processing in Digital Domain', *The IUP Journal of Electrical & Electronics Engineering*, 3(4), pp. 38-43.
685. Dalhio, Hardeep Singh; Mian, M.; Singh, Jasvir (2010), 'Analysis of VoIP signal processing for performance enhancement', *International Journal of Computer Science & Emerging Technologies*, 1(1), pp 1-4.
686. Dalhio, Hardeep Singh; Singh, Jasvir; Mian, M. (2010), 'Simulink based VoIP analysis', *Journal of Telecommunication*, 2(2), pp 126-130.
687. Jaswal, S. K.; Bahel, Shalini; Narang, S. B.; Chawla, S.K. (2011), 'Absorption Properties of Lanthanum and Samarium Substituted Barium Titanates', *Ferroelectrics Letters Section*, 38(1-3), 24-30.
688. Kakkar, Ajay; Singh, M. L.; Bansal, P. K. (2010), 'Efficient Key Mechanisms In Multi-node Network For Secured Data Transmission', *International Journal of Engineering Science and Technology*, 2(5), May,pp 787-795.
689. Kakkar, Ajay; Singh, M. L.; Bansal, P. K. (2012), 'Performance of Multiple Keys and S-Boxes in Multinode Network for Secured Communication', *International Journal of Computer Mathematics*, 89(16), November, pp. 2123-2142.
690. Kakkar, Ajay; Singh, M. L.; Bansal, P. K. (2012), 'Secure communication by using Multiple keys having variable length in real time Environment for multiple stations', *Journal of Engineering Science and Technology*, 7(4), August, pp. 522-533.
691. Kakkar, Ajay; Singh, M. L.; Bansal, P. K. (2009), 'Secure Data Processing in MNN using S-Boxes and Multiple keys', *International Journal of Computing Science and Communication Technologies*, 2(1), July, pp 260-267.
692. Kaur, Amandeep; Singh, M. L; Sheetal, Anu (2013), 'Performance Analysis of 10G/2.5G Asymmetric XGPON Transmission using RZ and NRZ Data Formats', *International Journal of Computer Applications*, 70(15), May,pp.24-27.
693. Kaur, Dalveer; Narang, S. Bindra (2009), 'Temperature dependent dielectric behavior of neodymium substituted barium titanate ceramic compounds', *International Journal of Material Science*, 4(2), pp. 169-175.
694. Kaur, Dalveer; Narang, S. Bindra (2010), 'Influence of Increased Sintering Time on Structure and Dielectric Behavior of Barium Lanthanide Titanates', *Ceramics – Silikáty*, 54(2), pp108-115.
695. Kaur, Gurleen; Sawhney, Ravinder Singh; Vohra , Rajan (2012), 'Micro-cantilever Sensors for Detection of Pesticide Contents in the Water-table of Malwa Region in Punjab', *International Journal of*

Advanced Research in Computer Engineering & Technology, 1(5), July, pp. 285-290.

696. Kaur, Gurmeet; Singh, M. L. (2009), 'Effect of Four Wave Mixing in WDM Optical Fiber Systems', *Optik- International Journal of Light and Electron Optics*, 120(6), March, pp. 268-273.
697. Kaur, Gurmeet; Singh, M. L.; Patterh, M. S. (2009), 'Investigations of fiber nonlinearities in long-haul Optical DWDM Transmission systems', *Journal of Nonlinear Optical Physics and Materials (JNOPM),* 18(2), pp 301- 308.
698. Kaur, Gurmeet; Singh, M. L.; Patterh, M. S. (2009), 'Theoretical Investigations to Minimise Bit Error Rate by Optimising system Parameters at Different Data Rates', *Journal of Nonlinear Optical Physics and Materials (JNOPM),* 18(3), pp 501- 519.
699. Kaur, Gurmeet; Singh, M. L.; Patterh, M. S. (2009), 'Theoretical Analysis of Combined Effect of Fiber Nonlinearities and Amplifier Noise in a DWDM Transmission System', *International Engineering and Technology Journal of Communication Techniques*, 3(1), pp. 014-019.
700. Kaur, Gurmeet; Singh, M. L.; Patterh, M. S. (2009), 'Theoretical Investigations of the Combined effect of Fiber Nonlinearities, Amplifier and Receiver Noise in a DWDM Transmission system', *Springer Link Journal of Optical and Fiber Communication Research*, 6(1), pp 1- 10.
701. Kaur, Gurmeet; Singh, M. L.; Patterh, M. S. (2010), 'Analysis of Significant factors in DWDM Optical Communication Systems', *Emerald Journal of Engineering Design and Technology*, 8(1), pp. 28-44.
702. Kaur, Gurmeet; Singh, M. L.; Patterh, M. S. (2011), 'Analytical analysis of long-houl DWDM optical transmission systems in the presence of fiber nonlinearities'*Emerald Journal of Engineering Design and Technology*, 9(3), pp 336-346.
703. Kaur, Gurmeet; Singh, M. L.; Pattreh, M. S. (2010), 'Effect of Fiber Nonlinearities in a WDM Transmission Systems', *Optik- International Journal of Light and Electron Optics*, 121(10), June, pp. 889-896.
704. Kaur, Gurmeet; Singh, M. L.; Pattreh, M. S. (2010), 'Impact of Fiber Nonlinearities Optical DWDM Transmission Systems at Different Data Rates', *Optik- International Journal of Light and Electron Optics*, 121(23), December, pp. 2166-2171.
705. Kaur, Gurmeet; Singh, M. L.; Patterh, M. S. (2008), 'Optimization of Inter-amplifier Separation in WDM Transmission Systems in the Presence of Fibre Nonlinearities', *International Journal of Applied Engineering Research*, 3(10), pp. 1353-1375.
706. Kaur, Hardeep; Singh, M.L. (2012), 'Bit Error Rate Evaluation of IEEE 802.16 (WiMAX) in OFDM System', *International Journal of Computer Applications*, 40(12), Feb, pp. 10-13.

707. Kaur, Harminder; Sawhney, Ravinder Singh; Komal, Navita (2012), 'Wireless Sensor Networks for Disaster Management', *International Journal of Advanced Research in Computer Engineering and Technology*, 1(5), July, pp-129-134.
708. Kaur, Harminder; Sawhney, Ravinder Singh; Vohra, Rajan (2013), 'Multi Hop Routing in Wireless Mobile Networks using Ant Colony Optimization', *International Journal of Computer Applications*, 69(26), May, pp. 46-50.
709. Kaur, Navdeep; Kaur, Hardeep; Kaur, Jaipreet (2013), 'Power Spectral Density Analysis of WLAN based OFDM System', *International Journal of Computer Application*, 68(7), April, pp. 37-40.
710. Kaur, Rupan Preet; Sawhney, Ravinder Singh; Kaur, Harpinder (2013), 'Anatomizing Quantum Transport in Molecular Junctions with Cyanide and its Isomer as Anchors', *International Journal of Engineering and Advanced Technology*, 2(6), August, pp96-100.
711. Kaur, Rupan Preet; Sawhney, Ravinder Singh; Kaur, Harpinder; Kaur, Ramanjyot (2013), 'Length dependent Tunneling and hopping mechanism in molecular wires', *International Journal of Engineering Research and Technology*, 2(7), July, pp. 394-398.
712. Kaur, Rupan Preet; Sawhney, Ravinder Singh; Kaur, Ramanjyot (2013), 'Analogizing the Electronic Coupling Efficiency of Anthracene and its Derivatives', International Journal of Electronics and Communication Technology, 4(5), July-Sept, pp 33-37.
713. Kaur, Sarbjeet; Sawhney, R. S.; Vohra; Rajan (2012), 'MANET Link Performance Parameters Using Ant Colony Optimization Approach', *International Journal of Computer Applications*, 47(8), June, pp 40-45.
714. Kaur, Gurmeet; Singh, M. L. (2009), 'A Survey of Recent Advances in Fuzzy Logic in Communication Systems', *International Journal of Applied Engineering Research*, 4(2), pp 139-151.
715. Kumar, Ravinder; Dhami, Gurkirpal Singh; Engles, Derick (2013), 'Modeling the Charge Transport through Graphene Nano Ribbon (GNR) Between Electrodes of Different Materials', *International Journal of Scientific & Engineering Research*, 4(7), July, pp 2523-252.
716. Kumar, Ravinder; Kaur, Kulbir; Engles, Derick; Lamba,Vijay (2013), 'Modeling the Conductivity Enhancement in Doped Single- Walled Carbon Nanotube (SWCNT)', *International Journal of Scientific & Engineering Research*, 4(6), June, pp 2254-2258.
717. Lamba, V. K.; Engles, Derick; Malik, S.S. ; Gupta, A. (2009), 'Quantum transport in nano MOSFETs', *Molecular Simulation Journal*, 35(6), pp. 434-439.
718. Lamba, Vijay K.; Engles, Suman J.; Sawhney, R.S.; Arora, C. and Engles, Derick (2013), 'Charge Transport through Molecular Wire for Flexible Electronics', *Molecular Physics*, 111(4), pp. 517-523.

719. Lamba,V.K.; Engles S.; Engles D.; Malik S.S.; Verma M (2009), 'Modeling of Molecular/Nano Devices', *Journal of Nano Engineering and Nano Systems,* 223(2), pp. 57-62.
720. Lamba,V.K.; Engles, D.; Malik, S.S. (2008), 'Mobility of Two & Three Dimensional Carriers in Semiconductor Devices', *Invertis Journal of Sciences & Technology*, 2(3), pp 67.
721. Lamba,V.K.; Engles, D.; Malik, S.S.; Verma, M. (2008), 'Modeling of charge transport in presence of Dopants and Electric field in Nano-Channels', *Invertis Journal of Science & Technology*, 1(4), pp. 121.
722. Narang, S. Bindra; Bahel, Shalini (2010), 'Influence of frequency variation on dielectric properties of Sm doped $Ba_4La_{9.33}Ti_{18}O_{54}$ dielectric ceramics at different temperature', *Material Science – Poland*, 28(1), 305-312.
723. Narang, S. Bindra; Kaur, Dalveer (2009), 'Dielectric Anomaly in La Modified Barium titanates', *Ferroelectrics Letters*, 36(1-2), pp. 20 -27.
724. Narang, S. Bindra; Bahel, Shalini (2010), 'Low loss dielectric ceramics for microwave applications: a review', *Journal of Ceramic Processing Research*, 11(3), pp. 316-321.
725. Narang, S. Bindra; Bahel, Shalini; Chawla, S. K. (2009), 'Effects of temperature variation on dielectric properties of $Ba_4(La_{(1-z)}Bi_z)_{9.33}Ti_{18}O_{54}$ solid solutions', *Ferroelectric Letters*, 36(5), pp 119-128.
726. Narang, S. Bindra; Bahel, Shalini; Dash, S. (2010), 'Influence of Bi substitution on microwave dielectric properties of $BaO\text{-}La_2O_3\text{-}Sm_2O_3\text{-}TiO_2$ ceramics', Journal of Material Science-Materials in Electronics, 21(11)pp 1186-1190.
727. Narang, S. Bindra; Kaur, Dalveer (2009), 'Dielectric investigations of lanthanides (Ln = Sm, Nd and Gd) substituted barium titanate microwave', *Integrated Ferroelectrics*, Vol. 105(1), pp. 87-88.
728. Narang, S. Bindra; Kaur, Dalveer; Thind, K. S. (2009), 'Structural and Microwave Dielectric Properties of the $Ba_{6-3x}Gd_{8+2x}Ti_{18}O_{54}$ solid-solutions', *Journal of Ceramics Processing Research*, 10(2), pp. 595-599.
729. Narang, S. Bindra; Singh C.; Yang, Bai; Hudiara, I.S. (2008), 'Microstructure, hysteresis and microwave absorption analysis of $Ba_{(1-x)}Sr_xFe_{12}O_{19}$ ferrite', *Materials Chemistry and Physics*, 111(2-3), pp 225-231.
730. Prashar, Shivendu; Sharma, Kanav; Anand, Sachin; Engles, Derick (2012), 'Carbon Nanotube Based Flexible Antennas', *Journal of Information Systems & Communication*, 3(1), pp 129-132.
731. Puneet; Sawhney, R. S. and Vohra, Rajan (2012), 'Physical Characteristics based MANET Routing Protocols for Campus Network', *International Journal of Computer Applications*, 48(3), June, pp 32-38.

732. Raj, Balwant; Bindra, Sukhleen (2013), 'Thermal Analysis of AlGaN/GaN HEMT: Measurement and Analytical Modeling Techniques', *International Journal of Computer Applications,* 75(18), pp 4-13.
733. Raj, Balwant; Bindra, Sukhleen (2013), 'Thermal Analysis of AlGaN/GaN HEMT: Measurement and Analytical Modeling Techniques', *International Journal of Computer Applications*, 75(18), August, pp. 4-13.
734. Raj, Balwant; Narang, Sukhleen Bindra (2012), 'Drain Current and Thermal Analysis of AlGaN/GaN HEMT for MMIC Design', *Journal of Computational and Theoretical Nanoscience*, 9(6), pp. 1–6.
735. Raj, Balwant; Narang, Sukhleen Bindra (2011), 'Analysis of AlGaN/GaN based HEMT Device for MMIC Design', *International Journal of VLSI Design*, International Science Press 2 (2), pp.129-137.
736. Randhawa, Deep Kamal Kaur; Singh, M. L.; Kaur, Inderpreet; Bharadwaj, Lalit M. (2011), 'Study of HLGs and Transfer Integrals of DNA bases for Investigating Charge Conduction', *International Journal of Electronics and Communication Engineering and Technology*, 2(1), April, pp 43-49.
737. Randhawa, Deep Kamal Kaur; Kaur, Inderpreet; Singh, M. L.; Bharadwaj, Lalit M. (2011), 'Single Electron Effects in DNA Bases', *International Journal of Advanced Engineering Technology*, 2(2), April-June, pp. 197-201.
738. Randhawa, Deep Kamal Kaur; Kaur, Inderpreet; Singh, M. L. and Bharadwaj, Lalit M. (2011), 'Tunneling effects in DNA Bases Adenine and Guanine', *International Journal of Computer Applications*, 17(1), March, pp. 8-12.
739. Randhawa, Deep Kamal Kaur; Singh, M. L.; Kaur, Inderpreet; Bharadwaj, Lalit M. (2011), 'Theoretical study of DNA based Molecular Electronic Devices', *International Journal of Computer Applications*, 19(2), April, pp 39-43.
740. Sharma, Davinder Pal; Singh, Jasvir (2008), 'On the Implementation of Differential Encoder for Spectral Shaping in 56 Kbps Embedded Modems', *Ubiquitous Computing and Communication Journal*, 3(5), pp.22-24.
741. Sawhney, Ravinder Singh; Engles, Derick (2013), 'Modelling Transition of Phosphorus-doped CNT from Metallic-to-Semiconducting for Electronic Applications', *Smart Nanosystems in Engineering and Medicine*, 2(1), February, pp. 25-30.
742. Sharma, D. P.; Singh, Jasvir (2011), 'Simulation and spectral analysis of the scrambler for 56Kbps modem', *Journal of Signal Processing Systems*, 67(3), pp 269-277.
743. Sharma, Parshotam; Hudiara, I. S.; Singh, M. L. (2009), 'A Formula for the Conversion of 4-Minute Average, 10 Minute Average Rain Rate into 1-Minute Average Rain Rate for Prediction of Rain Induced

Attenuation' *Springer Journal of Infrared, Millimeter and Terahertz Waves*, 30(9), pp. 939-944.

744. Sharma, Parshotam; Hudiara, I. S.; Singh, M. L. (2009), 'Measurement of Rain Induced Attenuation over a Line of Sight Link Operating at 28.75 GHz at Amritsar (India)', *Springer Journal of Infrared, Millimeter and Terahertz Waves*, 30(8), pp. 908-914.
745. Sharma, Parshotam; Hudiara,I. S.; Singh, M. L. (2011), 'Estimation of Path Length Reduction Factor by Using One Year Rain Attenuation Statistics over a Line of Sight Link Operating at 28.75 GHz in Amritsar (India)', *Springer Journal of Infrared, Millimeter and Terahertz Waves*, 32(2), pp 137-142.
746. Sharma, Samaru; Sharma, Sanjay; Engles, Derick (2012), 'MIMO System Optimization Using STTC Based STBC with Channel Estimation', *Wireless Personal Communications*, 66(1), pp. 147-165.
747. Singh, Amanjot; Kaur, Hardeep (2012), 'Non Linearity Analysis of High Power Amplifiers in OFDM System', *International Journal of Computer Applications*, 37(2), Jan., pp. 37-41.
748. Singh, Anterpreet; Narang, S. Bindra; Singh, Kulwant; Pandey, O.P. and Kotnala, R.K. (2010), 'Electrical and magnetic properties of rare earth substituted strontium hexaferrites', *Journal of Ceramics Processing Research*, 11(2), pp 241-249.
749. Singh, Balwinder; Narang, Sukhleen Bindra; Khosla, Arun (2011), "Particle Swarm Optimization Framework for Low Power Testing of VLSI Circuits", *International Journal of Artificial Intelligence & Applications*, 2(3), pp.13-20.
750. Singh, Balwinder; Narang, Sukhleen Bindra; Khosla, Arun (2011), "Address Counter / Generators for Low Power Memory BIST", *International Journal of Computer Science Issues*, 8(4), pp. 561-567.
751. Singh, Balwinder; Narang, Sukhleen Bindra; Khosla, Arun (2011), 'MATLAB based Cost modeling for VLSI Testing' , *The Research Bulliten of Jordan ACM*, 2(3), pp. 95-99.
752. Singh, Balwinder; Narang, Sukhleen Bindra; Khosla, Arun (2012), 'Test Power Optimization With Reordering Of Genetic Test Vectors For VLSI Circuits' *Acta Technica Napocensis Electronica-Telecomunicatii (Electronics & Telecommunications),* 53(2), pp.1-5.
753. Singh, Balwinder; Narang, Sukhleen Bindra; Khosla, Arun (2013), 'Low Power Bus Encoding Techniques for Memory Testing', *Microelectronics and Solid State Electronics, 2*(3), pp. 45-51.
754. Singh, Charanjeet; Narang, S. Bindra; Koledintseva, M. Y. (2012), 'Microwave Absorption Characteristics of Substituted$Ba_{0.5}Sr_{0.5}M_xFe_{(12+2x)}O19$ (M = Co^{2+}-$Zr^{4+}$and Co^{2+}-Ti^{4+}) Sintered Ferrite at X-Band', *Microwave and Optical Technology Letters*, 54(7), pp. 1661-1665.
755. Singh, Charanjeet; Narang, S.Bindra; Hudiara, I. S.; Sudheendran, K.; Raju, K.C. James; Rozanov, Konstantin N. (2010), 'Microwave And

Electrical Properties of Co–Ti Substituted Ba–Sr Ferrite', *Ceramics – Silikáty*, 54(2), pp 116-121.

756. Singh, C.; Narang, S. Bindra; Hudiara, I. S.; Yang, Bai; Tabatabaei, F. (2008), 'Static magnetic properties of Co and Ru substituted Ba–Sr ferrite', *Material Research Bulletin*, 43,pp.176-184.
757. Singh, C.; Narang, S.Bindra; Hudiara, I. S.; Yang, Bai (2008), 'The effect of Co and Zr substitution on dc magnetic properties of Ba-Sr Ferrite', *Journal of Alloys and Compounds*. 464(1-2), pp. 429-433.
758. Singh, C.; Narang, S.Bindra; Hudiara, I.S.; Bai, Yang; Koledintseva, Marina (2009), 'Hysteresis analysis of Co–Ti substituted M-type Ba–Sr hexagonal ferrite', *Materials Letters*(63), pp.1921–1924.
759. Singh, Charanjeet; Narang, S.Bindra; Hudiara, I. S.; Sudheendran, K.; Raju, K.C. James (2010), 'Microwave and Electrical Properties of Co-Zr substituted Ba-Sr Ferrite', *Journal of Ceramics Processing Research*, 11(6), pp 692-697.
760. Singh, Charanjeet; Narang, S.Bindra; Hudiara, I. S.; Sudheendran, K.; Raju, K.C. James (2011), 'Microwave and electrical behavior of Co^{2+} and Ru^{4+} ions substituted Ba-Sr sintered ferrite', *Journal of Electroceramics*, 27(3-4), pp 120-125.
761. Singh, Charanjeet; Narang, S.Bindra; Hudiara, I. S.; Raju, KC James and Sudheendran, K (2008), 'Complex permittivity and complex permeability of Sr ions substituted Ba ferrite at X-band', *Journal of Magnetism and Magnetic Materials*, 320(10), pp 1657-1665.
762. Singh, Gurpreet; Singh, M. L.; Singh, Harpreet (2011), 'RWA scheme minimizing FWM effect in a wide area optical network', *Optik-International Journal of Light and Electron Optics*, 122(17), Sep., pp. 1588-1593.
763. Singh, Harjit Pal; Singh, Sarabjeet; Sarin, R.K.; Singh, Jasvir (2011), 'Evaluating the perceived voice quality on VoIP network using interpolated FIR filter algorithm', *International Journal of Electronics*, 99 (10), pp 1449-1469.
764. Singh, Jaswinder; Singh, Maninder Lal (2009), 'A New Family of two dimensional Codes for Optical CDMA systems', *Optik- International Journal of Light and Electron Optics*, 120(18), December, pp. 959-962.
765. Singh, Jaswinder; Singh, Maninder Lal (2009), 'A Novel Encoder/Decoder Design Scheme Utilizing Differential Detection in OCDMA Systems', *Optik- International Journal of Light and Electron Optics*, 120(11), June, pp. 543-548.
766. Singh, Jaswinder; Singh, Maninder Lal (2010), 'Design of 3-D Wavelength/Time/Space codes for Asynchronous Fiber-optic CDMA systems', *IEEE Photonics Technology Letters*, 22(3), February, pp. 131-133.
767. Singh, Jaswinder; Singh, Maninder Lal (2009), 'A New Family of three dimensional codes for Optical CDMA Systems with Differential Detection', *Journal of Optical Fiber Technology*, 15, pp. 470-476.

768. Singh, Maninder; Kaur, Hardeep; Kumar, Mukesh (2012), 'Evaluation of Path Loss Models of Wimax in Sub Urban Environment', *International Journal of Engineering Research & Technology*, 1(4), pp. 1-3.
769. Singh, Maninder Lal (2010), 'Effect of Pulse Walk Off and Data Formats on Stimulated Raman Scattering in Fiber Optic Communication Systems', *Optik- International Journal of Light and Electron Optics,* 121(9), May, pp.778-782.
770. Singh, Rajandeep; Singh, M. L.; Kaur, Baljeet (2012), 'A Novel Triple pump 1050 nm, 1400 nm, 800 nm pumping scheme for thulium dopped fiber amplifier', *Optik- International Journal of Light and Electron Optics*, 123(17), March, pp. 1815-1816.
771. Vohra, Rajan; Sawhney, R. S.; Saini, Gurpreet Singh (2012), 'OPNET Based Wireless LAN Performance Improvisation', *International Journal of Computer Applications*, 48(1), June, pp 27-31.
772. Vohra, Rajan; Sawhney, R.S.; Nayyer, Shipra; Mann, Sunandika (2012), 'WLAN Performance improvisation by Fine Tuning IEEE 802.11 Parameters', *International Journal of Computer Applications*, 43(6), April, pp 16-19.

FACULTY OF HUMANITIES AND RELIGIOUS STUDIES

Guru Nanak Studies

773. Dhillon, Balwant Singh (2008), 'Rai Balwand and Satta: The Minstrels', *Perspectives on Guru Granth Sahib*, Vol V, pp. 93-100.
774. Dhillon, Balwant Singh (2009), 'The Sikhs in the South', *Journal of Sikh Studies*, Vol. XXXIII, pp. 43-58.
775. Dhillon, Balwant Singh (2009), 'The Future of Religious Leadership: The Sikh Perspective', *Sharing Wisdom,* Israel, Dec. pp. 101-124.
776. Dhillon, Jaswinder Kaur (2008), 'Chaitnya Mahaprabhu and Guru Nanak: A Comparative Study', *Journal of Sikh Studies*, Vol. XXXII, pp. 25-44.
777. Dhillon, Jaswinder Kaur (2008), 'Banikar Bhagat Namdev', *Perspective on Guru Granth Sahib,* Vol. VI, pp. 115-133.
778. Dhillon, Jaswinder Kaur (2009), 'Gurudwara Nanak Mata and Nearby Gurdwaras', *Journal of Sikh Studies*, Vol. XXXII, pp.15-30.
779. Dhillon, Jaswinder Kaur (2010), 'Sikhism' in Johnson J. Puthenpurackal (ed.), *ACPI Encyclopedia of Philosophy,* Vol.II, Banglore: Asian Trading Corporation, Bangalore, pp. 1281-1284.(ISBN 81-7086-574-3).
780. Dhillon, Jaswinder Kaur (2011), 'Gurudwaras in and Around Sultanpur Lodhi', *Journal of Sikh Studies*, Vol. XXXV, pp. 21-38.
781. Bala, Shashi (2008), 'Guru Nanak and His Religious Contemporary: Vallabhacharya', *Journal of Sikh Studies,* Vol. XXXII, pp. 9-24.

782. Bala, Shashi (2008), 'Guru Nanak: Life Compositions and Philosophy', *Perspectives on Guru Granth Sahib*, Vol. VI, pp. 1-15.
783. Bala, Shashi (2008), 'Truthful Living and its Social Implications in Guru Granth Sahib'*, Studies in Sikhism and Comparative Religion*, Vol. XXVII, No.2, July-Dec., pp.49-70.
784. Bala, Shashi (2008**),** 'Religious Pluralism and Sikhism', *The Sikh Review*, Vol. 56:11, pp. 15-24**.**
785. Bala, Shashi (2009), 'Sikh Mystical Experience vis-a-vis Social Reality', *Abstracts of Sikh Studies*, Vol. XI, Issue2, April-June, pp.99-111.
786. Bala, Shashi (2009**),** 'Human Personality and Its Spiritual Growth', *Journal of Sikh Studies*, Vol. XXXIII, pp. 109-118.
787. Bala, Shashi (2010), 'Maya' in Johnson J. Puthenpurackal (ed.), *ACPI Encyclopedia of Philosophy,* Vol.II, Bangalore: Asian Trading Corporation, pp. 867-870 (ISBN 81-7086-574-3).
788. Bala, Shashi (2010), 'Sikh Religious Thought and Practice', in Santanuk Patro (ed.) *A Guide to Religious Thought & Practices,* Great Britain: SPCK, pp. 158-169. (ISBN: 978-0-281-06250-8).
789. Bala, Shashi (2010), 'Human Equality-The Sikh Perspective', in *Sikhism and Comparative Religion,* Vol. XXIX, No. I, Jan-June, pp. 13-28.
790. Bala, Shashi (2010), 'Status of Women: Moral Obligations-Perspectives from Guru Granth Sahib', in *The Sikh Review*, Sep.Vol.58.9, pp.25-32.
791. Bala, Shashi (2011), 'Bhagat Ravidas's Concept of Social Values', *Sikhism and Comparative Religion,* Vol. XXX, No.1, Jan-June , pp.113-126
792. Bala, Shashi (2011), 'Medieval Yoga Tradition and Sikhism', *Journal of Sikh Studies,* Vol. XXXV, pp. 1-20.
793. Bala, Shashi (2011), 'Uniqueness of Guru Nanak's Philosophy-Difference from Vedanta', *Understanding Sikhism*, Jan-Dec., Vol.13, No.1-2, Canada, pp. 30-34.
794. Bala, Shashi (2012), 'Guru Nanak Dev: Personality and Vision', *Punjab Journal of Sikh Studies*, Vol. II, pp. 21-39.
795. Bala, Shashi (2012), 'Global Spirituality: Nature and Implications', *The Journal of Religion and Sikh Studies*, Vol. 1(1), July, pp. 34-46.
796. Bala, Shashi (2012), 'Sikhism and Women', *Abstracts of Sikh Studies*, Vol.XIV, Issue 1, pp.3-26.
797. Bala, Shashi (2012), 'Need to Promote the Holistic Aspect of Education-The Sikh Perspective', *Journal of Sikh Studies*, Vol. XXXIV, pp. 1-7.
798. Bala, Shashi (2012), 'Dharma, Vigyan ate Adhyatmikta', *Dharam Adhiyan Patrika*, Vol. I, pp. 1-11.
799. Bala Shashi (2012), '*Interfaith* Dialogue in Sri Guru Granth Sahib', in J. S. Ahluwalia and Dr. Kirandeep Kaur Mann (eds.), *Advanced*

Studies in Sikhism, Fatehgarh Sahib: Sri Guru Granth Sahib World University, pp. 230-247.(ISBN-978-93-82246-15-2)
800. Bala, Shashi (2013), 'Sikh Concept of Religious Humanism', *Journal of Sri Guru Granth Sahib Studies,* Vol. 1, April, pp. 88-97.
801. Navdeep; Bharatbeer Kaur Sandhu (2009), 'Lokdhara Te Azadi Ghulateay', *Punjab History Conference Proceedings*, pp.220-227.
802. Sandhu, Bharatbeer Kaur (2008), 'Bani Sri Guru Tegh Bahadur : Bhashai Jugtan', *Samdarshi*,vol-101**,** pp.105-114.
803. Sandhu, Bharatbeer Kaur (2009), 'Baramaha Majh Da Sabhyacharak Adhayan', *Punjabi Duniya (Guru Granth Sahib Visesh Ank),* Nov–Jan, pp. 151-160.
804. Sandhu, Bharatbeer Kaur (2011), 'Bani Shri Guru Tegh Bahadur : Idea of Mortality'**,** *Journal of Sikh Studies***,** pp.171-190.
805. Sandhu, Bharatbeer Kaur (2012), 'Sami Darshan Vich Dukhant Da Sankalp (Farid Bani De Adhar Te)', *Khoj Patrika***,** Ank 65, pp.74-80.
806. Sandhu, Bharatbeer Kaur (2012), 'Guru Tegh Bahadur Bani Vich Jeevan Jugatn', *Khoj Patrika***,** Ank 65, pp.38-55.
807. Singh, Baljit; Sandhu, Bharatbeer Kaur (2011), 'Pali Bhupinder Singh Deh Natakan Vich Bhagat Singh Ajoky Parsang Deh Sandarbh Vich', *Proceedings of Vishav Punjabi Sahit Conference*, pp. 445-451.
808. Singh, Gursharanjit (2008), 'Guru Ram Das: Life and Contribution', *Perspectives on Guru Granth Sahib*, Vol. VI, pp. 49-63.
809. Singh, Gursharanjit (2008), 'Place of Guru Nanak Among His Religious Contemporaries', *Journal of Sikh Studies*, Vol. XXXII, pp. 125-132.
810. Singh, Gursharanjit (2012), 'Guru Nanak Sahib da Sma: Dharam-Samaj –Rajniti', *Dharam Adhiyan Patrika*, Vol. I, pp.13-31.
811. Singh, Gursharanjit (2013), 'Guru Nanak Dev: Vilakhan Manavvadi', *Journal of Sri Guru Granth Sahib Studies*, Vol.1, April, pp. 155-162.
812. Singh, Manvinder (2009), 'Sikh Dharm Da Jujaaru Pakh', *Panjab History Conference proceedings*, March, pp.96-102
813. Singh, Manvinder (2011), 'Duniyavee Sarocar ate Adhiatmikta da Sumel: Guru Nanak Bani', *Panjab History Conference proceedings,* March, pp.478-481.
814. Singh, Manvinder (2012), 'Guru Granth Sahib di Adhunik Parsangikta', *Panjab History Conference Proceedings,* March, pp. 514-520.
815. Singh, Manvinder (2012), 'Pashmi Sahit vich Rahasvadi Anubhav: Prakriti ate kisma', *Dharam Adhiyan Patrika*, Vol. I, pp. 35-49.
816. Singh, Manvinder (2013), 'Jaat Paat ate Guru Nanak da Darshan', *Journal of Sri Guru Granth Sahib Studies*, Vol. 1, April, pp. 163-172.
817. Singh, Rai Jasbir (2008), 'Malik Muhammad Jaisi: A Contemporary of Guru Nanak', *Journal of Sikh Studies*, Vol XXXII, pp. 79-90.

818. Singh, Rai Jasbir (2008), 'Gadri Baba Sher Singh Vein Poin, Jeewani te Sakshiyat: Sarot Adhiyan', *Punjab History Conference Proceedings*, pp. 198-202.

FACULTY OF LANGUAGES

English

819. Kaur, Sumneet (2012), *From Home to House: A Voyage of Shauna Singh Baldwin's Diasporic Women.* Indian Contours. Ed. Rohit Phutela. Jalandhar: Uttam Publishers. pp. 134-145. ISBN No. 978-81-923858-3-9.
820. Kaur, Sumneet (2012), "The Voice of Conrad's Voiceless Subaltern: A Postcolonial Analysis", *Postcolonial Deliberations*, (ed.), Rohit Phutela. C-Vijayjyoti Offset Printers. Jalandhar. 28-29 February, Department of English, Lyallpur Khalsa College for Women, Jalandhar. ISBN No. 978-81-923013-03.
821. Singh, Gurupdesh (2008), *Buzzword: Communicative English for Schools*. (Consultant Editor). Longman Black Swan, Hyderabad.
822. Singh, Gurupdesh; Bhalla, Bindiya (2009), "*Language, Attitude and Popular Culture", ICFAI University Journal of English Studies*, Vol. IV. No. 3-4, September 2009.
823. Singh, Gurupdesh (2009), "*Taming the Subtext: The Ghalib translations"*, *The Quest.* Vol. 23. No.1.

Hindi

824. Kumar, Sunil (2010), "Acharya Hazari Prasad Dvivedi ki Navya Manvtawadi Drishti"*, Shabad Sarokar,* pp. 13-15
825. Kumar, Sunil (2010), "Mayyadas ki maadi; nari key vividh roop, research link Lokayaytan mein yugbodh ki parikalpna", *Anusandhan*.
826. Kumar, Sunil (2011), "Ugeen visangtion kai abhivyktion ka dastavez' Ristey rishtey", *Shabad Sarokar*.
827. Jitender, Sudha (2009), "Parvasi Chetna Ki Dohari Traasdi ki Sashakat Abhivyakti key Upnayaskar Manmohan Sehgal" *Pradhikrit* (Vol.22, 2008) Panchsheel Shodh Patrika, Vol.5, pp.153-163.
828. Jitender , Sudha (2009), "Jagdish Chander key Upnayason Mein Dalit Sangharsh", *Nav Nikash*, pp.34-40
829. Jitender , Sudha (2009), "Bhagat Ramanand Aur Unka Darshan(Nirgun Key Sandarbh Mein)", *Sammelan*,Vol,19, pp. 122-125
830. Jitender, Sudha (2009), "Path Vishleshan mein shelly vigyan ki Bhumika", *Gveshna*, Vol.94.
831. Jitender , Sudha (2009), "Manmohan Sehgal Key Upnayason Mein Naari Samvedna", *Yug Shilpi* 143-15*0*

832. Jitender, Sudha (2009), "Badltey Moolyon evam aadhunikta mein Bhartiya Bujurgon ki Heen dasha", *Gurmat Gyan.*
833. Jitender, Sudha (2009), "Miley sur Mera Tumhara mein Parvasi chetna"*, Sahitya silsila ,*Vol-1.
834. Jitender, Sudha (2010), "Ashok Vajpayee Key Kavya Mein Mrityu Bodh", *Shabad Sarokar,*Vol. 26. pp. 62-64
835. Jitender, Sudha (2010), "Punjab key Hindi Upnayas ki Vilaksnan Chhaviyan"*, Path Patrika,* Vol, 24.
836. Jitender, Sudha (2011), "Hindi Aur Punjabi Kavita mein virodh evam Vidroh Key Swar," *Path Patrika,* Vol, 24.
837. Jitender, Sudha (2010), "Sulgati Nadi Aatankvaad key Khilaf Morcha", *Sameeksha,*Vol.1.
838. Jitender, Sudha (2010), "Nirala (Hindi) aur Bawa Balwant Ki Kavita Mein Rashtriya Chetna ka Tulnatamak haashiya", *Shodh Disha,* July-Sept.
839. Jitender, Sudha (2008), "Aadhunik Hindi Aur Punjabi Kavita Mein Rashtriya Chetna Key Vibhin Sopaan", *Pradhikrit*, Vol.22.
840. Jitender, Sudha (2010), "Punjab key Hndi Upnayas Mein DronVeer Kohli ka Yogdaan", *Sammalan,*Vol,15, pp.101-111
841. Jitender, Sudha (2008), "Punjab Mein Rachit Hindi Upnayas ki Etihasik Prasangikta (Sandarbh-Punjabi Jan Jeewan)", *Pradhikrit*, Vol.22.
842. Jitender, Sudha (2011), "Ashok Vajpayee Key Kavya Mein Prakriti Key Vividh Roop", *Shodh Disha*.
843. Jitender, Sudha (2008), *"Ashok Vajpayee key Kavya key Vividh sarokar", Pradhikrit,* Vol. 22.
844. Jitender, Sudha (2012), *"Bhartiya Jansadharan Key Nayak Guru Gobind Singh", Gurmat Gyan* , March
845. Jitender, Sudha (2009), "Bhumandlikaran ki Avdharna aur Hindi Sahitya", *Bhumandlikaran aur Hindi Sahitya.*
846. Jitender, Sudha (2008), "Shellyvaigyanik Aalochna ki Nirvachanatamakta (Shamsher ki kavita 'Ek Neela Dariya Baras raha ka Sandarbh')", *Pradhikrit*, Vol.22.
847. Jitender, Sudha (2010), "Ajay Sharma ke Upnyas: Locale se Globlization tak ki Yatra", in *Dr. Ajay Sharma ka katha Sansaar*, Silsila Prakashan.
848. Jitender, Sudha (2010), "Sanchaar Madhyamo mein Badalta Hindi ka Swaroop : Sambhavnayein aur Chunotian", *Sanchaar Madhyam aur Hindi*.
849. Jitender, Sudha (2012), "Guru Gobind Dou Khare", In *Dr. Shitanshu ki Sarjna aur Aalochna*.
850. Jitender, Sudha (2012), "Shellyvaigyanik Aalochna ke Shikhar: Prof. Shitanshu", *Dr. Shitanshu ki Sarjna aur Aalochna*.
851. Jitender, Sudha (2013), "Kavitaon ka sangharshrat ytharthvadi hashia*", Samay sey muthbhed ka jankavi Shubhdarshan* (Ed.). Ramesh

Soni. Sabhya Parkashan. ISBN 978-81-906864-6-4.
852. Sharma, Sunita (2010), "Duggar ke vavahik lok geeton mein pauranik patar", *Eksha pp* 66-75
853. Sharma, Sunita (2011), "Ramkatha ke kaaljayi kavi tulsi", *Kashaf*.
854. Sharma, Sunita (2011), *"*Bhartiya premakhyan parampra ki usha bela ka alpcarchit prasang", *Kasahf*. P.7-10
855. Sharma, Sunita (2013), "Premshastar rachiyta Meera evam uska Yug", *Shabad Sarokar*, pp. 13-17

Sanskrit, Pali and Prakrit

856. Bala, Renu (2012), 'Atharvavediya Bhumi Sukta Ki Prasangikata', *Vedic Jyoti,* V-1, Jan.-Jun., P 115-122.
857. Singh, Dalbir (2009), 'Sanskrit vanmaye Samaj ka paryavaranam', *Sanskrit Manjari,* Y-7, V-4, Apr.-Jun., P 31-38.
858. Dalbir Singh (2009), 'Sanskrit Panjabi bhashayoh Parasparika sambandhah', *Sanskrit Manjari,* Y-8, V-1, Jul.-Sep., P 47-53.
859. Singh, Dalbir (2009), 'Sikh Guru Vishayak Sanskrit Sahitye Nari', *Shyamala,* V-25, Dec., P 28-31.
860. Bala, Renu (2011), 'Bhasavirachit Svapnavasavadattan', *Khoj Patrika,* Issue-67 March 2008, P 54-58.
861. Sharma, Lekh Ram (2011), 'Natakakar De Roop Vich Mahakavi Bhavabhuti', *Khoj Patrika,* Issue-67, March 2008, P 130-134.
862. Chahal, Dalbir Singh; Sharma, Lekh Ram (2011), 'Panjab Evam Sanskrit *Prachyavidyanusandhana',* V-6, No. 1, Jan.-Jun., P 95-102.
863. Singh, Dalbir (2012), 'Vedon Mein Parikalpit Adarsh Manviya Jivan', *Vedic Jyoti,* V-1, Jan.-Jun., P 111-114.
864. Chahal, Dalbir Singh (2012), 'Adarsh Samaj Ke Liye Vaidik Nirdesh', *Rachana Vimarsh,* Y-2, V-5-6, Apr.-Sept., P 18-21.
865. Singh, Dalbir (2012), 'Kalidas Abhimat Rajyavyavastha', *Gurukul Shodh Prabha,* V-2, Jul.-Sep., P 176-179.
866. Chahal, Dalbir Singh (2012), 'Vedon Mein Purusharth', *Ved Vidya,* V-20, Jul.-Dec., P 90-94.

School of Punjabi Studies

867. Aulak, Satinder (2008), "Punjab Dian Dant Kathavan", *Sabhiachar Patrika*, Punjabi University, Patiala.
868. Bedi, Harchand Singh (2008), "Chandan Negi di Khani" : 'Harkh Sog' (Aurat di Hondmoolak Space da Masla), *Ajoke Shilalekh* (A Literary Magazine), Amritsar.
869. Bedi, Harchand Singh (2008), "Amriki Punjabi Khani ate Vishvikarn da Masala", *Khoj Darpan* (A Research Journal), Guru Nanak Dev University Amritsar.

870. Bedi, Harchand Singh, (2009), "Parvasi Punjabi Sahit: Vartman Paripekh", *Parvasi Punjabi Sahit* (ed. Rajwinder Kaur Hundal), Lok Geet Parkashan, Chandigarh.
871. Bedi, Harchand Singh (2009), "Blatkar da Masla te Beevi da Drishtikon", (K.C Mohan di "Rape" te Tokeel Chugtai di "Balatkar" de Aadhar te), *Ajoke Shilalekh* (A Literary Magazine), Amritsar.
872. Bedi, Harchand Singh (2009), "Aurat te Ghar di Vidambna da Birtant", *Ajoke Shilalekh* (A Literary Magazine), Amritsar.
873. Bedi, Harchand Singh (2009), "Parvasi Punjabi Kahani: Vartmaan Paripekh", *Parvasi Punjabi Sahit: Vartmaan Paripekh* (ed. Harchand Singh Bedi), Lok Geet parkashan, Chandigarh.
874. Bedi, Harchand Singh (2010), "Kahani –"Katal" da ik Zaavia", *Ik Kahani Das Dishavan* (ed. Ravinder Ravi), Chetna Parkashan, Ludhiana.
875. Bhatia, H.S. (2011), "Joginder Singh Rahi: Galap Chitan da Saroop"**,** *Dr. Joginder Singh Rahi Simrti Granth*, (ed.), Singh Brothers, Amritsar.
876. Bir, Sohinder (2009), "Jagtar di Kav Kirat 'Chnukri Sham' da Theemak ate Klatmak Pakh", *Punjabi Duniya* (A Journal of Literary Studies), Patiala.
877. Bir, Sohinder (2010), "Harbhajan Dhilon di Kavita", *Punjab Mail* (A Weekly Newspaper), USA.
878. Bir, Sohinder (2010), "Amriki Punjabi Gazal: Vichardharayi Paripekh", *Meghla* (A Literary Magazine), Amritsar.
879. Bir, Sohinder (2010). "Bartanvi Punjabi Gazal: Itihasik Paripekh", *Likhari* (A Literary Magazine), UK.
880. Bir, Sohinder (2010), "Baba Farid di Bani Vich Islam", *Shariyat ate Tasavuf*, (Souvenir on Baba Farid), Faridkot.
881. Bir, Sohinder (2012), "Harfan di Dor de Abrki Rang", *Punjab Mail* (A Weekly Newspaper), USA.
882. Bir, Sohinder (2013), "Kadaryar di Birtant Drishti", (Puran Bhagat de Aadhaar te), *Punjabi Kissa Kav: Prampra te Parvah* (ed. Buta Singh Brar, Rajinder Singh), Ravi Sahit Parkashan, Amritsar.
883. Darya (2008), "Pitar Pooja", *Khoj Darpan* (A Research Journal), Guru Nanak Dev University Amritsar.
884. Darya (2008), "Punjabi Sabhiachar Vich Suneha Parbandh", *LokVani* (A Journal of Folklore Studies), Jammu.
885. Darya (2009), "Punjab de Kabilian Sambandi Hoyi Khoj: Seema ate Sabhvnav", *Hashia Lok* (A Research Journal of Subaltern Studies), Patiala.
886. Darya (2009), "Punjab de Kabilian Sambandi Hoyi Khoj: Seema ate Sambhavnava", *Haashia* (A Research Journal of Subaltern Studies), Patiala.
887. Darya (2009), "Punjab de Kabile: Vidiak Sarokar", *Haashia Lok* (A Research Journal of Subaltern Studies), Patiala.

888. Darya (2010), "Kabilayi Lokdhara Adhyan", *Sabhiachar Patrika* (A Research Journal of Culture Studies), Punjabi Univesrsity, Patiala.
889. Darya (2010), "Sansi Kabeele da Sabhiachar", *Alochna* (A Research Journal of Literary Studies), Ludhiana.
890. Darya (2011), "Punjab da Kabilai Sabhiachar: Vartman Paripekh", *Lokdhara ate Adhunikta: Rupantern Ate Punar Mulakan* (ed.), Punjabi University, Patiala.
891. Darya (2011), "Kaalian Vale Khooh da Dukhant:Sabhichark Itihas", *Lahoo Bhiji Dastan*, (ed. Bhupinder Singh Sandhu), Aalmi Punjabi Virast Faundation, Amritsar.
892. Darya (2011), "Punjabi Sabhiachar: Kabilayi Samikaran", *Haashia Lok* (A Research Journal of Subaltern Studies), Patiala.
893. Darya (2011), "Punjab da Kabilayi Sabhiachar: Varatman Parsangikta", *Haashia Lok* (A Research Journal of Subaltern Studies), Patiala.
894. Darya (2011), "Sansi Kabile di Rasam 'Push-Das' di Pardarshankari", *Punjabi Lokdhara: Virsa te Vartman***,** (ed. Satinder Aulah), Ravi Sahit Parkashan, Amritsar.
895. Darya (2011), "Sadian de Safar to Pichon Aje vi Mukti Nahi Payi", Jagriti (A Literary Magazine), Chandigarh.
896. Darya (2011), "Lok Dharam ate Lok Vishvas", *Lok Vani* (A Journal of Folklore Studies), Jammu.
897. Jassal, Kawaljit (2011), "Vishvikaran ate Punjabi Bhasha", *Maat Bhasha Punjabi* (ed. Dr. Major Singh), Lok Geet Parkashan, Chandigarh.
898. Jolly, Jatinderpal Singh (2008), "Parvas te Parvasi Sahit da Sabhiachark Sndharbh", (Pakistani Punjabi Sahit de Parsang Vich), *Parvasi Sahit da Sabhiachark Parsang* (ed. Harchand Singh Bedi), Guru Nanak Dev University Amritsar.
899. Jolly, Jatinderpal Singh (2008), "Satte Balwand di Var da Itihasak Paripekh", *Jinni Naam Likhaya Sach,* (ed.), Balwinder Singh Jorhasingha and Simarjit Singh, Dharm Parchar Committee. Shiromni Gurudwara Parbandhak Committee, Amritsar.
900. Jolly, Jatinderpal Singh (2008), "Neel Kanth: Ik Adhyan", *Akhar* (A Literary Magazine), Amritsar.
901. Jolly, Jatinderpal Singh (2008), "Panch Parvan Panch Pardhan", *Lok Punjab* (A Literary Magazine), Shri Guru Granth Sahib ji de 300 Salan Gurta Gadi Divas Vishesh Aank, Mumbai.
902. Kaur, Harjit (2008), "Punjabi Pari Kahani: Chinnatmak Jugtan", *Sabhiachar Patrika* (A Research Journal of Cultural Studies), Punjabi University, Patiala.
903. Kaur, Harjit (2011), "Punjabi Lok Kla 'Rumal': Lokdhara ate Adhunikta", *Sabhiachar Patrika* (A Research Journal of Cultural Studies), Punjabi University, Patiala.

904. Kaur, Raminder (2008), "Bina Vja ta Nahi' da Kahani Shastar", *Shabad* (A Literary Magazine), Jalandhar.
905. Kaur, Raminder (2008), "Katal Hoya Par Kisda? Jinder di Kahani 'Katal'", *Shabad* (A Literary Magazine), Jalandhar.
906. Kaur, Raminder (2008), "Mittar Sen Meet di Navalkari", *Navalkar Mittar Sen Meet: Sanvad Dar Sanvad* (ed. S.Tarsem), Mata Bhagvanti Sahit Seva Samti, Malerkotla.
907. Kaur, Raminder (2010), "Katal Hoya Par Kisda? Jinder di Kahani 'Katal'", *Ik Kahani Das Dishavan*, (ed. Ravinder Ravi), Chetna Parkashan, Ludhiana.
908. Kaur, Raminder (2010), "Punjabi Kahani: Mudh ate Hasil", *Shabad* (A Literary Magazine), Jalandhar.
909. Kaur, Raminder (2010), "Jinder Da Kahani Sangrih 'Jakham': Ik Vishleshan", *Shabad* (A Literary Magazine), Jalandhar.
910. Kaur, Raminder (2010), "'Bina Vja tan Nahi' da Kahani Shaster", *Punjabi Kahani Vidhi te Visthar* (ed. Jaswinder Kaur Bindra), Sunder Book Depot, Jalandher.
911. Kaur, Raminder (2011), "Punjabi Kahani: Dasha te Disha", *Parvachan* (A Literary Magazine), Jalander.
912. Kaur, Raminder (2011), "Shahkar Punjabi Khani", *Parvachan* (A Literary Magazine), Jalandhar.
913. Kaur, Raminder (2011), "Harjit Atwal da novel 'Southhall': Ik Vishleshan", *Khoj Patrika* (A Research Journal) Punjabi Univesrsity, Patiala.
914. Kaur, Raminder (2011), "Yudh Naad: Arstu da Neeti Sashter Adhyan", *Khoj Patrika* (A Research Journal), Punjabi Univesrsity, Patiala.
915. Sidhu, Paramjit Singh, (2008), "Punjabi Bhasha da Adhiapan: Dasha ate Disha", *Punjabi Adhian, Adhiapan ate Khoj* (ed.), "Labh Singh Khiva, Lok Geet Parkashan", Chandigarh.
916. Sidhu, Paramjit Singh, (2008), "Shri Guru Granth Sahib ji: Bhashi Visheshta te Vilakhanta", *Shri Guru Granth Sahib ji de 300 Salan Gurta Gadi Divas nu Smarpit Souvenir* (ed. Jasbir Singh Sabar), Shiromni Guruduara Parbandak Committee, Amritsar.
917. Sidhu, Paramjit Singh; Ramanpreet Kaur (2010), "Shri Guru Granth Sahib di Sampadna-Bhashak Saroop", *Khoj Patrika* (A Research Journal), Punjabi University, Patiala.
918. Sidhu, Paramjit Singh (2011), "Punjabi Bhasha da Computerikarn: Sathiti te Sambahvnava", *Punjabi Bhasha Vikas De Badlde Paripekh***,** Publication Bureau, Punjabi University, Patiala.
919. Sidhu, Paramjit Singh (2012), "Bani Sanchar: Pathatmak Pripekh", *Khoj Patrika* (A Research Journal), Punjabi University, Patiala.
920. Singh, Gurmeet (2008), "Viraasti Pind te Selaani Sabhiachar", *LokVani*, (A Journal of Folklore Studies), Jammu.
921. Singh, Gurmeet (2008), "Lokdhara Srokar te Chunautian", *International Observer* (A Literary Magazine), Delhi.

922. Singh, Gurmeet (2008), "Folklore of Militancy: The Case of Punjab", *Journal of Indian Folklore*, Mysore.

Urdu and Persian

923. Aziz Abbas (2008), "Aabe Hayat aur Chashmae Hayat: Ek Mutali'a, Parwaz-e-Adab", Bhasha Vibhag Punjab, Patiala, March-April. pp 55-59.
924. Aziz Abbas (2009), "Udas lamhon Ka Sha'ir: Farooq Baxi Parwaz-e-Adab", Bhasha Vibhag Punjab, Patiala, January-April, 2009, pp 34-37.
925. Aziz Abbas (2009), "Shurua'ti Farsi Adabe Atfaal", Kashf-Amritsar, Vol.15, June- July-2009, pp 79-81.

FACULTY OF LAWS

Laws

926. Kapoor, Viney (2009), "Human Rights and Environmental Protection-An Integrated Approach", *NYAYADEEP* (a special issue on Human Rights 2009) published by National Legal Services Authority. pp. 62-70.
927. Kapoor, Viney (2009), "Gender Bias in Adoption Law", *Law Journal*, Law Department, GNDU.
928. Kapoor, Viney (2010), "Medical Negligence under Consumer Law: Judicial Response", pp. 5-18. MDU *Law Journal of Deptt. of Laws*, Maharishi Dayanand University, Rohtak, Vol..XV, Part ii (a).
929. Kapoor, Viney (2010), "Matrimonial Property: Need of the Hour", pp. 155-163, *Army Institute of Law Journal*, Army Institute of Law, Vol. III.
930. Kapoor, Viney (2010), "Human Rights & Women Prisoners in India with Reference to Amritsar Central Jail", *Indian Bar Review*, Vol. XXXVII(3&4). pp. 49-62.
931. Kapoor, Viney (2010), "Uniform Civil Code: A Step towards Secular India", pp.99-106, *Punjabi University Law Journal*, Vol. IV.
932. Kapoor, Viney (2011), "Human Rights and Women Prisoners", pp. 401-412, *RGNUL Law Review*, Rajiv Gandhi National University of Law, Patiala, Vol. I, no 1, January- June
933. Kapoor, Viney (2011), "Lala Lajpat Rai and Women", pub. in *Lala Lajpat Rai: A Visionary Par Excellence*, ed., Dr. Arun Mehra.
934. Kapoor, Viney (2011), "Human Rights of Indian Women", pp.163-169, pub. *In Human Rights: Contemporary Concerns* ed. Dr Daljit Singh & others.
935. Kapoor, Viney (2010), "Bigamy in India: New Dimensions", *A Journal of Social Sciences*, Vol. VI. pp. 5-15
936. Singh, Jaspal (2009), "Law for Free and Fair Elections in India: A Critical Analysis", *M.D.U. Law Journal*, Vol. XIV, Part I. pp. 175-192.

937. Singh, Jaspal (2009), "Election Commission and Free & Fair Elections in India", *Vidhanmala*, Vol. III No. I, June
938. Singh, Jaspal (2008), "Constitutional Mandate for Rights of Women in India: An Appraisal", *Law Journal,* Guru Nanak Dev University, Amritsar, Vol. XVI, pp. 1-22.
939. Singh, Jaspal (2009), "Legislative and Judicial Control of Environmental Pollution in India: An Appraisal", *Law Journal,* Guru Nanak Dev University, Amritsar, Vol. XVII, pp. 37-54.
940. Singh, Jaspal (2009), "A Comprehensive Law for Control of Noise Pollution – Need of the Day", in *Noise Pollution and Concerns,* Editor: P. Mohana Krishna, *Published by* The Icfai University Press, Hyderabad, pp 176-192.
941. Singh, Jaspal (2010), "Health Hazards of Water Pollution and Its Legal Control with Special Reference to State of Punjab", *IUP Journal of Environmental and Healthcare Law*, Hyderabad, Vol. IX, Nos. 1 & 2, Jan& April.pp. 19-34.
942. Singh, Jaspal (2011), "Rights of Women under the Indian Constitution: An Analysis", *Indian Bar Review*, Vol. XXXVIII (1 & 2). pp. 65-84.
943. Singh, Jaspal (2012), "Human Rights Jurisprudence vis-a-vs Environment Protection in India: An Appraisal", in *Deliberations on Human Rights* edited by Chander Rekha Sandhir, Rinka and D.K. Sood, Krishna Brothers, Jalandhar. ISBN 978-81-921238-7-5, pp. 49-74.
944. Singh, Jaspal (2010), "Right to Education in India: An Analysis", in *Law Journal,* Guru Nanak Dev University, Amritsar, Vol. XVII. pp. 59-78.
945. Singh, Jaspal (2012), "Right to Information Act, 2005-An Instrument for Administrative Transparency", *Punjabi University Law Journal,* Volume VI. pp. 1-11.
946. Singh, Jaspal (2013), "Hypothesis: Nature and Significance in Socio-Legal Research", *Legal Research Methodology* edited by Rattan Singh. LexisNexis, Gurgaon, Haryana, ISBN 978-81-8038-897-2, pp. 205-211.
947. Singh, Rattan (2009), "Right to information Act 2005: A Mantra for Administrative Reforms", *Kashmir University Law Review*, Department of Laws, University of Kashmir Srinagar. Vol. XVI, No. XVI, (237-244)
948. Singh, Rattan (2009), "Plea Bargaining in India- A Dip into the Law", (275-285) *Criminal Law Journal (AIR)* Vol.115, Part 1318.
949. Singh, Rattan (2009), "Mushroom Growth of Law Colleges in India: Some Implications", *Law Journal*, Guru Nanak Dev University, Amritsar Vol. XVII, pp 73-88.
950. Singh, Rattan (2009), "Narco Analysis: A Volcano in Criminal Investigation System", *MDU Law Journal*.Maharshi Dayanand University, Rohtak, Haryana Vol.Part- II.

951. Singh, Rattan (2009), "Right to information Act 2005: A Mantra for Administrative Reforms", *Kashmir University Law Review* 2009, Department of Laws, University of Kashmir Srinagar.Vol. XVI, No. XVI, pp. 237-254.
952. Singh, Rattan (2009), "Human Rights of Indigenous People: A Reflection of Reality", *Asia-Pacific Journal of Social Sciences* ISSN 0975 – 5942 Vol. I (I) Jan-June, pp. 117-126.
953. Singh, Rattan (2010), "Role of DNA in Crime Investigation: Some Pros and Cons.", *VIDHIGYA The Journal of Legal Awareness*, Integrated School of Law, Ghaziabad, pp. 1-12.
954. Singh, Rattan (2012), "Personal Laws. vis-a-vis Constitutional Provisions", *Punjabi University Law Journal* Vol. VI.

FACULTY OF LIFE SCIENCES

Biotechnology

955. Dutta, T.; Kaur, H.; Singh, S.; Mishra, A.; Tripathy, J. K.; Singh, N.; Pareek, A.; Singh, P. (2011), "Developmental changes in storage proteins and peptidyl prolyl *cis-trans* isomerase activity in grains of different wheat cultivars", *Food Chemistry,* 128, pp 450-457.
956. Gupta, V.; Gaind, S.; Verma, P. K.; Sood, N.; Srivastava, A. K. (2010), "Purification and characterization of intracellular nitrilases from *Rhodococcus* sp.- potential role of periplasmic nitrilase", *African Journal of Microbiology Research,* 4(11), pp 1148-1153.
957. Kambhoj, R. K.; Singh, S.; Bhadani, A.; Kataria, H.; Kaur, G. (2012), "Gemini Imidazolium Surfactants: Synthesis and their Bio-Physiochemical Studies", *Langmuir,* 28(33), pp 11969-78.
958. Kataria, H.; Shah, N.; Kaul, Sunil, C.; Wadhwa, R.; Kaur, G. (2011), "Water extract of Ashwagandha leaves reduces proliferation and migration, and induces differentiation in glioma cells", *eCAM,* 2011:267614.
959. Kataria, H.; Sunil, C. Kaul; Wadhwa, R.; Kaur, G. (2012), "Water Extract from the Leaves of *Withania somnifera* Protect RA Differentiated C6 and IMR-32 Cells Against Glutamate-Induced Excitotoxicity", *PLoS ONE,* 7(5), doi:10.1371/journal.pone.0037080.
960. Kataria, Hardeep; Kaul, Sunil C.; Wadhwa, Renu; Kaur, Gurcharan (2013), "Withania somnifera water extract as a potential candidate for differentiation based therapy of human neuroblastoma". *PLoS ONE*, 8(1):e55316. doi: 10.1371/ journal.pone. 0055316.
961. Kaur, A.; Kaur, P.; Singh, N.; Virdi, A.S.; Singh, Prabhjeet; Rana, J.C. (2013), Rice bean (*Vigna umbellata*): Grain, starch and protein characteristics. *Food Research International*, 54: pp 102-110.
962. Kaur, M.; Sharma, S.; Kaur, G. (2008), "Age-related impairments in neuronal plasticity markers and astrocytic GFAP and their reversal by

late-onset short term dietary restriction", *Biogerontology,* 9, pp 441-454.

963. Kaur, R.; Ahuja, S.; Anand, A.; Singh, B.; Stark, Benjamin C.; Webster, Dale A.; Dibshit, Kanak L. (2008), "Functional implications of the peoximal site hydrogen bonding network in *Vitriscilla* hemoglobin (VHb): role of Tyr 95 (GS) and Tyr 121 (H12)", *FEBS letters,* 582, pp 3494-500.
964. Khokhar, K. K.; Sidhu, S.; Kaur, G. (2010), "Correlation between Leptin level and Hypertension in Normal and Obese Pre- and Postmenopausal Women", *Eur J Endocrinology, 163*, pp 873-878.
965. Khong, N.G.; Richaud, F.; Coudert, Y.; Pati, P.K.; Santi, C.; Périn, C.; Breitler, J-C.; Meynard, D.; Vinh D.N.; Guiderdoni E.; Gantet, P. (2008), "Modulating rice stress tolerance by transcription factors", *Biotechnology and Genetic Engineering Reviews,* pp 381-404.
966. Kumar, S.; Parkash, J.; Kataria, H.; Kaur, G. (2009), "Interactive effect of excitotoxic injury and dietary restriction on neurogenesis and neurotrophic factors in adult male rat brain", *Neurosci. Res.,* 65, pp 367–374.
967. Kumar, S.; Parkash, J.; Kataria, H.; Kaur, G. (2010), "Interactive effect of excitotoxic injury and dietary restriction on neurogenesis and neurotrophic factors in adult male rat brain", *Neurosci. Res.,* 65, 367–374.
968. Kumar, Sushil; Kaur, Gurcharan (2013), Intermittent Fasting Dietary Restriction Regimen Negatively Influences Reproduction in Young Rats: A Study of Hypothalamo-Hypophysial-Gonadal Axis. *PLoS ONE*, 8(1):e52416. doi: 10.1371/journal.pone.0052416.
969. Kumari, S.; Singh, P.; Singla-Pareek, S.L.; Pareek, A. (2009), "Over-expression of a salinity-induced and developmentally-regulated cyclophilin gene (OsCyp2) from rice confers tolerance towards multiple abiotic stresses in *E. coli* and yeast", *Molecular Biotechnology,* 42, pp 195-204.
970. Kumar, S.; Parkash, J.; Kataria, H.; Kaur, G. (2012), "Enzymatic Removal of Polysialic Acid from Neural Cell Adhesion Molecule Interrupts Gonadotropin- Releasing Hormone (GnRH) Neuron-Glial Remodeling", *Molecular and Cellular Endocrinology,* 348(1), pp 95-103.
971. Kumari, S.; Roy, S.; Singh, Prabhjeet; Singla-Pareek, S-L; Pareek, A. (2013), Cyclophilins: Proteins in Search of Function. *Plant Signaling and Behaviour*, 8: e22734.
972. Loers, Abriele; Saini, Vedangana; Mishra, Bibhudatta; Papastefanaki, Florentia; Lutz, David; Chaudhury, Sidhartha; Ripoll, Daniel R.; Wallqvist, Anders; Gul, Sheraz; Schachner, Melitta; Kaur, Gurcharan (2013), "Nonyloxytryptamine mimics polysialic acid and modulates neuronal and glial functions in cell culture". *J Neurochem.* [Epub ahead of print] PMID 23957498.

973. Lakhanpal, D.; Kaur, G. (2011), "Neuroendocrine plasticity in GnRH release is disrupted by valproic acid treatment of cycling rats", *Acta Neurologica BELG.,* 111(2), pp 121-129.
974. Liuyin, Ma; Pati, Pratap Kumar; Liu, Man; Q Li, Qingshun; Hunt, Art (2013), "High throughput characterizations of poly(A) site choice in plants". *Methods* http://dx.doi.org/10.1016/j.ymeth. 2013.06.037
975. Mishra, P.C.; Kumar, A.; Sharma, A. (2009), "Analysis of small nucleolar RNAs reveals unique genetic features in malaria parasites", *BMC Genomics,* 10, pp 68.
976. Parkash, J.; Kaur, G. (2008), "Transcriptional regulation of PS-NCAM mediated neuron-glial plasticity in the adult hypothalamus", *Neuron Glia Biology,* 3, pp 1-9.
977. Pati, P.K.; Sharma, M.; Sharma, A.; Salar, R.K.; Gupta, A. P.; Singh, B. (2008), "Studies on leaf spot disease of *Withania somnifera* and its impact on secondary metabolites", *Indian Journal of Microbiology,* 48, pp 432-437.
978. Pati, P. K.; Sharma, M.; Ahuja, P.S. (2008), "Protoplast isolation, culture and eterokaryon selection in rose by immobilization in extra thin alginate film", *Protoplasma,* 233, pp 165–171.
979. Pati, P.K.; Kaur, J.; Singh, P. (2011), "A liquid culture system for shoot proliferation and analysis of pharmaceutically active constituents of *Catharanthus roseus* (L.) G. Don", *Plant Cell Tiss. Org. Cult.,* 105, pp 299–307.
980. Saini, Shivani; Sharma, Isha; Kaur, Navdeep; Pati, Pratap Kumar; (2013), Auxin: A Master Regulator in Plant Root Development. *Plant Cell Reports,* 32:741-757
981. Savita; Alka; Pati, P. K.; Virk, G. S.; Nagpal, A. (2012), "An efficient micropropagation protocol for *Citrus jambhiri* Lush. and assessment of clonal fidelity employing anatomical studies and RAPD markers", *In vitro Cell Dev. Biol.-Plant,*
982. Sekhon, S.S.; Kaur, H.; Dutta, T.; Singh, K.; Kumari, S.; Park, S-G.; Park, B.C.; Jeong D-G; Pareek, A.; Woo, E-J.; Singh, Prabhjeet; Yoon, T-S. (2013), "Structural and biochemical characterization of a cytosolic wheat cyclophilin TaCypA-1". *Acta Crystallographica* D69:555-563.
983. Shah, N.; Kataria, H.; Kaul, Sunil C.; Kaur, G.; Wadhwa, R. (2009), "Effect of the alcoholic extract of Ashwagandha leaves and its components on proliferation, migration and differentiation of glioblastoma cells: a combinational approach for enhanced differentiation", *Cancer Sci.*,100(9), pp 1740-47.
984. Sharma, A.; Pati, P. K. (2011), "First report of *Withania somnifera* (L.) Dunal, as a New Host of Cowbug (*Oxyrachis tarandus*, Fab.) In Plains of Punjab, Northern India", *World Applied Sciences Journal,* 14(9), pp 1344-1346
985. Sharma, A.; Pati, P. K. (2011), "First Record of 28-Spotted Ladybird Beetle, *Henosepilachna vigintioctopunctata* (F.) Infesting *Withania*

somnifera (L.) Dunal in Punjab Province of Northern India", *Pest Technology,* 5(1), pp 91-92.
986. Sharma, A.; Sharma, I.; Pati, P. K. (2011), "Post-infectional changes associated with the progression of leaf spot disease in *Withania somnifera* (L.) Dunal. J", *Plant Pathology,* 93(2), pp 397-405.
987. Sharma, A.; Pati, P. K. (2012), "First record of the carmine spider mite, *Tetranychus urticae*, infesting Indian genseng, *Withania somnifera*, in India", *Journal of Insect Science,* 12, pp 50
988. Sharma, A.; Thakur, A.; Kaur, S.; Pati, P. K. (2012), "Effect of *Alternaria alternata* on the coccinellid pest *Henosepilachna vigintioctopunctata* and its implications for biological pest management", *Journal of Pest Science,* (DOI 10.1007/s10340-012-0432-3).
989. Sharma, Ashutosh; Pati, Pratap Kumar (2013), "First Record of Ashwagandha as a new host to the invasive Mealybug (*Phenacoccus solenopsis* Tinsley) in India". *Entomological News* 123 (1), 59-62
990. Sharma, I.; Pati, P. K.; Bhardwaj, R. (2010), "Regulation of Growth and Antioxidant Enzyme Activities by 28-Homobrassinolide in seedlings of *Raphanus sativus* L. under Cadmium stress", *Indian Journal of Biochemistry and Biophysics,* 47, pp 172-177.
991. Sharma, I.; Pati, P.K.; Bhardwaj, R. (2011), "Effect of 24-Epibrassinolide on oxidative stress markers induced by Nickel ion in *Raphanus sativus* L", *Acta Physiologiae Plantarum,* 33, pp1723–1735.
992. Sharma, I.; Pati, P. K.; Bhardwaj, R. (2011), "Effect of 28-homobrassinolide on antioxidant defence system in *Raphanus sativus* L. under Chromium toxicity", *Ecotoxicology,* 20, pp 862–874.
993. Sharma, Isha; Ching, Erwan; Saini, Shivani; Bhardwaj, Renu; Pati, Pratap Kumar (2013), "Exogenous application of brassinosteroid offers tolerance to salinity by altering stress responses in rice variety Pusa Basmati-1". *Plant Physiology and Biochemistry,* 69: pp 17-26.
994. Sharma, Isha; Bhardwaj, R. and Pati, P. K. (2013), "Stress modulation response of 24-epibrassinolide against imidacloprid in an elite indica rice variety Pusa Basmati-1". *Pesticide Biochemistry and Physiology,* 105: pp 144–153.
995. Sharma, S.; Kaur, G. (2008), "Dietary restriction enhances kainate-induced increase in NCAM while blocking the glial activation in adult rat brain", *Neurochemical Research,* 33(7), pp 1178-88.
996. Sharma, S.; Singh, R.; Kaur, M.; Kaur, G. (2010), "Late-Onset Dietary Restriction Compensates for Age-related increase in Oxidative Stress and alterations of HSP 70 and Synapsin1 Protein Levels in Male Wistar Rats", *Biogerontology,* 11, pp 197-209.
997. Singh, B.; Chauhan, H.; Khurana, J.P.; Khurana, P.; Singh, Prabhjeet (2013), "Evidence for the role of wheat eukaryotic translation initiation factor 3 subunit g (*TaeIF3g*) in abiotic stress tolerance". *Gene*. 10.1016/j.gene.2013.09.078.

998. Singh, J.; Kaur, G. (2009), "Transcriptional regulation of PSA-NCAM expression by NMDA receptor activation in RA-differentiated C6 glioma cultures", *Brain Res Bull,* 79(3-4), pp 157-68.
999. Singh, P.; Virdi, A.S. (2011), "Calmodulin-binding proteins in plants: Implications in abiotic stress adaptation", *J. Plant Biology,* 37, pp 1-17.
1000. Singh, R.; Lakhanpal, D.; Kumar, S.; Sharma, S.; Kataria, H.; Kaur, M.; Kaur, G. (2012), "Late onset intermittent fasting dietary restriction as a potential intervention to retard age associated brain function impairments in male rats", *AGE,* 34, 917-933.
1001. Singh, S.; Singh, G.; Singh, P.; Singh, N. (2008), "Effect of water stress at different stages of grain development on the characteristics of starch and protein of different wheat varieties", *Food Chemistry,* 108, pp 130-139.
1002. Singh, S.; Bhadani, A.; Kataria, H.; Kaur, G.; Kamboj, R. (2008), "Synthesis of glycerol-based pyridinium surfacants and appraisal of their properties", *Ind. and Eng. Chem. Res,* 48(3), pp 1673-77.
1003. Virdi, A.S.; Thakur, A.; Dutt, S.; Kumar, S.; Singh, P. (2009), "A sorghum 85 kDa heat stress-modulated protein shows calmodulin-binding property and cross-reactivity to anti *Neurospora crassa*-Hsp 80 antibodies", *FEBS Letters,* 583, pp 767-770.
1004. Virdi, A.S.; Pareek, A.; Singh, P. (2011), "Evidence for the possible involvement of calmodulin in regulation of steady state levels of Hsp90 family members (Hsp87 and Hsp85) in response to heat shock in sorghum", *Plant Signaling and Behaviour*, 6, pp 1-7.
1005. Yogavel, M.; Mishra, P.C.; Gill, J.; Bhardwaj, P.K.; Dutt, S.; Kumar, S.; Ahuja, P.S.; Sharma, A. (2008), "Structure of a superoxide dismutase and implications for copper-ion chelation", Acta Crystallogr, D 64, pp 892-901.
1006. Zhang, N.; Kaur, R.; Akhter, S.; Legerski, Randy J. (2009), "Cdc5L interacts with ATR and is required for the S-phase cell-cycle checkpoint", *EMBO reports,* 10, pp 1029 – 1035.

Botanical and Environmental Sciences

1007. Abrol, Esha; Koul, S.; Soodan, A. S. (2011), 'Further Research on *Swertia chirata*- In vitro Embryogenesis', *Journal of Tropical Medicinal Plants*, 12(2) pp 183-187.
1008. Agrawal, Satyam Kumar; Arawal, M.; Sharma, P. R.; Gupta, B. D.; Arora S.; Saxena, A. K. (2011), 'Induction of Apoptosis in Human Promyelocytic Leukemia HL60 cells by an Extract from *Erythrina suberosa* Stem Bark', *Nutrition and Cancer,* 63 pp 802-813.
1009. Arora, Nitika; Bhardwaj, R.; Sharma, P.; Arora, H. K. (2008), 'Amelioration of Zn toxicity by 28-homobrassinolide in Zea *mays L.* Canadian Journal of Pure and Applied Sciences', 2 (3) pp 503-509. ISSN No. (1715-9997).

1010. Arora, Nitika; Bhardwaj, R.; Sharma, P.; Arora, H. K. (2008), '28-Homobrassinolide alleviates oxidative stress in salt-treated maize (*Zea mays* L.) plants', *Brazilian Journal of Plant Physiology*, 20(2) pp 153-157.
1011. Arora, Nitika; Bhardwaj, R.; Sharma, P.; Arora, H. K. (2008), 'Effects of 28-homobrassinolide on growth, lipid peroxidation and antioxidative enzyme activities in seedlings of *Zea mays* L. under salinity stress' *Acta Physiol. Plant*, 30 pp 833-839. ISSN No. (0137-5881).
1012. Arora, Nitika; Bhardwaj, R.; Sharma, P.; Arora H. K. (2008), 'Mitigation of Cu- stress by the application of 28-Homobrassinolide in maize seedlings', *Plant Stress*. 2(2), pp127-130.
1013. Arora, Priya; Bhardwaj, R.; Kanwar, M. K. (2010), '24-epiBL-regulated antioxidative defence system of *Brassica juncea* L. under Zn metal stress', *Physiology and Molecular Biology of Plants.* 16(3), pp 285-293.
1014. Arora, Priya; Bhardwaj, R.; Kanwar, M. K. (2010), '24-epibrassinolide regulated diminution of Cr metal toxicity in *Brassica juncea* L. plants', *Brazilian Journal of Plant Physiology.* 22(3), pp 159-165.
1015. Arora, Priya; Bhardwaj, R.; Kanwar, M. K. (2010), 'Presoaking seed treatment of 24-epiBL modulates Cr stress in *Brassica juncea* L. plants', *Terrestrial and Aquatic Environmental Toxicology.* 5(1), pp 14-18.
1016. Arora, Priya; Bhardwaj, R.; Kanwar, M. K. (2010), 'Seed presoaking treatment of 28-homobrassinolide modulates antioxidative defence system of Brassica *juncea*.L. under. Zinc metal stress', *Seed Science & Biotechnology.* 4(1), pp 23-27.
1017. Arora, Priya; Bhardwaj, R.; Kanwar, M. K. (2011), 'Presoaking seed treatment of 24-epiBL modulates Cr. Stress in *B. juncea*', *Terrestrial and Aquatic Toxicology.* 5(1), pp14-18.
1018. Arora, Priya; Bhardwaj, R.; Kanwar, M. K. (2012), 'Mitigation of Ni metal toxicity by 24-epiBL in *Brassica juncea* L.', In: Biodiversity Evaluation: Botanical Perspective. (Eds. N. S. Atri, R. C. Gupta, M. I. S. Saggoo and V. K. Singhal). pp.269-282. Bishan Singh, Mahendra Pal Singh Publications. Dehra Dun India.
1019. Arora, Priya; Bhardwaj, R.; Kanwar, M. K. (2012), 'Effect of 24-epibrassinolide on growth, protein content and antioxidative defense system of *Brassica juncea* L. subjected to cobalt metal toxicity', *Acta Physiologiae Plantarum,* 34(5), pp 2007-2017.
1020. Arora, Rohit; Arora, S. (2013), 'Lipid Peroxidation: A Possible Marker for Diabetes', *Diabetes and Meatbolism.*
1021. Bala, Rajni; Thukral, A. K. (2008), 'Interactions between chromium and plant growth regulators on the growth of *Spirodela polyrrhiza* (L.) Schleiden, *Terrestrial and Aquatic Environmental Toxicology*. 2: pp 14-18.

1022. Bala, Rajni; Thukral, A. K. (2011), 'Phytoremediation of Cr(VI) by *Spirodela polyrrhiza* (L.) Schleiden employing reducing and chelating agents', *International Journal of Phytoremediation*, 13, pp 465-491. DOI: 10.1081/15226511003758861.(Taylor & Francis).
1023. Bhardwaj, Renu; Sharma, P.; Arora, H. K.; Arora, N. (2008), '28-Homobrassinolide regulated Mn-uptake and growth of *Brassica juncea* L', *Can. J. Pure Appl. Sci.* 2(1), pp 149-154.
1024. Bhardwaj, Renu; Sharma, I.; Arora, N.; Uppal, P.; Kanwar, M. K.; Sharma, N.; Hundal, G. S. (2009), 'Regulation of oxidative stress by BRs in plants', In: Oxidative stress: Role of antioxidants in plants (editor: Parvez Ahmad) pp 215-231, Studium Press Pvt. Ltd. New Delhi.
1025. Bhardwaj, Renu; Sharma, I.; Arora, N.; Uppal, P.; Kanwar, M. K. (2010), 'Prospects of brassinosteroids in medicinal applications', In: Brassinosteroids: A Class of Plant Hormone. (editor: Shamsul Hayat) pp.452-473, Springer, The Netherlands.
1026. Bhardwaj, Renu; Sharma, I.; Choudhary, S. P.; Uppal, P.; Kanwar, M.; Handa, N.; Singh, G.; Gautam, V.; Kapoor, D. (2011), 'Plant Hormone Cross-talks: Interaction of Brassinosteroids with other PGR's in plants', In: Biotechnology: A New Approach (Ed. P. C. Trivedi) pp. 189-212, Agrobios, Jodhpur, (India).
1027. Bhardwaj, Renu; Sharma, P.; Arora, N.; Arora, H. K. (2011), 'Amelioration of Mn toxicity by brassinosteroids in *Brassica juncea* L', *Int. J. Environ. Waste Manag.* 8(1-2), pp 114-122.
1028. Bhardwaj, Renu; Sharma, I.; Kanwar, M. K.; Handa, N.; Kapoor, D. (2012), 'BRs and human welfare', *In*: Practical applications of Brassinosteroids (Eds. Adaucto B. Pereira-Netto). pp 3-15. Bentham Science Publishers, U.A.E.
1029. Bhardwaj, Renu; Thukral, A. K.; Arora, N.; Arora, H.; Sharma, P. (2013), 'Stress- protective properties of Brassinosteroids in plants', In: Ecorestoration and Biodiversity Conservation. S. B. Saksena Commemoration Volume (Eds.G.P. Mishra and Asha Gupta). Aavishkar Publishers, Distributors, Jaipur. Total pp. 272.
1030. Bhardwaj, Renu; Thukral, A. K.; Sharma, R.; Sharma, M.; Gautam, V.; Bali, S.; Kaur, R. (2013), 'Metal uptake and sequestration dynamics in chelate mediated phytoremediation', In: Applied Microbiology (Prof. P.C. Trivedi, Festschrift Volumes Ed. Sampat Nehra, Pointer Publishers; Jaipur) pp. 216-231. ISBN No (978-81-7132-767-6).
1031. Bhardwaj, Renu; Sharma, I.; Kanwar, M.; Handa, N.; Sharma, R.; Kapoor, D.; Kaur, H.; Poonam (2013), 'Aquaporins: Role under Salt Stress in Plants. In: Ecophysiology and Responses of Plants under Salt Stress', (Eds. Parvaiz Ahmed, M.M Azooz and M.N.V Prasad). pp 213-249. Springer, The Netherlands. ISBN No. (978-1-4614-4746-7).
1032. Bhardwaj, Renu; Sharma, I.; Kanwar, M.; Handa, N.; Sharma, R.; Kapoor, D.; Kaur, H.; Poonam (2013), 'LEA proteins and their role in

salt stress tolerance. In: Salt Stress in Plants: Omics, Signaling and Responses', (Ed. Parvaiz Ahmed, M.M Azooz and M.N.V Prasad) pp 79-112. Springer Science Business Media, New York.

1033. Bhardwaj, Renu; Arora, N.; Sharma, P.; Arora, H. K.; Thukral, A. K. (2013), 'Stress protective properties of brassinosteroids', In: Prof. S.B.Saksena Commemoration Volume-Ecorestoration and Biodiversity Conservation (Eds. G.P. Mishra and Asha Gupta), Aavishkar Publishers, Jaipur. pp 55-71. ISBN: 978-81-7910-418-7
1034. Bhatia, Anjana; Arora, S.; Singh, B.; Nagpal, A. (2010), 'Evaluation of *In Vitro* Antimutagenic Activity of *Hypericum Perforatum* Linn. In Ames Assay', *Pharmacologyonline,*1 pp 167-175.
1035. Bhatia, Anjana; Arora, S.; Singh, B.; Kaur, G.; Nagpal, A. (2011), 'Anticancer potential of Himalayan plants', *Phytochemistry Reviews,* 10(3), pp 309-323.
1036. Bhat, Sartaj; Singh, J.; Vig, A. P. (2013), 'Vermiremediation of dyeing sludge from textile mill with the help of exotic earthworm *Eisenia fetida* Savigny', *Environmental Science and Pollution Research,* 20, pp 5975–5982.
1037. Bhatti, Manpreet; Reddy, A. S.; Thukral, A. K. (2009), 'Electrocoagulation removal of Cr(VI) from simulated wastewater using response surface methodology', *Journal of Hazardous Materials*, 172, pp 839-846.
1038. Bhatti, Manpreet; Kapoor, D.; Kalia, R. K.; Reddy, A. S.; Thukral, A. K. (2011), 'RSM and ANN modeling for electrocoagulation of copper from simulated wastewater: Multi objective optimization using genetic algorithm approach', *Desalination*, 274, pp. 74-80.
1039. Bhatti, Manpreet; Reddy, A. S.; Kalia, R. K.; Thukral, A. K. (2011), 'Modeling and optimization of voltage and treatment time for electrocoagulation removal of hexavalent chromium', *Desalination*, 269, pp. 157-162.
1040. Chandel, Madhu; S. Kaur and S. Kumar (2011), 'Studies on the genoprotective/antioxidant potential of methanol extract of *Anthocephalus cadamba* (Roxb.) Miq', *Journal of Medicinal Plants Research*, 5, pp 4764-4770.
1041. Chandel, Madhu; Kumar, M.; Kumar, S.; Kaur, S. (2012), 'Inhibition of 2-aminofluorene and 4-nitro-*o*-phenylenediamine mutagenicity by natural food colorant plant R*ubia cordifolia* L.', *International Journal of Pharmacy and Pharmacology*, 4, pp 236-237.
1042. Chaudhary, Ashun; Rampal, G.; Sharma, U.; Thind, T. S.; Singh, B.; Vig, A. P.; Arora, S. (2012), 'Anticancer, antioxidant activities and GC-MS analysis of glucosinolates in two cultivars of broccoli', *Medicinal Chemistry & Drug Discovery.* 2(2), pp 30-37.
1043. Chawla, Amit; Rajkumar, S.; Singh, K. N.; Lal, B.; Singh, R. D.; Thukral, A. K. (2008), 'Plant species diversity along an altitudinal

gradient of Bhabha valley in Western Himalaya', *Journal of Mountain Science*, 5, pp 157–177. DOI 10.1007/s11629-00079y.

1044. Chawla, Amit; Kumar, A.; Rajkumar, S.; Singh, R. D.; Thukral, A. K.; Ahuja, P. S. (2010), 'Correlation of multispectral satellite data with plant species diversity vis-à-vis soil characteristics in a landscape of Western Himalayan region, India', *Applied Remote Sensing* 1, pp 1-13.
1045. Chawla, Amit; Parkash, O.; Sharma, V.; Rajkumar, S.; Lal, B.; Gopichand; Singh, R. D.; Thukral, A. K. (2011), 'Vascular plants, Kinnaur, Himachal Pradesh, India', Checklist: *Journal of Species Lists and Distribution*, 8, 321-348.
1046. Chawla, Amit; Kumar, A.; Lal, B.; Singh, R. D.; Thukral, A. K. (2012), 'Ecological characterization of high altitude Himalayan landscapes in the upper Satluj river watershed in Kinnaur, Himachal Pradesh, India', *Journal of the Indian Society of Remote Sensing*, 40, pp 519-539. DOI: 10.1007/s12524-011-0169-0).
1047. Choudhary, Sikander Pal; Bhardwaj, R.; Gupta, B. D.; Dutt, P.; Kanwar, M.; Arora, P. (2009), 'Epibrassinolide regulated synthesis of polyamines and auxins in *Raphanus sativus* L. seedlings under Cu metal stress', *Brazilian Journal of Plant Physiology,* 21(1), pp 25-32.
1048. Choudhary, Sikander Pal; Bhardwaj, R.; Gupta, B. D.; Dutt, P.; Arora, P. (2009), 'Effect of 24-epibrassinolide on polyamines titers, antioxidative enzymes and seedling growth of *Raphnus sativus* L. under copper stress', *Plant stress,* 3(1), pp 7-12.
1049. Choudhary, Sikander Pal; Bhardwaj, R.; Gupta, B. D.; Dutt, P.; Gupta, R. K.; Kanwar, M. K.; Dutt, P. (2010), 'Changes induced by Cu^{2+} and Cr^{6+} metal stress in Polyamines, auxins, abscisic acid titers and antioxidative enzymes activities of radish seedlings', *Brazilian Journal of Plant Physiology,* 22(4), pp 263-270.
1050. Choudhary, Sikander Pal; Bhardwaj, R.; Gupta, B. D.; Dutt, P.; Gupta, R. K.; Kanwar, M. K.; Dutt, P. (2011), 'Enhancing effects of 24-epibrassinolide and Putrescine on the antioxidant capacity and free radical scavenging activity of radish seedlings under Cu stress', *Acta Physiologia Plantarum,* 33(4), pp 1319-1333.
1051. Dhuria, Radhy Shyam; Bhatti, M. S.; Singh, P.; Whitcomb, P. J.; Thukral, A. K. (2013), 'Experimental design optimization for electrochemical removal of gentamicin: Toxicity evaluation and degradation pathway', *Water Science and Technology*, 67(9), pp. 2017-2024.
1052. Gill, Tejpal; Kumar, M.; Kumar, S.; Kaur, S. (2011), 'DNA protective effects of extracts/fractions from *Centella asiatica* (L.) Urban in single cell gel electrophoresis assay', *Spatula DD*, 1, pp 207-212.
1053. Joshi, Rakesh; Vig, A. P. (2010), 'Effect of Vermicompost on Growth, Yield and Quality of Tomato (*Lycopersicum esculentum* L.)', *African Journal of Basic and Applied Sciences*, 2(3-4), pp 117-123.

1054. Joshi, Rakesh; Vig, A. P.; Singh, J. (2013), 'Vermicompost as soil supplement to enhance growth, yield and quality of *Triticum aestivum* L.: a field study', *International Journal Of Recycling of Organic Waste in Agriculture*, 2(16), pp 1-7.
1055. Kaith, Balbir Singh; Saruchi, Jindal R.; Bhatti, M. S. (2012), 'Screening and RSM optimization for synthesis of a Gum tragacanth-acrylic acid based device for in situ controlled cetirizine dihydrochloride release', *Soft Matter*, 8(7), pp. 2286-2293.
1056. Kaith, Balbir Singh; Bhatia, J. K.; Dhiman, J.; Singla, R.; Mehta, P.; Yadav, V.; Bhatti, M. S. (2013), 'Synthesis and optimization of soy protein fiber based graft copolymer through response surface methodology for removal of oil spillage', *Polymer Bulletin*, 70(11) pp 3155-3169.
1057. Kanwar, Mukesh; Arora, S. (2010), 'Mutagenic assessment of effluents from the textile industries of Amritsar', *Journal of Chinese Clinical Medicine*, 5, pp 645-653.
1058. Kanwar, Mukesh; Bhardwaj, R.; Choudhary, S. P.; Arora, P.; Kumar, S. (2012), 'Nickel- induced synthesis of castasterone and 28-Homocastasterone in *Brassica juncea* L', *Terrestrial and Aquatic Environmental Toxicology,* 6(2), pp 84-89.
1059. Kanwar, Mukesh; Bhardwaj, R.; Choudhary, S. P.; Arora, P.; Sharma, P.; Kumar, S. (2012), 'Plant steroid hormones produced under Ni stress are involved in the regulation of metal uptake and oxidative stress in *Brassica juncea* L', *Chemosphere,* 86, pp 41-49.
1060. Kanwar, Mukesh; Bhardwaj, R.; Choudhary, S. P.; Arora, P.; Sharma, P.; Kumar, S. (2013), '24-Epibrassinolide isolated from *Brassica* plants influences growth, Ni-metal uptake, antioxidative defence and *in vitro* cytotoxicity', *Acta Physiologia Plantarum*, 35, pp 1351-62.
1061. Kapoor, Nitika; Bhardwaj, R.; Rattan, A. (2012), 'Stress protective properties of brassinosteroids', *Indian Journal of Biotechnology and Bioengineering.* II(1) : 41-50.
1062. Katnoria, Jatinder Kaur; Arora, S.; Nagpal, A. (2008), 'Genotoxic potential of agricultural soils of Amritsar', *Asian J Scientific Research*, 1, pp 122 – 129.
1063. Katnoria, Jatinder Kaur; Soodan, R. K.; Nagpal, A. (2009), 'Estimation of heavy metals and genotoxic potential of soil of Amritsar', *Perspectives in Cytology and Genetics*, 15, pp 29-40.
1064. Katnoria, Jatinder Kaur; Soodan, R. K.; Kaur, G.; Handa, N.; Rani, G.; Virk, G. S.; Nagpal, A. (2010), 'Role of Ashwagandha in Sports Medicine', *Journal of Sports Traumatology and Allied Sports Sciences*, 9 pp 24-29.
1065. Katnoria, Jatinder Kaur; Soodan, R. K.; Sharma, D.; Nagpal, A. (2010), 'Heavy metal pollution and gentoxic potential of roadside soils of Amritsar', *Biospectra-An International Journal of Life science*, 5(2), pp 369-374.

1066. Katnoria, Jatinder Kaur; Arora, S.; Bhardwaj, R. (2011), 'Evaluation of genotoxic potential of industrial waste contaminated soil extracts of Amritsar, India', *Journal of Environmental Biology*, 32(3), pp 363-367.
1067. Kaur, Amandeep; Singh, R.; Kaur, H.; Sohal, S. K.; Arora, S. (2009), 'Growth regulatory effect of *Acacia auriculiformis* on melon fruit fly, *Bactrocera cucurbitae* (Coquillett)', *Biopesticide International*, 5, pp 35-40.
1068. Kaur, Amandeep; Sohal, S. K.; Singh, R.; Arora, S. (2010), 'Development of inhibitory effect of *Acacia auriculiformis* extracts on *Bactrocera cucurbitae* (Coquillett) (Diptera:Tephritidae)', *Journal of Biopesticides*, 3, pp 499-504.)
1069. Kaur, Arvinder; Singh, J.; Vig, A. P.; Dhaliwal, S. S.; Rupa, P. J. (2010), 'Cocomposting with and without *Eisenia fetida* for conversion of toxic paper mill sludge to a soil conditioner', *Bioresource Technology,* 101, pp 8192–8198.
1070. Kaur, Gurveen; Singh, B. P.; Nagpal, A. (2013), 'Phenology of Some Phanerogams (Trees and Shrubs) of Northwestern Punjab, India', *Journal of Botany*. Article ID 712405, 10 pages. doi:10.1155/2013/712405.
1071. Kaur, Maninder; Katnoria, J. K.; Nagpal, A. (2011), 'Genotoxicity assessment of soil of an agricultural field (Lopoke) of Amritsar under wheat cultivation', *Bioscience Guardian- An International Journal*, 1, pp 531-536.
1072. Kaur, Maninder; Kaur, G.; Soodan, R. K.; Katnoria, J. K.; Nagpal, A. (2012), 'Role of molecular markers in evaluation of Plant diversity In: Gupta. R. (ed)', Plant Taxonomy-Past, Present and Future. pp 309-328. TERI Press, New Delhi, India.
1073. Kaur, Pawan; Arora, S. (2010), 'Comparison of antioxidant activity of methanol extract of *Cassia* and *Bauhinia* sp.', *Journal of Chinese Clinical Medicine*, 5(8), pp 457-461.
1074. Kaur, Pawan; Arora, S. (2010), 'Polyphenols of Caeselpiniaceae', *Journal of Chinese Clinical Medicine*, 5(5), pp 282-290.
1075. Kaur, Pawan; Arora; S. (2010), 'Superoxide anion radical scavenging activity of *Bauhinia purpurea* and *Bauhinia galpinii*', *Journal of Chinese Clinical Medicine*, 5(5), pp 247-255.
1076. Kaur, Pawan; Arora, S. (2011), 'Superoxide anion radical scavenging activity of *Cassia siamea* and *Cassia javanica*', *Medicinal Chemistry Research*, 20, pp 9-15.
1077. Kaur, Prabhjit; Singh, B.; Kumar, S.; Kaur, S. (2008), '*In vitro* evaluation of free radical scavenging activity of *Rubia cordifolia* L.', *Journal of Chinese Clinical Medicine* 3, pp 278-284.
1078. Kaur, Prabhjit; Walia, A.; Kaur, S. (2009), 'Antigenotoxic activity of polyphenolic rich extracts from *Aegle marmelos* (L.) Correa. In human blood lymphocytes and *E.coli* PQ37', *Records of Natural Products,* 3(1), pp 8-75.

1079. Kaur, Prabhjit; Kaur, S.; Kumar, N.; Singh, B.; Kumar, S. (2009), 'Evaluation of antigenotoxic activity of isoliquiritin apioside from *Glycyrrhiza glabra* L.', *Toxicology in Vitro*, 23, pp 680-686.
1080. Kaur, Prabhjit; Kaur, S.; Singh, B.; Kumar, S. (2010), '*Rubia cordifolia* L.and *Glycyrrhiza glabra* L. medicinal plants as potential source of COX-2 inhibitors', *American journal of Biomedical Sciences*, 2(2), pp 108-120.
1081. Kaur, Prabhjit; Chandel, M.; Kumar, S.; Kumar, N.; Singh, B.; Kaur, S. (2010), 'Modulatory role of alizarin from *Rubia cordifolia* L.against genotoxicity of mutagens', *Food and Chemical Toxicology*, 48(1), pp 320-325.
1082. Kaur Prabhjit; Kumar, N.; Singh, B.; Kumar S.; Kaur; S. (2012), 'Modulation of Genotoxicity by glycyrrhizic acid from *Glycyrrhiza glabra', Pharmacognosy Research*, 4 (4), pp 189-195.
1083. Kaur, Prabhjit; Kumar, M.; Singh, B.; Kumar, S.; Kaur, S. (2012), 'Amelioration of oxidative stress induced by oxidative mutagens and COX-2 inhibitory activity of umbelliferone isolated from *Glycyrrhiza glabra* L.', *Asian Pacific Journal of Tropical Biomedicine*, S, pp 120-126.
1084. Kaur, Rajbir; Arora, S. (2008). 'Investigations of antioxidant activity of methanol extract of *Chukrasia tabularis* A. Juss.', *Chinese Journal of Clinical Medicine*, 3, pp 200-205.
1085. Kaur, Rajbir; Arora, S.; Singh, B. (2008), 'Antioxidant activity of the Phenol rich fractions of *Chukrasia tabularis* A. Juss. leaves', *Bioresource Technology,* 99, pp 7692-7698.
1086. Kaur, Rajbir; Arora, S. (2009), 'Chemical Constituents and Biological activities of *Chukrasia tabularis* A. Juss.- A Review.', *Journal of Medicinal Plant Research*, 3, pp 196-216.
1087. Kaur, Rajbir; Thind, T. S.; Singh, B.; Arora, S. (2009), 'Inhibition of lipid peroxidation by extracts/subfractions of Chickrassy (*Chukrasia tabularis* A. Juss.)', *Naturwissenschaften*, 96, pp 129-133.
1088. Kaur, Rajbir; Vig, A. P. (2011), 'High performance liquid chromatographic methods for separation and quantification of glucosinolates and hydrolytic products in mustard and turnip', *Bioscience Guardian-An International Journal,* 1(2), pp 373-380.
1089. Kaur, Rajbir; Singh, B.; Arora, S. (2011), 'Amelioration of oxidative damage by Methyl Gallate in different *in vitro* models', *Phytopharmacology*, 1, pp 82-94.
1090. Kaur, Rajbir; Rampal, G.; Vig, A. P. (2011), 'Evaluation of antifungal and antioxidative potential of hydrolytic products of glucosinolates from some members of Brassicaceae family', *Journal of Plant Breeding and Crop Science,* 3(10), pp 218-228.
1091. Kaur, Rajbir; Sharma, U.; Singh, B.; Arora, S. (2011), 'Antimutagenic and Antioxidant Characteristics of *Chukrasia tabularis* A. Juss. Extracts', *International Journal of Toxicology,* 30, pp 21-34.

1092. Kaur, Rajbir; Singh, U.; Singh, B.; Arora, S. (2011), 'Antimutagenic Potential of Chickrassy (*Chukrasia tabularis* A. Juss) bark', *Journal of Medicinal Plant Research,* 5(20), pp 5021-5033.
1093. Kaur, Rajbir; Arora, S. (2013), 'Interactions of betulinic acid with xenobiotic metabolizing and antioxidative enzymes in DMBA-treated Sprague Dawley female rats. *Free Radical Biology and Medicine,* http://dx.doi.org/10.1016/j.freeradbiomed.2013.06.16.
1094. Kaur, Rajbir; Singh, B.; Arora, S. (2013), "Modulatory effects of *Chukrasia tabularis* A. Juss. bark on *in vitro* generated oxidative stress". *International Journal of Pharmacy and Pharmaceutical Sciences,* 5(1), pp 158-167.
1095. Kaur, Rajinder; Arora, S.; Thukral, A. K. (2009), 'Enhancing seed Germination of *Chlorophytum borivilianum* Sant. Et Fernand. With PGRs, Steroidal Hormones and Zinc' *Research Journal of Seed Science*, 2, pp 32-39.
1096. Kaur, Rajinder; Thukral, A. K.; Arora, S. (2010), 'Attenuation of free radicals by an aqueous extract of peels of safed musli (*Chlorophytum borivilianum* Sant. Et Fernand.)', *Journal of Chinese Clinical Medicine* 5:7-11.
1097. Kaur, Rupinder; Bhardwaj, R.; Thukral, A. K. (2009), 'Interactive effects of Cr(VI) with other heavy metals on the growth and metal uptake potential of *Brassica juncea* L. seedlings. *Terrestrial and Aquatic Environmental Toxicology*', 3, pp 16-27.
1098. Kaur, Rupinder; Bhardwaj, R.; Thukral, A. K. (2009), 'Uptake of heavy metals, and antioxidative enzymes in *Brassica juncea* L. seedlings as affected by Zn in binary combinations with other heavy metals', *Plant Stress*, 3, pp 17-25.
1099. Kaur, Rupinder; Bhardwaj, R.; Thukral, A. K. (2010), 'Growth and heavy metal uptake i*n B. juncea* L. seedlings as affected by binary interactions between nickel and other heavy metals. *Canadian Journal of Pure and Applied Sciences*', 4, pp 1011-1019.
1100. Kaur, Rupinder; Bhardwaj, R.; Thukral, A. K. (2010), 'Interactive effects of nickel in binary combination with other heavy metals on growth and metal uptake in *B. juncea*', *Canadian Journal of Plant Sciences,* 4(1), pp 1011-1019.
1101. Kaur, Rupinder; Bhardwaj, R.; Thukral, A. K. (2010), 'Interactive effects of binary combinations of Mn with other heavy metals metal uptake and antioxidative enzymes in *Brassica juncea* L. Seedlings', *Journal of Plant Interactions,* pp 1-10.
1102. Kaur, Rupinder; Bhardwaj, R.; Thukral, A. K.; Narang, U. (2011), 'Interactive effects of binary combinations of Mn with other heavy metals on metal uptake and antioxidative enzymes in *Brassica juncea* L. seedlings', *Journal of Plant Interactions*, 6, pp 25-34. DOI10.1080/17429145.2010.516407.

1103. Kaur, Rupinder; Ohri, P.; Bhardwaj, R. (2012), 'Effect of brassinosteroids on phenolic and flavonoid contents of tomato plant after nematode inoculation', *Crop Improvement,* Special Issue pp. 1092-1093.
1104. Kaur, Rupinder; Ohri, P.; Bhardwaj, R. (2012), 'Role of 28-homobrassinolide on some antioxidative enzymes of tomato plant during pathogenesis', *Journal of Environmental Research and Development,* 7(1A), pp 411-415.
1105. Kaur, Rupinder; Ohri, P.; Bhardwaj, R. (2012), 'Effect of brassinosteroids on phenolic and flavonoid contents of tomato plant after nematode inoculation', In: Crop Improvement: International conference on sustainable agriculture for food and livelihood security. Nov.27-29. (Eds. S. K. Sandhu, Navjot Singh and Allah Rang). Pp1725-1726.
1106. Kaur, Rupinder; Ohri, P.; Bhardwaj, R. (2013), '28-Homobrassinolide induces changes in defence enzymes in Tomato seedlings during nematode infection', *Annals of Plant Protection Sciences*, 21, pp 459-460.
1107. Kaur, Rupinder; Ohri, P.; Bhardwaj, R. (2013), 'Effect of 28-homobrassinolide on susceptible and resistant cultivars of tomato after nematode inoculation', *Plant Growth Regulation*, 69, pp. 275-284.
1108. Kaur, S.; Kumar, S.; Kaur, P.; Singh, B.; Chandel, M. (2010), 'Study of Antimutagenic potential of phytoconstituents isolated from *Terminalia arjuna* in the Salmonella/Microsome Assay', *American journal of Biomedical Sciences*, 2(2), pp 164-177.
1109. Kumar, Arvind; Kaur, R.; Arora, S. (2010), 'Free Radical Scavenging Potential of some Indian Medicinal Plants', *Journal of Medicinal Plant Research*, 4, pp 2034-2042.
1110. Kumar, M.; Sirhindi, G.; Bhardwaj, R.; Kumar, S.; Jain, G. (2010), 'Effect of exogenous H_2O_2 on antioxidant enzymes of *Brassica juncea* L. seedlings in relation to 24-epibrassinolide under chilling stress', *Indian Journal of Biochemistry and Biophysics*, 47 (6), pp 378-382.
1111. Kumar, Manish; Kaur; S. (2011), 'Golden rain tree leaf extracts as potential inhibitor of lipid peroxidation and 4-nitroquinoline-1-oxide (4-NQO)-induced DNA damage', *African Journal of Biotechnology*, 10, pp 19758-19763.
1112. Kumar, Manish; Chandel, M.; Kumar S.; Kaur, S. (2011), 'Protective effects of *Koelreuteria paniculata* Laxm. on oxidative stress and hydrogen peroxide-induced DNA damage', *Phytopharmacology*, 1, pp 177-189.
1113. Kumar, Manish; Kumar, S.; Kaur, S. (2011), 'Investigations on DNA protective and antioxidant potential of chloroform and ethyl acetate fractions of *Koelreuteria paniculata* Laxm', *African Journal of Pharmacy and Pharmacology*, 5(3), pp 421-427.

1114. Kumar, Manish; Sirhind, G.; Bhardwaj, R.; Kumar, S.; Pradhan, S. K. (2011), 'Effects of 24-epibrassinolide on dyanamics of growth, total protein and antioxidant defense system in leaf tissues of *Brassica juncea* L. in relation to H_2O_2', *Indian Journal of Plant Physiology,* 16(1), pp 68-71.
1115. Kumar, Manish; Chandel, M.; Kaur, S. (2012), 'Role of ROS and COX-2/iNOS inhibition in cancer chemoprevention: a review', *Phytochemistry Reviews*, DOI 10.1007/s11101-012-9265-1.
1116. Kumar, Manish; Chandel, M.; Kumar, S.; Kaur, S. (2012), 'Amelioration of oxidative stress by anthraquinones in various in vitro assays', *Asian Pacific Journal of Tropical Disease*, S, pp 692-698.
1117. Kumar, Manish; Chandel, M.; Sharma, N.; Kumar, S.; Kaur, S. (2012), 'Efficacy of Golden rain tree against free radicals and H_2O_2-induced damage to pUC18/calf thymus DNA', *Asian Pacific Journal of Tropical Biomedicine*, S, pp 781-787.
1118. Kumar, Rakesh; Kaur, R.; Arora, S. (2013), 'Hepatoprotective effect of Ethyl acetate fraction of *Acacia catechu* wild in 7-12 dimethyl(a)anthracene induced hepatocarcinogenesis in rats', *PLos One* (Accepted).
1119. Kumar, Sandeep; Sirhindi, G.; Bhardwaj; R.; Kumar, M. (2009), 'Effect of 24-epibrassinolide and 28-homobrassinolide on antioxidant defense system in seedlings of *Brassica juncea* L.', *Physiology and Molecular Biology of Plants*, 15(4), pp 335-341.
1120. Kumar, Sandeep; Sirhindi, G.; Bhardwaj, R.; Kumar, M. (2011), 'Evaluation of effect of Brassinolide on growth, proteins and antioxidative enzyme activities in *Brassica juncea* L.', *Journal of Indian Botanical Society*, 90; (1-2).
1121. Kumar, Sandeep; Sirhindi, G.; Bhardwaj, R.; Kumar, M.; Arora, P. (2012), 'Role of 24-epibrassinolide in amelioration of high temperature stress through antioxidant defense system in *Brassica juncea* L.', *Plant stress*, 6(1), pp 55-58.
1122. Kumari, Anita; Sharma, S.; Vig, A. P. (2012), 'Antigenotoxic effects of *Brassica oleracea* L. var. *Italica* aqueous seed extract on *Allium cepa* root chromosomal aberration assay', *International Journal of Genetics*, 2, pp 22-28.
1123. Kumari, Anita; Sharma, S.; Vig, A. P. (2013), 'Evaluation of anticytogenetic effects of *Brassica oleraceae* L. var. *Italica* in *Allium cepa* L.', *International Journal of Pharmacy and Pharmaceutical Sciences*, 4, pp 120-124.
1124. Mabwoga, Samson; Chawla, A.; Thukral, A. K. (2010), 'Assessment of water quality parameters of the Harike wetland in India, a Ramsar site, using IRS LISS IV satellite data', *Environmental Monitoring and Assessment*, 170, pp 117-128. DOI 10.1007/s10661-009-1220-2. (Springer).

1125. Mahajan, Jyoti; Kumar, R.; Kaur, R.; Arora, S. (2012), 'Exploration of xanthine oxidase producing microorganisms from hypoxanthine supplemented soil and their inhibitors from plants employing nitroblue tetrazolium based colorimetric assay method', *Global Advanced Research Journal of Environmental Science and Toxicology,*1, pp 10-13.
1126. Mahajan, Jyoti; Arora, S. (2013), 'Assessment of antioxidant potential of *Acacia Nilotica (L.)* wild Ex Del. via *In vitro* models', *International Journal of Life Sciences Biotechnology and Pharma Research*, 2(4).
1127. Mir, Bilal Ahmad; Ram, G.; Sharma, G. P.; Shahi, A. K.; Koul, M. K.; Soodan, A. S.; Koul, S. (2009), 'Response of *Mentha longifolia* var. *incana* (L.) Hudson (RRL (J) ML4) to Bioinoculants under Subtropical Conditions of Jammu', *Journal of Medicinal & Aromatic Plant Sciences*, 31, pp 215-218.
1128. Mir, Bilal Ahmad; Koul, S.; Kumar, A.; Kaul, M. K.; Soodan, A. S.; Raina, S. N. (2010), 'Intraspecific Variation in the Internal Transcribed Spacer (ITS) Regions of rRNA in *Withania somnifera* (L.) *Dunal Indian Journal of Biotechnology*', 9(3), pp 325-328.
1129. Mir, Bilal Ahmad; Koul, S.; Kumar, A.; Kaul, M. K.; Soodan, A. S.; Raina, S. N. (2011), 'Assessment and Characterization of Genetic Diversity in *Withania somnifera* (L.) Dunal using RAPD and AFLP primers', *African Journal of Biotechnology*, 10(66), pp 14746-14756.
1130. Mir, Bilal Ahmed; Koul, S.; Kaur, A.; Kaul, M. K.; Soodan, A. S. (2012), 'Reproductive Behaviour and Breeding System of Wild and Cultivated Types of *Withania somnifera* (L.) Dunal', *Journal of Medicinal Plant Research*, 6(5), pp 754-762.
1131. Mir, Bilal Ahmad; Koul, S.; Soodan, A. S. (2013), 'Reproductive Biology of *Withania ashwagandha* sp. novo (Solanaceae)' *Industrial Crops and Products*, 45, pp 442-446.
1132. Nagpal, Avinash; Singh, B.; Sharma, B.; Rani, G.; Virk, G. S. (2008), 'Coleus spp.: Micropropagation and *In vitro* production of secondary metabolites', *Medicinal and Aromatic Plant Science and Biotechnology*, 2, pp 1-17.
1133. Narang, Upma; Thukral, A. K.; Bhardwaj, R.; Garg, S. K. (2011), 'Phytoremediation of mercury using *Eichhornia crassipes* (Mart.) Solms.', *International Journal of Environment and Waste Management*, 8, pp 92-105.
1134. Narang, Upma; Thukral, A. K.; Bhardwaj, R.; Garg, S. K. (2008), 'Glutathione-Ascorbate cycle for Phytoremediation of mercury by *Eichhornia cressipes* (Mart) Solms.', *Japanese Journal of Environmental Toxicology*, 11(1) pp 1-9.
1135. Narang, Upma; Thukral, A. K.; Bhardwaj, R.; Garg, S. K. (2008), 'Mercury-Induced Lipid Peroxidation and Changes in Antioxidants in *Eichhornia crassipes* (Mart.) Solms.', *Plant Stress*, 2(1), pp 70-74.

1136. Narang, Upma; Thukral, A. K.; Bhardwaj, R.; Garg, S. K. (2008), 'Role of antioxidative defence system in *Eichhornia crassipes* (Mart.) Solms during pytoremediation of mercury', *Can. J. Pure Appl. Sci.*, 2(3), pp 537-545.
1137. Narang, Upma; Thukral, A. K.; Bhardwaj, R.; Garg, S. K. (2008), 'Glutathione –Ascorbate cycle for phytoremediation of mercury by *Eichhornea crassipes* (Mart.) Solms.', *Japanese Journal of Environmental Toxicology*, 11, pp 1-9.
1138. Narang, Upma; Bhardwaj, R.; Garg, S. K.; Thukral, A. K. (2008), 'Phytoremediation potential of *Eichhornia crassipes* (Mart.) Solms.', *The ICFAI- Journal of Environmental Sciences*. 2(1), pp 19-31.
1139. Ohri, Puja; Sohal, S. K.; Bhardwaj, R.; Khurma, U. R. (2008), 'Studies on the root-knot nematode, *Meloidogyne incognita* (Kofoid & White) Chitwood under the influence of 24-epibrassinolide', *Ann. Plant Protec. Sci*, 16(1), pp 198-202.
1140. Ohri, Puja; Sohal, S. K.; Bhardwaj, R.; Khurma, U. R. (2008), 'Biochemical evaluation of some enzymes of the root-knot nematode, *Meloidogyne incognita* (Kofoid & White) Chitwood under the influence of brassinosteroids', *Int. J. Nematology*, 18(2), pp 216-220.
1141. Ohri, Puja; Bhardwaj, R.; Kaur, R. (2011), 'Effect of 24-epibrassinolide regulated antioxidative defence system in *Brassica juncea* during *Meloidogyne incognita* infection', *Ann. Pl. Protec. Sci*, 19(2) pp 423-427.
1142. Ohri, Puja; Kaur, R.; Sohal, S. K.; Bhardwaj, R. (2011), 'Plant growth regulators and nematodes', In: *Plant Protection, Diversity and Conservation*. (Eds. D. Prasad and S. Kumar). Biotech Books, New Delhi. pp. 56-68.
1143. Pal, Sikander; Bhardwaj, R.; Gupta, B. D.; Dutt, P.; Gupta, R. K.; Biondi, S.; Kanwar, M. (2010), 'Epibrassinolide induces changes in indole-3-acetic acid, absicic acid and polyamine concentrations and enhances antioxidant potential of radish seedlings under copper stress', *Physiologia Plantarum,* 140, pp 280-296.
1144. Pal, Sikander; Bhardwaj, R.; Gupta, B.; Biond, S.; Kanwar, M.; Dutt, P. (2011), 'Epibrassinolide ameliorates Cr (VI) stress via influencing the levels of indole-3-acetic acid, abscisic acid, polyamines and antioxidant system of radish seedlings', *Chemosphere*, 84(5) pp 592-600.
1145. Pal, Sikander; Bhardwaj, R.; Yu, J.Q.; Phan Tran, L.S. (2012), 'Interaction of brassinosteroids and polyamines enhances copper stress tolerance in Raphanus sativus L.', *Journal of Experimental Botany,* 63(15), pp 5659-5675.
1146. Pal, Sikander; Bhardwaj, R.; Kanwar, M.; Gupta, B. D.; Yu, J. Q.; Tran, L. P. (2012), 'Zooming on polyamine – brassinosteroids impacts in Cr (VI) stress alleviation', Focus on phytohormonal and

physiological strategies in *Raphanus sativus* L.', *PLoS ONE,* 7(3), pp 1-11.
1147. Parkash, Om; Thukral, A. K. (2010), 'Statistical measures as measures of diversity', *International Journal of Biomathematics*, 3, pp 173-185. DOI: 10.1142/d179352451000091X. .
1148. Parkash, Om; Kumar, M.; Thukral, A. K. (2010), 'Measuring randomness of association through coefficient of non-determination', *In: Advances in Information Theory and Operations Research* (Ed. Om Parkash). VDM Verlag, Saarbrücken. Pp. 46-55.
1149. Parvaiz, Ahmed; Bhardwaj, R.; Tuteja, N. (2012), 'Plant signalling under abiotic stress environmen', In: Environmental adaptations and stress tolerance of plants in the era of climate change (Eds. Ahmed Parvaiz and M.N.V. Prasad) pp. 297-325. Springer, NewYork. ISBN No. (978-1-4614-0814-7).
1150. Rampal, Geetanjali; Thind, T.S.; Arora, S.; Vig, A.P. (2010), 'Antimutagenic Potential of Glucosinolate-Rich Seed Extracts of Broccoli (*Brassica oleracea* L var *italica* Plenck)', *International Journal of Toxicology*, 29, pp 616-624.
1151. Rampal, Geetanjali; Khanna, N.; Thind, T. S.; Arora, S.; Vig, A. P. (2012), 'Role of isothiocyanates as anticancer agents and their contributing molecular and cellular mechanisms', *Medicinal Chemistry and Drug Discovery*, 3, pp 79-93.
1152. Randhawa, Navkiran; Sharma, I.; Bhardwaj, R. (2010), 'Effect of 24-Epibrassinolide and 28-Homobrassinolide on some Biochemical Parameters in *Raphanus sativus* L. Plants under Chromium Stress', *Seed Science and Biotechnology*, 4(1), pp 28-32.
1153. Saini, Saraswati; Nagpal, A. (2011), 'Lead toxicity and genotoxicity-An overview', *Bioscience Guardian- An International Journal,* 1, pp 561-570.
1154. Sarangal, Mukesh; Buttar, G. S.; Thukral, A. K. (2012), 'Generating information measures via matrix over probability spaces', *International Journal of Pure and Applied Mathematics*', 81(5) pp 723-735.
1155. Savita; Virk, G. S.; Nagpal, A. (2010), 'In vitro selection of calli of *Citrus jambhiri* Lush. for tolerance to culture filtrate of *Phytophthora parasitica* and their regeneration', *Physiol Mol Biol Plants*, 17, pp 41–47.
1156. Savita; Vijay; Virk, G. S.; Nagpal, A. (2010), 'Effect of explant type and different plant growth regulators on callus induction and plantlet regeneration in *Citrus jambhiri* Lush.', *Environment and We – An International Journal of Science and Technology*, 5, pp 97-106.
1157. Savita; Singh, B.; Virk, G. S.; Nagpal, A. (2011), 'An effective plant regeneration protocol from callus cultures of *Citrus jambhiri* Lush.', *Physiol Mol Bio Plant*, 17 pp 161–169.
1158. Savita; Bhagat, A.; Virk; G. S.; Nagpal, A. (2012), 'An efficient micropropagation protocol for Citrus jambhiri Lush. and assessment of

clonal fidelity employing anatomical studies and RAPD markers', *In vitro cell and developmental biology*, DOI 10.1007/s11627-012-9430-7).

1159. Savita; Singh, B.; Virk, G. S.; Nagpal, A. (2012), 'An efficient plant regeneration protocol from callus cultures of *Citrus jambhiri* Lush', *Physiol Mol Biol Plants.* DOI 10.1007/s12298-011-0055-9.
1160. Sharma, Alka; Singh, J.; Vig, A. P. (2008), 'Potential of kichen waste for vermicomposting using *Eisenia foetida',* In: Groundwater Resources: Conservation and Management (Proceedings of Sixteenth National Symposium on Environment) (V. D. Puranik, V. K. Garg, A. G. Hegde, Anubha Kaushik, T. V. Ramachandran, C.P. Kaushik, I. V. Saradhi, S K Sahu, and P. Parathibha. Eds.) Yayu Education of India, New Delhi, pp. 425-429.
1161. Sharma, Arti; Kumar, M.; Kaur, S. (2011), 'Cuminum cyminum Linn. and Coriandrum sativum Linn. extracts modulate Chromium genotoxicity in Allium cepa chromosomal aberration assay', *The Nucleus*, 54(2), pp 99-105.
1162. Sharma, Arti; Kumar, M.; Kaur, S. (2011), 'Modulatory effects of *Syzygium aromaticum* (L.) Merr. & Perry and *Cinnamomum tamala* Nees & Ebrem. on the toxicity induced by chromium trioxide', *Phytopharmacology*, 1(4), pp 1-11.
1163. Sharma, Arti; Kumar, M.; Chandel, M.; Kaur, S. (2012), 'Modulation of chromium trioxide induced genotoxicity by methanol extract of leaves of *Trigonella foenum-graecum* L.', *Journal of Experimental and Integrative Medicine*, 2, pp 77-83.
1164. Sharma, Dipakshi; Nagpal, A.; Pakade, Y. B.; Katnoria, J. K. (2010), 'Analytical methods for estimation of organophosphorus pesticide residues in fruits and vegetables: *A Review.*', *Talanta,* 82 pp 1077 - 1089.
1165. Sharma, Dipakshi; Katnoria, J. K.; Vig, A. P. (2010), 'Chemical analysis of spinach waste during composting and vermicomposting', *Biospectra,* 5, pp 67-72.
1166. Sharma, Dipakshi; Katnoria, J. K.; Vig, A. P. (2011), 'Chemical changes of spinach waste during composting and vermicomposting', *African Journal of Biotechnology,* 10(16), pp 3124-3127.
1167. Sharma, Indu; Pati, P. K.; Bhardwaj, R. (2010), 'Regulation of Growth and Antioxidant Enzyme Activities by 28-Homobrassinolide in Seedlings of *Raphanus sativus* L. under Cadmium stress.' *Indian Journal of Biochemistry and Biophysics,* 47 pp 172-177.
1168. Sharma, Indu; Bhardwaj, R.; Pati, P. K. (2011), 'Effect of 24-epibrassinolide on oxidative stress markers induced by Nickel metal in *Raphanus sativus* L.', *Acta. Physiol. Plant,* 33(5), pp 1723-1735.
1169. Sharma, Indu; Bhardwaj, R.; Pati, P. K. (2011), 'Effect of 28-homobrassinolide on antioxidant defence system in *Raphanus sativus* L. under metal stress', *Ecotoxicology,* 20 (4), pp 262-274.

1170. Sharma, Indu; Bhardwaj, R.; Pati, P. K. (2012), 'Mitigation of adverse effects of chlorpyrifos Sharma by 24- epibrassinolide and analysis of stress markers in a rice variety Pusa-Basmati-1', *Ecotoxicology and Environmental Safety,* 85, pp 72-81.
1171. Sharma, Isha; Bhardwaj, R.; Pati, P. K. (2013), 'Stress modulation response of 24-epibrassinolide against imidacloprid in an elite indica rice variety Pusa Basmati-1', *Pesticide Biochemistry and Physiology*, 105(2), pp 144-153.
1172. Sharma, Neha; Bhardwaj, R.; Kumar, S.; Kaur, S. (2011), 'Evaluation of *Bauhinia variegata* L. bark fractions for *in vitro* antioxidant potential and protective effect against H2O2-induced oxidative damage to pBR322 DNA', *African Journal of Pharmacy and Pharmacology,* 5, pp 1494-1500.
1173. Sharma, Neha; Kaur, S.; Bhardwaj, R.; Kumar, S. (2011), 'Evaluation of *Bauhinia variegata* L. bark fractions for in-vitro antioxidant potential and protective effect against H_2O_2-induced oxidative damage to pBR322 DNA', *African Journal of Pharmacy and Pharmacology,* 5(12) pp 1494-1500.
1174. Sharma, Neha; Hundal, G. S.; Sharma, I.; Bhardwaj, R. (2012), 'Effect of 24-Epibrassinolide on Protein Content and activities of Glutathione-S-transferase and Polyphenol oxidase in *Raphanus sativus* L. plants under Cd and Hg metal stress' *Terrestrial and Aquatic Environmental Toxicology,* 6(1).
1175. Sharma, Priyanka; Bhardwaj, R.; Arora, H. K.; Arora, N. (2008), '28-homobrassinolide-regulated effects of nickel on metal uptake, protein content and antioxidative defence system in *Brassica juncea* L.', *Biol. Plant*, 52(4) pp 767-770.
1176. Sharma, Sanjeev; Sing, B.; Rani, G.; Zaidi, A. A.; Thind, S. K.; Virk, G. S.; Nagpal, A. (2008), 'Indian citrus ringspot virus – A Review', In: Crop Improvement: Strategies and applications. (Eds. R.C. Setia, H..Nayar and N. Setia). I.K. International Publishing House Pvt. Ltd., New Delhi. pp. 254 – 264
1177. Sharma, Sanjeev; Singh, B.; Rani, G.; Zaid, A. A.; Hallan, V. K.; Nagpal, A.; Virk, G. S. (2008), 'In vitro Production of *Indian Citrus Ringspot Virus* (ICRSV) Free Kinnow Plants employing Thermotherapy coupled with Shoot Tip Grafting', *Plant Cell Tissue & Organ Culture*, 92, pp 85 – 92.
1178. Sharma, Sanjeev; Singh, B.; Nagpal, A.; Virk, G. S.; Zaidi, A. A. (2009), 'Indexing tools for Indian Citrus Ringspot Virus (ICRSV)', *The Open Biology Journal*, 2, pp 27-31.
1179. Sharma, Sonia; Nagpal, A.; Vig, A. P. (2010), 'Antigenotoxic activity of methanolic extract of *Brassica juncea* (L.) Czern. Seeds', *Bioscience Guard*ian-*An International Journal,* 1(1), pp 163-170.
1180. Sharma, Sonia; Vig, A. P. (2012), 'Antigenotoxic effects of Indian mustard *Brassica juncea* (L.) Czern aqueous seeds extract against

mercury (Hg) induced genotoxicity', *Scientific Research and Essays*, 7, pp1385-1392.
1181. Sharma, Sonia; Vig, A. P. (2012), 'Genoprotective potential of *Brassica juncea* (L.) Czern against mercury (Hg) induced genotoxicity in *Allium cepa* L.', *Turkish Journal of Biology*, 36, pp 622-629.
1182. Sharma, Sonia; Vig, A. P. (2012), 'Genotoxicity of Atrazine, Avenoxan, Diuron and Quizalofop-P-ethyl herbicides using the *Allium cepa* root chromosomal aberration assay', *Terrestrial and Aquatic Environmental Toxicology*, 6, pp 90-95.
1183. Sharma, Sushant; Kaur, R.; Soodan, A.S. (2010), 'Morphology of Diaspores of some Range Grasses of Punjab', *Range Management & Agroforestry*, 31(1), pp 52-58.
1184. Sharma, Upendra; Bala, M.; Kumar, P.; Rampal, G.; Kumar, N.; Singh, B.; Arora, S. (2010), 'Antimutagenic extract from *Tinospora cordifolia* and its chemical composition' *Journal of Medicinal Plant Research*, 4(23), pp 2488–2494.
1185. Sharma, Vishal; Chaudhary, A.; Arora, S.; Saxena, A. K.; Ishar, M. P. S. (2013), 'B-Ionone derived chalcones as potent antiproliferative agents', *European Journal of Medicinal Chemistry,* 69, pp 310-315.
1186. Singh, Balwinder; Sharma, S.; Rani, G.; Hallan, V.; Zaidi, A. A.; Virk, G. S.; Nagpal, A. (2008). *In vitro* micrografting for production of *Indian citrus ringspot virus*-free plants of Kinnow mandarin (*Citrus nobilis* Lour × *C. deliciosa* Tenora). *Plant Biotechnology Reports.* 2, pp 137 -143.
1187. Singh, Bikram; Sharma, V.; Singh, G.; Kumar, R.; Arora, S.; Ishar, M. P. S. (2013), 'Synthesis and *In Vitro* Cytotoxic Activity of Chromenopyridones', *International Journal of Medicinal Chemistry*, doi.org/10.1155/2013/984329.
1188. Singh, Jaswinder; Kaur, A.; Vig, A. P.; Rup, P. J. (2010), 'Role of *Eisenia fetida* in rapid recycling of nutrients from biosludge of beverage industry'. *Ecotoxicology & Environmental Safety,* 73 (3), pp 430–435.
1189. Singh, Jaswinder; Kaur, A.; Vig, A. P.; Rup, P. J. (2011), 'Optimization of Earthworm Density for Degradation Time and Physico-Chemical Properties of Distillery Waste', *In proceedings of International Conference on Sustainable Waste Management*, *Kolkata*. November 09-11 pp 484 – 490. ISBN: 81-86862- 41-2.
1190. Singh, Keshav; Vig, A. P.; Barh, D. (2011), 'Vermicomposting: A boon for soil, plant and environment', Lap Lambert academic publishing Gmbh & Co. KG, USA, pp 1-109, ISBN:978-3-8443-3442-5
1191. Singh, Palwinder; Mittal, A.; Bhardwaj, A.; Kaur, S.; Kumar, S. (2008), '1-Toluene-sulfonyl-3-[(3′-hydroxy-5′-substituted)-γ-butyro-lactone]-indoles: Synthesis, COX-2 inhibition and anti-cancer activities', *Bioorganic & Medicinal Chemistry Letters,*18(1), pp 85-89.

1192. Singh, Palwinder; Mittal, A.; Kaur, S.; Kumar, S. (2008), '2,3,5-Substituted tetrahydrofurans: COX-2 inhibitory activities of 5-hydroxymethyl-/carboxyl-2,3-diaryl-tetrahydro-furan-3-ols', *European Journal of Medicinal Chemistry*, 43(12), pp 2792-2799.
1193. Singh, Palwinder; Mittal, A.; Kaur, S.; Holzer, W.; Kumar, S. (2008), '2,3- Diaryl-5-ethylsulfanylmethyltetrahydrofurans as new class of COX-2 inhibitors and cytotoxic agents', *Organic and Biomolecular Chemistry,* 6, pp 2706-2712.
1194. Singh, Palwinder; Bhardwaj, A.; Kaur S.; Kumar, S. (2009), 'Design, synthesis and evaluation of tetrahydropyran based COX-1/-2 inhibitors', *European Journal of Medicinal Chemistry*, 44(3), pp 1278-1287.
1195. Singh, Palwinder; Kaur, J.; Kaur, P.; Kaur, S. (2009), 'Search for MDR modulators:Design, syntheses and evaluations of N-substituted acridones for interactions with p-glycoprotein and Mg^{2+}', *Bioorganic & Medicinal Chemistry*, 17(6), pp 2423-2427.
1196. Singh, Rajbir; Singh, B.; Singh, S.; Kumar, N.; Kumar, S.; Arora, S. (2008), 'Anti-free radical activities of kaempferol isolated from *Acacia nilotica* (L.) Willd. Ex Del.', *Toxicology in vitro*, 22, pp 1965-1970.
1197. Singh, Rajbir; Arora, S. (2009), '*In vitro* evaluation of peroxyl radical scavenging capacity of water extract/fractions of *Acacia nilotica* (L.) Willd. Ex Del.', *African Journal of* Biotechnology, 6, pp 1270-1272.
1198. Singh, Rajbir; Singh, B.; Singh, B.; Kumar, N.; Kumar, S.; Arora, S. (2009), 'Investigation of Ethyl Acetate Extract/Fractions of *Acacia Nilotica* Willd. Ex Del as Potent Antioxidant', *Records of Natural Products,* 1, pp 32-39.
1199. Singh, Rajbir; Arora, S. (2009), '*In vitro* evaluation of peroxyl radical scavenging capacity of water extract/fractions of *Acacia nilotica* (L.) Willd. Ex Del', *African Journal of Biotechnology,* 6: 1270-1272.
1200. Singh, Rajbir; Singh, B.; Kumar, N.; Kumar, S.; Arora, S. (2009), 'Investigation of Ethyl Acetate Extract/Fractions of *Acacia Nilotica* Willd. Ex Del as Potent Antioxidant', *Records of Natural Products,* 1, pp 32-39.
1201. Singh, Rajbir; Singh, B.; Kumar, N.; Arora, S. (2010), 'Antioxidant activity of Triphala a combination of *Terminalia chebula*, *Terminalia bellerica* and *Emblica officinalis'*, *Journal of Food Biochemistry,* 34, pp 222-232.
1202. Singh, Rajbir; Singh, B.; Singh, S.; Kumar, N.; Kumar, S.; Arora, S. (2010). 'Umbelliferone - an antioxidant isolated from *Acacia Nilotica* (L.) Willd. Ex. Del', *Food Chemistry,* 120, pp 825-830.
1203. Singh, Rajbir; Joshi, R.; Vig, A. P. (2011). 'Effect of Vermicompost on Seed Germination Parameters of *Abelmoscus esculentus* and *Cucurbita pepo*', *in proceedings of International Conference on Sustainable Waste Management, Kolkata.* November 09-11, pp 307-313, ISBN: 81-86862- 41-2.

1204. Sondhi, Nishi; Bhardwaj, R.; Kaur, S.; Singh, B.; Kumar, N. (2008), 'Isolation of 24-epibrassinolide from leaves of *Aegle marmelos* and evaluation of its antigenotoxicity potential employing *Allium cepa* chromosomal aberration assay', *Plant Growth Regul,* 54, pp 217-224.
1205. Sondhi, Nishi; Bhardwaj, R.; Kaur, S.; Chandel, M.; Kumar, N.; Singh, B. (2010), 'Inhibition of H_2O_2 –induced DNA damage by Castaserone isolated from *Centella asiatica* in human lymphocytes by Single Cell Gel Electrophoresis Assay (Comet Assay)', *Health.* 2(6), pp 595-602.
1206. Sondhi, Nishi; Bhardwaj, R.; Kaur, S.; Chandel, M.; Kumar, N.; Kumar, S. (2010), 'Inhibition of H_2O_2-induced DNA damage in single cell gel electrophoresis assay (comet assay) by castasterone isolated from leaves of *Centella asiatica*', *Health,* 2(6), pp 595-602.
1207. Soodan, Amarjit Singh; Kumar, R.; Singh, B. P. (2009), 'Species Associations in the Vascular Plant Community of the Tropical Upper Bari Doab Region of Punjab', *Indian Journal of Ecology,* 36(2), pp 111-117.
1208. Soodan, Amarjit. Singh; Sharma, S.; Kumar, A.; Kaur, R. (2012), 'Strategies for Optimizing the Grass Cover of Punjab for Fodder Production', *Range Management & Agroforestry*, 33(1), pp 13-19.
1209. Soodan, Amarjit Singh; Kumar, A.; Sharma, S. (2013), "An Updated Conspectus of Grasses of Punjab", *Taxonomy & Biosystematics*, 13, pp 73-84.
1210. Soodan, Rajneet Kour; Katnoria, J. K.; Nagpal, A. (2009), 'Evaluation of genotoxic effects of lead nitrate in *Allium cepa* root chromosomal aberration assay', *International Journal of Bioscience Reporter*, 7, pp 245-249.
1211. Soodan, Rajneet Kour; Katnoria, J. K.; Kaur, G.; Nagpal, A. (2009), 'Genoprotective potential of an aqueous extract of leaves of *Withania somnifera* against lead induced genotoxicity in plant and mammalian bioassays', *Perspectives in Cytology and Genetics*, 15, pp 283 – 296.
1212. Soodan, Rajneet Kour; Sharma, S.; Katnoria, J. K.; Nagpal, A. (2010), 'Role of *Spirulina* in Sports medicine', *Journal of Sports Traumatology and Allied Sports Sciences*, 9, pp 30 -35.
1213. Soodan, Rajneet Kour; Kaur, M.; Nagpal, A. (2011), '*Allium cepa* root chromosomal aberration assay to study genoprotective potential of plant extracts', *Perspectives in Cytology and Genetics*, 15, pp 67-80.
1214. Thind, Tarunpreet Singh; Agrawal, S. K.; Saxena, A.K.; Arora, S. (2008), 'Studies on cytotoxic, hydroxyl radical scavenging and topoisomerase inhibitory activities of extracts of *Tabernaemontana divaricata* (L.) R.Br. ex Roem. and Schult', *Food and Chemical Toxicology*, 46, pp 2922-2927.
1215. Thind, Tarunpreet Singh; Rampal, G.; Agarwal, S. K.; Saxena, A.K.; Arora, S. (2010), 'Diminution of free radical induced DNA damage by extracts/fractions from bark of *Schleichera oleosa* (Lour.) Oken', *Drug and Chemical Toxicology,* 33, pp 329-336.

1216. Thind, Tarunpreet Singh; Singh, R.; Kaur, R.; Rampal, G.; Arora, S. (2011), 'In vitro antiradical properties and total phenolic contents in methanol extract/fractions from bark of *Schleichera oleosa* (Lour.) Oken', *Medicinal Chemistry Research*, 20, pp 254–260.
1217. Thind, Tarunpreet Singh; Rampal, G.; Agrawal, S. K.; Saxena, A. K.; Arora, S. (2012), 'Evaluation of cytotoxic and radical-scavenging activities of root extracts *of Schleichera oleosa* (Lour.) Oken', *Natural Product Research*, 26, pp 1728-1731.
1218. Thukral, Ashwani Kumar; Singh, B. P. (2008), 'Population Growth and National Population Policy', *American Institute of Physics*, 971, pp 137-141.
1219. Thukral, Ashwani Kumar (2010), 'Measurement of diversity in characterisation of plant communities', In: Information Theory and Optimisation Techniques in Scientific Research (Ed. Om Parkash). VDM Verlag, Saarbrücken. Pp. 89-98. ISBN 978-3-639-27536-0.
1220. Vig, Adarsh Pal; Rambani, A. (2008), 'DNA based methods for variety identification – comparison and applications', in: Crop Improvement Strategies and Applications (R C Setia, Harsh Nayyar and Neelam Setia. eds.) I K International Publishing House Pvt. Ltd., New Delhi, pp 50-63. ISBN no 978-81-89866-78-5.
1221. Vig, Adarsh Pal; Rampal, G.; Thind, T. S.; Arora, S. (2009), 'Bio-protective effects of glucosinolates- A review', *LWT - Food Science and Technology*, 42, pp 1561-1572.
1222. Vig, Adarsh Pal; Singh, J.; Wani, S.H.; Dhaliwal, S.S. (2011), 'Vermicomposting of tannery sludge mixed with cattle dung into valuable manure using earthworm *Eisenia fetida* (Savigny)', *Bioresource Technology,* 102, pp 7941–7945.
1223. Vig, Adarsh Pal; Singh, J. (2013), 'Solid and Plastics Waste Management- a biological approach', *In Proceedings of Technical Seminar on "Plastics Recycling & waste management". Amritsar.* August 26, CIPET, Dept. of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, GOI.
1224. Vig, Adarsh Pal; Walia, H.; Khanna, N. (2013), 'Destructive agents and preservation methods in libraries', (Book Chapter no.12) *In: Preservation and Digitization in Evidence based Medicine*. (Eds: Gill. S.S, Manhas R. and Bansal P. et.al.), Saurabh Medical Publishers, Chandigarh.
1225. Walia, Harpreet; Kumar, S.; Arora, S. (2009), 'Antiradical efficacy and protective effect of water extract/fractions of *Terminalia chebula* on DNA cleavage', *Journal of Chinese Clinical Medicine*, 2, pp 361-370.
1226. Walia, Harpreet; Singh, R.; Arora, S. (2010), 'Antioxidant Activity of Ethyl Acetate Extract/Fractions of *Terminalia chebula*', *Medicinal and Aromatic Plant Science and Biotechnology*, 4, pp 62-65.
1227. Walia, Harpreet; Singh, R.; Kumar, S.; Arora, S. (2010), 'Effect of fractionation on antiradical efficacy of ethyl acetate extract of

Terminalia chebula Retz.', *African Journal of Pharmacy and Pharmacology*, 4, pp 276-285.

1228. Walia, Harpreet; Kumar, S.; Arora, S. (2011), 'Comparative antioxidant analysis of hexane extracts of *Terminalia chebula* Retz. prepared by maceration and sequential extraction method', *Journal of Medicinal Plants Research,* 5(13), pp 2608-2616.
1229. Walia, Harpreet; Kaur, J.; Arora, S. (2012), 'Antioxidant efficacy of fruit extracts of *Terminalia chebula* prepared by sequential method using TA-102 strain of *Salmonella typhimurium*', *Spatula DD*. 2(3), pp 165-171.
1230. Walia, Harpreet; Kumar S.; Arora, S. (2012), 'Attenuation of Protective Effect on DNA and Antioxidant Efficacy of Extracts from *Terminalia chebula* Prepared by Sequential Method', *Advances in Biological Research*, 6(6), pp 231-239.

Human Genetics

1231. Al-Balool, H.H.; Weber, D.; Liu, Y.; Wade, M.; Guleria, K.; Nam, P.L.P.; Rowe, W.; Clayton, J.; Coxhead, J.; Irving, J.; Lastowska, M.; Elliott, D.; Hall, A.; Santibanez-Koref, M.; Jackson, M.S. (2011), 'Identification of abundant and evolutionarily conserved post transcriptional exon shuffling events in human', *Genome Research*, 21(11), 1788-1799.
1232. Badaruddoza; Bhanwer, A.J.S; Kaur, R; Singh, R; Matharoo, K.; Bamezai, R.N.K. (2008), 'Study of DYS 390 polymorphism among Khatri population in Punjab in comparison with other Indian and World population', *International Journal of Human Genetics,* **7**, 263-266.
1233. Badaruddoza; Bhanwer, A.J.S; Rambani, M; Singh, R; Matharoo, K.; Bamezai, R.N.K. (2008), 'Study of YAP element among an endogamous human isolate in Punjab', *International Journal of Human Genetics,* 8, 269-271.
1234. Badaruddoza; Sharma, M; Brar, S.K.; Kumar, R. (2008), 'Age trends in morpho-physiological traits among 19-24 years old Punjabi female youth of Amritsar, Punjab', *The Anthropologist,* 10, 147-149.
1235. Badaruddoza; Kumar, R. (2009), 'Cardio-vascular risk factor and familial aggregation of blood pressure with respect to anthropometric variables in a scheduled caste population in Punjab, a North Indian state', *Anthropologischer Anzeiger*, 67(2), 111-119.
1236. Badaruddoza; Amandeep; Brar S.K. and Kumar, R. (2009), 'Age specific relation of blood pressure with anthropometric variables among 19-24 years Punjabi female of Amritsar city in Punjab, India', *The Anthropologist*, 11(3), 207-211.

1237. Badaruddoza; Bhanwer, A.J.S.; Sawhney, R.; Randhawa, N.K.; Matharoo, K.; Barna, B. (2009), 'A Study of Angiotension Converting Engyme (ACE) gene polymorphism in Essential Hypertension among a Business Community in Punjab', *International Journal of Human Genetics*, 9(3-4), 231-234.
1238. Badaruddoza; Sawhney, R. (2009), 'Familial aggregation of blood pressure with respect to anthropometric variables in a Business Community of Punjab, a north Indian State', *Collegium Antropologicum*, 33(4), 1023-1032.
1239. Badaruddoza and Hundal, M.K (2009), 'Comparison of anthropometric characteristics and blood pressure phenotypes between pre- and post-menopausal Punjabi women', *The Anthropologist*, 11(4), 271-275.
1240. Badaruddoza; Barna, B.; Bhanwer, A.J.S. (2010), 'Comparison of factor leadings for Anthropometric and physiometeric measures among Type 2 diabetic males, Pre-and Post-menopausal females in North Indian Punjabi population' *Natural Science*, 2, 741-747.
1241. Badaruddoza; Brana, B.; Bhanwer. A.J.S. (2010), 'Comparison of Factor Loadings for Anthropometric and Physiometric Measures among Type 2 Diabetic Males, Pre- and Post-Menopausal Females in North Indian Punjabi Population', *Natural Sciences*. 2(7), 741-747, (doi:10.4236/ns.2010.27093).
1242. Badaruddoza; Kaur, N.; Barna, B. (2010), 'Inter-relationship of waist-to-hip ratio (WHR), body mass index (BMI) and subcutaneous fat with blood pressure among University going Punjabi Sikh and Hindu females' *International Journal of Medicine and Medical Sciences,* 2(1), 5-11.
1243. Badaruddoza; Kaur, R.; Barna, B. (2010), 'Estimation of Familial Association of Blood Pressure with BMI and WHR among Type 2 Diabetic and Non-diabetic Punjabi Population in Punjab, India' *Translational Biomedicine*, 1(1:3), 1-7.
1244. Badaruddoza (2010), 'A synthesis of natural selection and female sex in Human population', in M.K. Bhasin and C. Susanne (ed) *Anthropology Today: Trends and Scope of Human Biology*, Delhi: Kamla-Raj Enterprises, PP 91-94, (ISBN-81-85264-52X).
1245. Badaruddoza; Gill, K.; Kamal, P. (2011), 'Factor Analysis of Anthropometric, Physiometric and Metabolic Risk Traits Associated with Cardiovascular Diseases in North Indian Punjabi Adults', *Journal of Applied Sciences*, 11(15), 2843-2848.
1246. Badaruddoza; Gill, K.; Kumar, R. (2011), 'Association of Anthropometric andMetabolic variables with Cardiovascular Disease among Urban and Rural Origin', *American Journal of Applied Sciences*, 8(10), 953-961.
1247. Badaruddoza; Patharia, A. (2012), 'Heritability of Certain Anthropometric and physiometric phenotypes among three

Predominant Caste Population in Punjab, India', *Journal of Biological Sciences*, 12(2), 74-82.
1248. Badaruddoza; Sudhir, N. (2012), 'No evidence for association between ACE gene insertion (I) / deletion (D) polymorphism and hypertention in North Indian Punjabi Population', *International Journal of Human Genetics*, 12(3), 177-183.
1249. Badaruddoza, Kaur, P. (2012), 'Familial patterns of blood pressure with respect to anthropometric variables among *Lobana* (Nomadic origin) population in Punjab, India', *Asia Pacific Journal of Public Health,* 24, 104-116.
1250. Badaruddoza; Caplash, S. (2012), 'Receiver operating characteristic (ROC) analysis in pre-menarcheal Punjabi girls to detect excess adiposity', *Asian Journal of Pharmaceutical and Clinical Research,* 5 (suppl 2), 114-119.
1251. Badaruddoza; Gill, K.; Kamal, P. (2012), 'Factor Analysis of Anthropometric, Physiometric and Metabolic Risk Traits Associated with Cardiovascular Diseases in North Indian Punjabi Adults', *Journal of Applied Sciences*, 11(15), 2843-2848.
1252. Badaruddoza; Gill, K.; Kumar, R. (2012), 'Association of Anthropometric andMetabolic variables with Cardiovascular Disease among Urban and Rural Origin', *American Journal of Applied Sciences*, 8(10), 953-961.
1253. Badaruddoza; Kaur, M.; Chopra, S.; Kapoor, R. (2012), 'Cardiovascular risk factors and distributions of the ankle-brachial index among type 2 diabetes mellitus patients', *International Journal of Hypertension*, 485812.
1254. Badaruddoza; Kaur, Manpreet (2013), "To identify appropriate Anthropometric, life style and metabolic predictors in assessment of cardiovascular disease risk factors among Punjabi females in India". *The Anthropologist* (in press).
1255. Badaruddoza, Barna, Basanti; Matharoo, Kawaljit; Bhanwer, AJS (2013), "Role of the *ENPP1* K121Q polymorphism and susceptibility to type 2 diabetes in North Indian Punjabi population. *Biomedical Research*. 24: (in press).
1256. Badaruddoza, Barna, Basanti; Matharoo, K.; Bhanwer, AJS (2013), "A Case-Control Association Study of K121Q (rs 1044498) and G/T (rs 1225572) variants of ENPP1 and TCF7L2 genes with Type 2 Diabetes mellitus in North Indian Punjabi Population". *International Journal of Diabetes in Developing Countries*. (Accepted)
1257. Brar, Sandeep Kaur; Badaruddoza. (2013), "Better anthropometric indicators to predict elevated blood pressure in North Indian Adolescents", *Journal of Biological Sciences*. 13 (3), 139-145.
1258. Brar, Sandeep Kaur; Badaruddoza (2013), "Epidemilogy of blood pressure in relation to certain quantitative traits among urban Punjabi

adolescents". *Asian Journal of Pharmaceutical and Clinical Research.* 6 (Suppl 2), 314-320.

1259. Batra, A.P.S; Sidhu, S; Sambyal, V. (2010), 'Obesity among breast and esophagus cancer patients of Amritsar district. *The Anthropologist,* 12(3), 215-219.
1260. Bhat, M.A.; Mahajan, N.; Gandhi, G. (2012), 'Oxidative Stress Status in Coronary Artery Disease Patients', *International Journal of Life Sciences, Biotechnology and Pharma Research*, 1(2), 236-243.
1261. Chandel, N.; Chauhan, A.; Guleria, K. (2013), "The p.Pro47Ser polymorphism of TP53: A Systematic Review", *International Journal of Cancer Research*; 9(1), 1-8.
1262. Divya, B; Kaur, T.; Badaruddoza (2010), 'Predictor of cardiovascular disease with respect to BMI, WHR and lipid profile in females of three population groups', *Biology and Medicine*. 2(2), 32-41.
1263. Fakiola M.; Strange, A.; Cordell, HJ.; Miller, EN.; Pirinen, M.; Su, Z.; Mishra, A.; Mehrotra, S.; Monteiro, GR.; Band, G.; Bellenguez, C.; Dronov, S.; Edkins, S.; Freeman, C.; Giannoulatou, E.; Gray, E.; Hunt, SE.; Lacerda, HG.; Langford, C.; Pearson, R.; Pontes, NN.; Rai, M.; Singh, SP.; Smith, L.; Sousa, O.; Vukcevic, D.; Bramon, E.; Brown, MA.; Casas, JP.; Trembath RC, Viswanathan AC, Wood NW, Wilson ME, Deloukas P, Peltonen L, Christiansen F, Witt C, Jeronimo SM, Sundar S, Spencer CC, Blackwell JM, Donnelly P. (2013), "Common variants in the HLA-DRB1-HLA-DQA1 HLA class II region are associated with susceptibility to visceral leishmaniasis", *Nature Genetics* 45(2), 208-13.
1264. Gandhi, G; Kumar, P; Mahajan, Y. (2008), 'Chromosomal damage in wrestlers and body builders: A comparative study', *South Asian Anthropology,* 8, 65-71.
1265. Gandhi, G.; Behl, V. (2009), 'Phytohaemagglutinin Laboratory Preparation used as a Mitogen in Peripheral Blood Lymphocyte Cultures of Infertile Couples', *South Asian Anthropologist*, 9, 37-44.
1266. Gandhi, G.; Chopra, G. (2009), 'DNA Damage in Peripheral Blood Leukocytes of Physically Active Individuals as measured by the Alkaline Single Cell Gel Electrophoresis Assay', *Environmental & Molecular Mutagenesis*, 50, 291-303.
1267. Gandhi, G.; Gunjan (2009), 'Exercise-induced genetic damage - A review', *International Journal of Human Genetics*, 9, 69-96.
1268. Gandhi, G.; Gunjan (2009), 'Strenuous exercise - Query for genetic health!', *Journal of Human Ecology*, 25, 105-115.
1269. Gandhi, G.; Kaur, A.; Kaur, B.; Kaur, R.; Kaur, W.; Sharma, P (2009), 'Clastogenic/Aneugenic Damage in Human Monitoring Studies and in Diseased Individuals', *South Asian Anthropologist*, 9: 103-106.
1270. Gandhi, G; Girgila, P.S; Aggarwal, R.K.; Buttar, B.S. (2010), 'Propensity for DNA Damage in Psoriasis Patients Genotyped for Two Candidate Genes', *Journal Carcinogenesis Mutagenesis*, 1, 112.

1271. Gandhi, G. (2010), 'Issues in Medical Genetics', *Proceedings UGC Sponsored National Seminar on Genetic Disorders and Genetic Counselling*, Shanti Devi Arya Mahila College, Dinanagar, pp. 5-9.
1272. Gandhi, G. (2010), 'The Alkaline Single Cell Gel Electrophoresis (SCGE) Assay for Human Biomonitoring: A Review', in M.K. Bhasin and C. Susanne (ed.) *Anthropology Today: Trends and Scope of Human Biology*, Delhi: Kamla-Raj Enterprises, PP 137-163, (ISBN-81-85264-52X).
1273. Gandhi, G.; Jyoti, J. (2010), 'Assessment of DNA damage in Peripheral Blood Leukocytes of Patients with Essential Hypertension by the Alkaline Comet Assay', *Cytologia,* 75, 131-140.
1274. Gandhi, G. and Anita (2011), 'DNA and chromosomal damage in individuals using Mobile Phones', *International Journal of Basic and Applied Medical Sciences*, 1 (1), 87-103.
1275. Gandhi, G.; Jyoti, J. (2011), 'DNA Damage using the Single Cell Gel Electrophoresis Assay in Individuals Diagnosed with Essential Hypertension'. In: *Anthropology and Society: Issues and Applications* (Gen. Ed. I. Talwar; Eds. A. Ghosh, S. Mehta, K. Sharma, R. Gaur and G. Pathmanathan), Northern Book Store, New Delhi, pp. 229-238.
1276. Gandhi, G.; Singh, P. (2011), 'Micronuclei and cytological abnormalities in individuals using cell phones', *International Journal of Basic and Applied Medical Sciences*, 1(1), 108-125.
1277. Gandhi, G.; Buttar, B.S.; Albert, L.; Hasan, Q.; Aggarwal, R.K. (2011), 'Psoriasis- associated Genetic Polymorphism in North Indian population in the CCHCR1 Gene and in a Genomic Segment flanking the HLA-C region', *Disease Markers*, 31(6), 361-370.
1278. Gandhi, G.; Kaur, J.; Mahajan, N. (2011), 'Detection of DNA damage in Obese Cardiovascular Disease patients and comparison between genders: a case-control study', *International Journal of Genetics*, 3, 66-71.
1279. Gandhi, G. (2012), 'Human Bio-banks and Human Genetic Databases – The Bioethical Dimensions' In: R. Tuteja (Ed.) *Bioinformatics: Genome Bioinformatics and Computational Biology*, Nova Science Publishers Inc., Hauppahauge, NY, USA, pp. 105-122.
1280. Gandhi, G.; Kaur, G. (2012), 'Assessment of DNA Damage in Obese Individuals', *Research Journal of Biology*, 2(2), 37-44.
1281. Gandhi, G.; Kaur, G.; Kaur, A.; Mahajan, N.; Kaur, J. (2012), 'Genetic Sensitivity to Phenylthiocarbamide – Effect on Body Mass Indices and DNA damage', *Antrocom Online Journal of Anthropology*, 8 (1): 1-10.
1282. Gandhi, G.; Singh, R.; Kumar, N. (2012), 'The Single Cell Gel Electrophoresis assay: applications in diseased individuals and in population monitoring studies', *Indian Journal of Physical Anthropology & Human Genetics*, 31, 127-135.

1283. Gandhi, G.; Saini, A.K. (2013), "DNA damage and Obesity in Diabetic Patients", *International Journal of Pharma Medicine and Biological Sciences,* 2(1), 5-16.
1284. Gandhi, G. (2013), "Medical Genetic Advances and Bioethical Concerns", *Indian Journal of Medical Ethics* 3(2), 131-136.
1285. Guleria, K.; Sambyal, V. (2010), 'Spectrum of chromosomal aberrations in peripheral blood lymphocytes of Gastrointestinal(GIT) and Breast cancer patients', *International Journal of Human Genetics,* 10(1-3), 147-158.
1286. Guleria, K.; Sharma S.; Manjari, M.; Uppal, M.S.; Singh, N.R.; Sambyal, V. (2012), 'p.R72P, PIN3 Ins16bp Polymorphisms of TP53 and CCR5Δ32 in North Indian Breast Cancer Patients', *Asia Pacific Journal of Cancer Prevention,* 13, 3305-3311.
1287. Kapahi, R.; Manjari, M.; Uppal, M.S.; Singh, N.R.; Sambyal, V.; Guleria, K. (2012), 'Association of -2549 I/D polymorphism of Vascular Endothelial Growth Factor (VEGF) with Breast cancer in North Indian Patients', *Genetic Testing and Molecular Biomarkers*, 17(3), 242-248.
1288. Kapoor, M.; Kapur, S.; Mehra, S.; Dube, U.; Shard, S.; Sidhu, S. (2009), 'Genetic variation in D7S1875 repeat polymorphism of leptin gene is associated with increased risk for depression: a case control study from India', *Depression and Anxiety*, 26, 791-795.
1289. Kaul, N.; Singh, Y.P.; Behura, A.; Chainy, G.B.N.; Bhanwer, A.J.S. (2012), 'Association of *PGC1* Gly482Ser Polymorphism in Hypertensive Diabetics among Punjabi Population', *Journal of Punjab Academy of Sciences*, 5&6, 41.
1290. Kaur, A; Dhillon, S; Garg, P.D.; Singh, J.R. (2008), 'Ring chromosome 7: In an Indian Woman', *'Journal of Intellect Development Disability',* 33(1), 87-94.
1291. Kaur, A.; Pandhi, M.; Singh, J.R. (2009), '48-XXXX- A Rare Aneuploidy', *Balkan Journal of Medical Genetics*, 12 (1), 65-68.
1292. Kaur A; Mahajan, S.; Singh, J.R. (2009), 'Aging and Genetic Disorders: An experience with Down syndrome', *Wiener Klinishe Wochenschrift-The Middle European Journal of Medicine* (online), 121, 10-11.
1293. Kaur, A.; Singh, J.R. (2010), 'Chromosomal abnormalities: Genetic disease burden in India', *International Journal of Human Genetics,* 10 (1-3), 1-14.
1294. Kaur, A.; Kaur, A. (2011), 'Recurrent Pregnancy loss and Cytokine Gene Polymorphism', *Journal of Reproductive Sciences*, (4), 91-94.
1295. Kaur, A.; Kaur, S.; Singh, A. and Singh, J.R. (2012), 'Karyotypic findings in chronic myeloid leukemia cases undergoing treatment', *Indian Journal of Human Genetics*, 18(1), 70-74.

1296. Kaur, A.; Kaur, A. (2013), "Cytogenetic findings and possible risk factors for Down syndrome in Punjab", *Int. J. Hum. Genet.* 13(2), 113-118.
1297. Kaur, A.; Kaur, A. (2013), Prevalence of MTHFR 677C-T polymorphism among mothers of Down syndrome children, *Indian J Human Genetics*.
1298. Kaur A, Khetarpal S. (2013), *"3p deletion syndrome", Indian Pediatrics,* 50, 795-796.
1299. Kaur, A.K., Sohal, S.K., Kaur, M.; Singh. J. (2013), "Monitoring growth, survival and enzyme system of melon fruit fly *Bactrocera cucurbitae* (Coquillett) under the influence of affinity purified pea lectin", *Entomological Science*. 16, 91-99. I
1300. Kaur, G.; Gandhi, G. (2011), 'Genomic Instability in Workers with Occupational Exposure from Stone-crushing Activities', *Indian Journal of Physical Anthropology and Human Genetics*, (Spl. Issue) 30(1-2), 211-221.
1301. Kaur, G.; Gandhi, G. (2011), 'Preliminary Study for Cytogenetic Investigations in Workers at Stone-Crushing Units', *Proceedings AICTE sponsored National Seminar on Management of Industrial Pollution (MIP – 2011),* Purushotam Institute of Engineering and Technology, Rourkela, pp.113-121.
1302. Kaur, G.; Gandhi, G. (2012), 'The cytokinesis-blocked micronucleus (CBMN) assay in workers at stone-crushing units', *European Journal of Human Genetics*, 20 (Suppl.1),124.
1303. Kaur, H.; Monga, G.K.; Setia, N.; Sudan, M.; Uppal, M.S.; Yamini; Batra, A.P.S.; Sambyal, V. (2009), 'Chromosomal instability in the lymphocytes of breast cancer patients', *Indian Journal of Human Genetics*, 15(1), 3-18.
1304. Kaur, H.; Singh, A.P.; Singh, G.; Sidhu, S.; Sambyal, V. (2009), 'Plasma Monocyte Chemoattractant Protein-1 as risk marker in Type 2 diabetes and Coronary Artery Disease in North Indians', *Diabetes and Vascular Disease Research*, 6 (4), 288-290.
1305. Kaur, H.; Sidhu, S.; Sambyal, V. (2010), 'Association of obesity indices with Type 2 Diabetes Mellitus and Coronary Artery Disease', *Journal of Human Ecology*, 29(3),185-190.
1306. Kaur, K.; Kaur, G.; Gandhi, G. (2010), 'Cytogenetic investigations in individuals residing near the Jagatjit industries at Hamira, Punjab, India', *Europian Journal of Human Genetics,*18, 112.
1307. Kaur, K; Kaur, G.; Sidhu, S. (2010), 'Prevalence of obesity in working premenopausal and post menopausal women of Jalandhar district (Punjab)', *Journal of Human Ecology,* 29, 57-62.
1308. Kaur, M.; Singh, K.; Rup, P.J.; Kamboj, S.S.; Singh, J. (2009), 'Anti-insect potential of lectins from *Arisaema intermedium* and *Arisaema* species towards *Bactrocera cucurbitae*', *Journal of Environmental Biology*, 30(6), 1019-1023.

1309. Kaur, M.; Singh, J.; Kamboj, S.S.; Saxena, A.K. (2011), 'A lectin with antiproliferative, Mitogenic nad anti-insect potential from the tubers of Caladium bicolor Vent', *The Asian and Australian Journal of Plant Science and Biotechnology*, 5(1), 1-9.
1310. Kaur, M.; Singh, J.; Kamboj, S.S.; Sexena, A.K. (2011), 'Purification and characterization of a lectin from leaf pupl of Aloe vera (L.) Burm. F.', *Journal of Pharmacy Research*, 4(7), 2441-2446.
1311. Kaur, M.; Badaruddoza; Kumar, R. (2012), 'Principal Component Factor Analysis of Cardiovascular Risk Factors among Punjabi Female Population', *World Applied Sciences Journal*, 16(4), 616-621.
1312. Kaur, N; Sidhu, S.K.; Sidhu, S. (2010), "Prevalence of overweight and obesity in preschool children of Amritsar (Punjab)", *The Anthropologist*, 12(3), 221-224.
1313. Kaur, N.; Sidhu, S. (2011), 'Prevalence and risk factors of overweight and obesity among preschool children of Amritsar (Punjab)', *Indian Journal of Physical Anthropology and Human Genetics*, 30 (1-2), 199-207.
1314. Kaur, N.; Sidhu, S. (2012), 'Prevalence of Obesity and Hypertension in Newly Diagnosed Type 2 Diabetes Mellitus patients of Amritsar', *Journal of Exercise Science and Physiotherapy*, 8(2), 104-109.
1315. Kaur, N.; Uppal, M.; Sidhu, S. (2012), 'Physical growth status of affluent Arora children of Amritsar', *Human Biology Review*, 1(3).
1316. Kaur, N.; Sidhu, S. (2013), "Prevalence of obesity among 2-5 years children of Amritsar: A comparison of three criteria", *Hum. Biol. Review*, 2(3), 230-242.
1317. Kaur, N.; Sidhu, S. (2013), "Prevalence of overweight and obesity in pre-school children of Amritsar (Punjab)", In *Human Malnutrition: Twin Burdens of undernutrition and overnutrition* (Eds. Bose, K Nova Science PuUblicaitons, New York).
1318. Kaur, P.; Sambyal, V. (2008), 'Lymphocytic Chromosomal instability in sporadic Gastrointestinal Tract (GIT) cancer patients and their first-degree relatives', *International Journal of Human Genetics,* 8, 335-342.
1319. Kaur, Ramandeep; Matharoo, Kawaljit; Arora, P.; AJS Bhanwer (2013), "Association of -2518 A>G promoter polymorphism in the Monocyte Chemoattractant Protein (MCP-1) Gene with Type 2 Diabetes and Coronary Artery Disease", *Genetic Testing and Molecular Biomarkers,* doi:10.1089/gtmb.2013.0227.
1320. Kaur, T; Bishnoi, D.; Badaruddoza (2010), 'Effect of Sex on Prevalence of Type 2 Diabetes Mellitus (T2DM) with Respect to Blood Pressure, BMI and WHR among Punjabi Population', *International Journal of Medicine and Medical Sciences,* 2 (9), 263-270.
1321. Kaur T.; Abrol S.; Gandhi, G (2011), 'Oxidative Stress and Genomic Damage in Treated Hypertensive Patients and Normotensive Individuals', *South Asian Anthropologist*, 11(2), 157-163.

1322. Kaur T.; G. Gandhi (2011), "DNA Damage Assessment in Essential Hypertensive Patients Using the Single Cell Gel Electrophoresis (SCGE) Assay", *Research Journal of Pharmaceutical, Biological and Chemical Sciences* (in Press)
1323. Khanna, R.; Gandhi, G (2011), 'Attitudes about Eugenics, Genetic Enhancement and Gene Therapy- A Pilot Bioethics Study', *Proceedings of UGC- sponsored National Seminar on 'Promotion of Ethics and Human Values'*, DAV College, Amritsar, pp.76-81.
1324. Khanna, R.; Gandhi, G (2011), 'Knowledge and Perceptions of New Genetic and Assisted Reproductive Technologies: A Preliminary Report', *Eubios Journal of Asian and International Bioethics*, 21(5), 172-180.
1325. Khokhar, K. K.; Sidhu, S.; Kaur, G. (2010), 'Correlation between laptin level and hypertension in normal and obese pre and post menopausal women', *European Journal of Endocrinology*. 163, 873-878.
1326. Khokhar, K.K.; Kaur, G.; Sidhu, S (2012), 'Association of obesity and hypertension and type 2 diabetes and the role of the menopausal status', *Human Biology Review*, 1(2), 123-137.
1327. Kumar, A., Vanita, V., Walia, A.; Kumar, S. (2013), "N,N-Dimethylaminoethyl amino anthrone - A chromofluorogenic chemosensor for estimation of Cu2+ in aqueous medium and HeLa cells imaging", *Sensors & Actuators: B. Chemical,* 177, 904-912.
1328. Kumar, R.; Badaruddoza (2010), 'Familial Aggregation and Heritability for Cardiovascular Risk Factors: A Family Based Study in Punjab', *Natural Sciences,* 2(7), 732-736.
1329. Matharoo, K.; Arora P.; Bhanwer, AJS (2013), "Association of adiponectin (AdipoQ) and Sulphonylurea receptor (ABCC8) gene polymorphisms with Type 2 Diabetes in North Indian population of Punjab", *Gene,* 527,228-234.
1330. Mahajan, S; Kaur, A.; Singh, J.R. (2011), 'Cytogenetic Investigations in Mentally Challenged Individuals', *International Journal of Human Genetics*, 11(2), 93-98.
1331. Mahajan, S.; Kaur, A.; Singh, J.R. (2012), 'Ring 22: A review of the literature and first report from India', *Balkan Journal of Medical Genetics*, 15(1), 55-59.
1332. Maurya, R; Mehrotra, S; Prajapati, VK; Nylén, S; Sacks, D; Sundar, S. (2010), 'Evaluation of Blood agar micro-titer plates for culturing *Leishmania* parasites to titrate the parasite burden in spleen and peripheral blood of VL patients', *Journal of Clinical Microbiology,* 48(5), 1932-4.
1333. Mehrotra, S.; Fakiola, M.; Oommen, J.; Jamieson, S.E.; Mishra, A., Sudarshan, M., Tiwary, P., Sundar, S.; Blackwell, J.M. (2011), 'Genetic and functional evaluation of the role of CXCR1 and CXCR2

in susceptibility to visceral leishmaniasis in North East India', *BMC Medical Genetics*, 12, 162.

1334. Mehrotra, S.; Oommen, J.; Mishra, A.; Sudharshan, M.; Tiwary, P.; Jamieson, S.E., Fakiola, M., Rani, D.S., Thangaraj, K., Rai, M., Sundar, S.; Blackwell, J.M. (2011), 'No evidence for association between SLC11A1 and visceral leishmaniasis in India', *BMC Medical Genetics*, 12, 71.
1335. Mehrotra, S.; Fakiola, M.; Mishra, A.; Sudarshan, M.; Tiwary, P.; Rai, M.; Sundar, S.; Blackwell, J.M. (2012), 'Genetic and functional evaluation of the role of DLL1 in susceptibility to visceral leishmaniasis in India', *Infection Genetics Immunity*, 12(6), 1195-1201.
1336. Prajapati, V.K.; Mehrotra, S.; Gautam, S.; Rai, M.; Sundar, S (2012), '*In Vitro* Antileishmanial Drug Susceptibility of Clinical Isolates from Patients with Indian Visceral Leishmaniasis – Status of Newly Introduced Drugs', *American Journal of Tropical Medicine and Hygiene*, 87(4), 655-657.
1337. Pulimood, S.A.; Rupali, P.; Ajjampur, S.S.; Thomas, M.; Mehrotra, S.; Sundar, S. (2012), 'Atypical mucocutaneous involvement with *Leishmania donovani*', *The National Medical Journal of India*, 25(3), 148-150.
1338. Rai, E.; Sharma, S., Kaul, S.; Jain, K.; Matharoo, K.; Bhanwer, A.J.S.; Bamezai, R.N.K (2012), 'The Interactive Effect of SIRT1 Promoter Region Polymorphism on Type 2 Diabetes Susceptibility in the North Indian Population', *PLoS ONE*, 7(11), e48621.
1339. Rana, B.; Sidhu, S (2012), 'Relationship of percent body fat (estimated by bioelectrical impedence analysis) with blood pressure among young adult females of Amritsar (Punjab)', *Human Biology Review.*
1340. Saini, J.S.; Kumar, A.; Matharoo, K.; Sokhi, J.; Badaruddoza; Bhanwer, A.J.S (2012), 'Genomic diversity and affinities in population groups of North-West India: An analysis of Alu insertion and a single nucleotide polymorphism', *Gene*, 511 (2), 293-299.
1341. Saini, S.; Vanita, V (2012), 'Mutation screening in *RHO* in an autosomal recessive retinitis pigmentosa (arRP) family', *Tropical Ophthalmolology*, 12, 12-18.
1342. Sethi, S.; Kumar, P.; Gupta, S.; Bhanwer, A.J.S (2011), 'Study of Risk Factors for the High Prevalence of Type 2 Diabetes in the People of Jammu', *Journal of Human Ecology*, 36(3), 217-221.
1343. Shafat, Ali; Chopra, Rupali; Manvati, Siddharth; Singh, Yoginder Pal; Kaul, Nabodita; Behura, Anita; Mahajan, Ankit; Sehajpal, Prabodh; Gupta, Subash; Dhar, Manoj K.; Chainy, Gagan B. N.; Bhanwer, Amarjit S.; Sharma, Swarkar; Bamezai, Rameshwar N K (2013), Replication of Type 2 Diabetes Candidate Genes Variations in Three Geographically Unrelated Indian Population Groups. *PloS ONE* 8(3), e58881. doi:10.1371/journal.pone.0058881

1344. Sharma, S.; Rai, E.; Sharma, P.; Jena, M.; Singh, S.; Darvish, K.; Bhat, A.K.; Bhanwer, A.J.S.; Tiwari, P.K.; Bamezai, R.N.K (2009), 'The Indian origin of paternal haplogroup R1a1 substantiates the autochthonous origin of Brahmins and the caste system', *Journal of Human Genetics*, Doi:10.1038/jhg.2008.2.
1345. Sharma, R.; Shailey; Gandhi, G. (2012), 'Precancerous (DNA and chromosomal) lesions in professional sportpersons', *Journal of Cancer Research and Therapeutics*, 8, 578-585.
1346. Sharma, R.; Shailey; Gandhi, G. (2012), 'Genetic Injury Studies in Judo Players', *International Journal of Life Sciences, Biotechnology and Pharma Research* 1(2), 192-204.
1347. Shenoy, S; Tandon, S; Sandhu, J.; Bhanwer, A.J.S (2010), 'Association of polymorphism in angiotensin- converting enzyme and Indian Army triathletes', *Asian Journal of Sports Medicine*, 1, 143-150.
1348. Sidhu, S.; Prabhjot (2010), 'Prevalence of Childhood Overweight and Obesity in India: A Systematic Review. In M.K. Bhasin and C. Susanne (ed.) *Anthropology Today: Trends and Scope of Human Biology*, Delhi: Kamla-Raj Enterprises, PP 27-32 (ISBN-81-85264-52X).
1349. Sidhu S.; Malhotra, S.; Kaur, N. (2012), 'Malnutrition and Anaemia among scheduled caste women of Amritsar (Punjab)' In book: *Anthropology and Society Issues and Apoplications* (Eds. Talwar I *et. al.*) Northern Book Store, New Delhi, pp 109-114.
1350. Singh, A.R; Kaur, A.; Singh, J.R (2008), 'POEMS syndrome: A case report from Punjab', *International Journal of Human Genetics,* 8(3), 257-261.
1351. Singh, D.; Singh, J.R.; Vanita, V (2011), 'Prenatal Diagnosis for Congenital Malformations and Genetic Disorders', *eMedicine* (eBook) April 2011.
1352. Singh, K; Kaur, M; Rup, P.J.; Singh, J (2008), **'**Effects of plant lectins from cobra Lily, *Arisaema curvatum* Kunth on development of melon fruit fly, *Bactrocera cucurbitae* (Coq.) (Tephridae:Diptera)', *Journal of Environmental Biology,* 29, 911-916.
1353. Singh, K.; Kaur, M.; Rup, P.J.; Singh, J (2009), 'Effect of lectin from Indian coral tree, Erythrina indica Lam. on eggs and larval development of melon fruit fly, Bactrocera cucurbitae (Coquillett) (Diptera : Tephritidae)', *Journal of Environmental Biology*, 30(4), 509-514.
1354. Singh, Y.P.; Kaul, N.; Behura, A.; Bamezai, R.K.; Bhanwer, A.J.S (2012), 'Association of mitochondrial ND 3 Gene 10398G/A polymorphism in Type 2 Diabetes (T2D) patients from Punjab, a Case-Control Study', *Journal of Punjab Academy of Sciences*, 5&6, 1.
1355. Srivastava, P.; Dayama, A.; Mehrotra, S.; Sundar, S (2011), 'Diagnosis of visceral leishmaniasis', *Transactions Royal Society of Tropical Medicine and Hygiene*, 105(1), 1-6.

1356. Srivastava, P; Mehrotra, S.; Tiwary, P.; Chakravarty, J.; Sundar, S (2011), 'Diagnosis of Indian Visceral Leishmaniasis by Nucleic Acid Detection using PCR', *Plos One* 29, 6(4), e19304.
1357. Thakur, K.; Kaur, M.; Kaur, S.; Kaur, A.; Kamboj, S.S. (2013), 'Purification of *Colocasia esculenta* lectin and determination of its anti-insect potential towards *Batrocera cucurbitae'. Journal of Environment Biology*, 34, 31-36.
1358. Thukral, K.; Gandhi, G. (2011), 'Genomic Instability and Lipid Peroxidation in Patients with Treated Essential Hypertension', *International Journal of Life Science and Pharma Research*, 2, 67-75.
1359. Thukral, K.; Sharma, R.; Chandey, M.; Gandhi, G (2012), 'Essential Hypertension, DNA damage and dyslipidemia in two Ethnic groups', *International Journal of Human Genetics*, 12(2): 105-111.
1360. Tung, G.; Gandhi, G. (2013), 'Serum Creatinine levels, Glomerular Filtration Rate and Renal Insufficiency', *South Asian Anthropologist*, 13 (1), 9-15.
1361. Vaish, M.; Mehrotra, S.; Chakravarty, J.; Sundar, S (2011), 'Noninvasive Molecular Diagnosis of Human Visceral Leishmaniasis', *Journal of Clinical Microbiology*, 49(5), 2003-2005.
1362. Vanita, V; Singh, J.R; Singh, D; Veron, R.; Sperling, K. (2008), 'A novel mutation in *GJA8* associated with Jellyfish-like cataract in a family of Indian origin', *Molecular Vision,* 14, 323-326.
1363. Vanita, V; Singh, J.R; Singh, D; Veron, R and Sperling, K (2008), 'Mutation in *GJA8* (p.P88Q) associated with "Ballon-like" cataract with Y-sutural opacities in a family of Indian origin', *Molecular Vision*, 14, 1171-1175.
1364. Vanita, V.; Sperling, K.; Sandhu, H.S.; Sandhu, P.S.; Singh, J.R (2009), 'Novel EXT1 and EXT2 Mutations in Hereditary Multiple Exostoses Families of Indian Origin', *Genetic Testing and Molecular Biomarkers*, 13, 43-49.
1365. Vanita, V.; Singh, J.R.; Singh, D.; Varon, R. and Sperling, K (2009), 'Novel mutation in the *γ-S crystallin* gene causing autosomal dominant cataract', *Molecular Vision*, 15, 476-481.
1366. Vanita, V.; Singh, D. (2012), 'A missense mutation in *CRYGD* linked with autosomal dominant congenital cataract of aculeiform type in an Indian family', *Molecular and Cellular Biochemistry*, 368, 167-172.
1367. Vanita, V.; Saini, S.; Robinson, P.N.; Singh, J.R (2012), 'A novel 7bp deletion in *PRPF31* associated with autosomal dominant retinitis pigmentosa with incomplete penetrance in an Indian family', *Experimental Eye research*, 104, 82-88.
1368. Vats, S.; Matharoo, K, Singh, A.P., Bhanwer AJS; Sambyal, V. (2013), 'Polymorphisms in *PPARγ* (Pro12Ala, C1431T), *IRS-1* (G972R), *IRS-1*(G1057D and coronary artery disease', *International Journal of Diabetes in Developing Countries*. (Accepted)

1369. Vats, S.; Sambyal, V.; Bhanwer, AJS. (2013), 'Genetic Links between Coronary Artery Disease and Type 2 Diabetes', *Hum Bio Rev,* 2(2), 90-119.

Microbiology

1370. Arora, Daljit Singh; Sharma, Rakesh Kumar (2009), 'Comparative ligninolytic potential of *Phlebia* species and their role in improvement in *in vitro* digestibility of wheat straw', *Journal of Animal Feed Science*, 18, pp 151-161.
1371. Arora, Daljit Singh; Kaur, Gurinder Jeet; Kaur, Harpreet (2009), 'Antibacterial activity of tea and coffee: their extracts as well as preparations', *International Journal of Food Properties,* 12, pp 1-9.
1372. Arora, Daljit Singh; Sharma, Rakesh Kumar (2009), 'Enhancement in *in vitro* digestibility of wheat straw obtained from different geographical regions during solid state fermentation by white rot fungi' *BioResources* 4, pp 909-920.
1373. Arora, Daljit Singh; Chandra, Priyanka (2010), 'Optimization of antioxidant potential of *Aspergillus terreus* through different statistical approaches' *Biotechnology and Applied Biochemistry,* 57 (2), pp 77-86.
1374. Arora, Daljit Singh; Chandra, Priyanka (2010), 'Assay of antioxidant potential of two *Aspergillus* isolates by different methods under various physio-chemical conditions', *Brazilian Journal of Microbiology*, 41, pp 765-777.
1375. Arora, Daljit Singh; Sharma, Rakesh Kumar (2010), 'Ligninolytic fungal laccases and their biotechnological applications', *Applied Biochemistry and Biotechnolog*y, 160, pp 1760-1788.
1376. Arora, Daljit Singh; Chandra Priyanka (2011), 'Antioxidant activity of *Aspergillus fumigatus', ISRN Pharmacology*, pp 1-11.
1377. Arora, Daljit Singh; Chandra, Priyanka (2011), '*In Vitro* Antioxidant Potential of Some Soil Fungi: Screening of Functional Compounds and their Purification from *Penicillium citrinum'*, *Applied Biochemistry and Biotechnology,* doi: 10.1007/s12010-011-9282-3.
1378. Arora, Daljit Singh; Sharma, Rakesh Kumar (2011), 'Effect of different supplements on bioprocessing of wheat straw by *Phlebia brevispora*: changes in its chemical composition, *in vitro* digestibility and nutritional properties', *Bioresource Technology*, 102, pp 8085-8091.
1379. Arora, Daljit Singh; Sharma, Rakesh Kumar; Chandra Priyanka (2011), 'Biodelignification of wheat straw and its effect on in vitro digestibility and antioxidant properties', *International Biodeterioration and Biodegradation*, 65, 352-358.
1380. Arora, Daljit Singh; Kaur, Harpreet (2011), 'Study of *Penicillium expansum* and *Penicillium citrinum* for their antibacterial potential and

optimizing their activity' *Research Journal of Biotechnology,* 6, pp 49-56

1381. Arora, Daljit Singh; Chandra, Priyanka; Kaur, Gurinder Jeet (2012), 'Optimization and assay of antioxidant potential of two *Penicillium* spp. by different procedures', *Current Biotechnology,* 1, pp 2-10.
1382. Arora, Daljit Singh; Sanan, Reema; Kaur, Harpreet; Kaur, Gurinder Jeet (2009), 'Antimicrobial and antioxidant potential of some medicinal plants' in R. Lawrence, A. K. Gulati and G. Abraham (eds.) *Antimicrobial Resistance: from Emerging Threat to Reality'*. Narosa Publishing House Pvt. Ltd. pp. 44-51
1383. Arora, Daljit Singh; Onsare, Jemimah Gesare; Kaur, Harpreet (2013), 'Bioprospecting of *Moringa* (Moringaceae): Microbiological Perspective', *Journal of Pharmacognosy and Phytochemistry,* 1, pp 193-215.
1384. Arora, Daljit Singh; Onsare, Jemimah Gesare (2013), 'In vitro evaluation and phytoconstituents of *Moringa oleifera* pod husks', *Journal of Industrial Crops and Products* (Accepted).
1385. Asim, M.; Husain, Sajid (2010), 'Genetic polymorphism of Glutathione S Transferases M1 and T1 in Indian patients with Hepatocellularcarcinoma', *Disease Markers,* 28, pp 369-376.
1386. Asim, M; Husain, Sajid (2010), 'Hepatitis B virus BCP Precore /Core, x Gene mutations/genotypes and the risk of hepatocellular carcinoma in India', *Journal of Medical Virology*, 82, pp 1115-1125.
1387. Bajwa, Paramjeet Kaur; Arora, Daljit Singh (2009), 'Comparative production of ligninolytic enzymes by *Phanerochaete chrysosporium* and *Polyporus sanguineus', Canadian Journal of Microbiology*, 55, pp 1397-1402.
1388. Bala, N.; Chimni, S.S.; Saini, H.S.; Chadha, B.S. (2010), '*Bacillus alcalophilus* MTCC10234 catalyzed enantioselective kinetic resolution of aryl glycidyl ethers', *Journal of Molecular Catalysis B: Enzymatic*, 63(3-4), April 128-134.
1389. Bhagat, Jyoti; Kaur, Amarjeet; Sharma, Madhunika; Saxena, A. K.; Chadha, Bhupinder Singh (2012), 'Molecular and functional characterization of endophytic fungi from traditional medicinal plants', *World Journal of Microbiology and Biotechnology,* 28(3), March, pp, 963–971.
1390. Bhatia, Shweta; Maheshwari, Dinesh Kumar; Dubey, Ramesh Chand; Arora, Daljit Singh; Bajpai, Vivek K; Kang, Sun Chul (2008), 'Beneficial effects of fluorescent Pseudomonads on seed germination, growth promotion and suppression of charcoal rot in groundnut (*Arachis hypogea* L.)' *Journal of Microbiology and Biotechnology*, 18(9), pp 1578-1583.
1391. Biala, Sunil; Chauhan, Priyanka; Chadha, Bhupinder Singh; Singh, Bikram; Saini, Harvinder Singh (2013), 'Biotransformation of CI Acid

Blue 113 and other dyes by Shewanella sp. P6', *Coloration Technology*, 129, pp 330-337.
1392. Chandra, Priyanka; Arora, Daljit Singh (2009), 'Antioxidant activity of fungi isolated from soil of different areas of Punjab', *Indian Journal of Applied and Natural Sciences*, 1, pp 123-128.
1393. Chandra, Priyanka; Arora, Daljit Singh (2012), 'Optimization of antioxidant potential of *Penicillium granulatum* Bainier by statistical approaches', *ISRN Microbiology,* 1-10 doi 10, 5402/2012/452024.
1394. Ghatora, Sonia Kaur; Chadha, Bhupinder Singh; Badhan, Ajay Kumar; Saini, Harvinder Singh; Bhat, M.K. (2008), 'Identification of glucose tolerant acid active *β*-glucosidases from thermophilic and thermotolerant fungi' *World J Microbiol Biotechnol*, 24 (5), May, pp 599–604.
1395. Kaur, Baljit; Sharma, Manju; Soni, Rohit; Oberoi, Harinder Singh; Chadha, Bhupinder Singh (2013), 'Proteome-based profiling of hypercellulase-producing strains developed through Inter-specific protoplast fusion between *Aspergillus nidulans* and *Aspergillus tubingensis'*, *Applied Biochemistry & Biotechnology*, 169(2), January, pp 393-407.
1396. Kaur, Gurinder Jeet; Arora, Daljit Singh (2008), 'In vitro antibacterial activity of three plants belonging to the family Umbelliferae', *International Journal of Antimicrobial Agents*, 31(4), pp 393-395.
1397. Kaur, Gurinder Jeet; Arora, Daljit Singh (2009), 'Antibacterial and phytochemical screening of *Anethum graveolens, Foeniculum vulgare and Trachyspermum ammi*', *BMC Complementary and Alternative Medicine*, 9, pp 30.
1398. Kaur, Gurinder Jeet; Arora Daljit Singh (2010), 'Bioactive potential of *Anethum graveolens, Foeniculum vulgare and Trachyspermum ammi* belonging to the family Umbelliferae-current status', *Journal of Medicinal Plants Research,* 4, pp 87-94.
1399. Kaur, Harleen; Kaur, Amarjeet; Saini, Harvinder Singh; Chadha, Bhupinder Singh (2009), 'Screening and selection of lovastatin hyper-producing mutants of *Aspergillus terreus* using cyclic mutagenesis', *Acta Microbiol Immunol Hung*, 56(2), July, pp, 169-180.
1400. Kaur, Harleen; Kaur, Amarjeet; Saini, Harvinder Singh; Chadha, Bhupinder Singh (2010), 'Response surface methodology for lovastatin production by *A. terreus* GD 13 strain', *Acta Microbiologica et Immunologica Hungarica*, 57(4), October, pp, 377–391.
1401. Kaur, Harminder Preet; Singh, Bahaderjeet; Kaur, Amarjeet; Kaur, Sanehdeep (2013), 'Antifeedent and toxic activity of endophytic *Alternaria alternata* against tobacco caterpillar *Spodoptera litura.' Journal of Pest Science,* DOI 10.1007/s10340-013-0507-9
1402. Kaur, Sanehdeep; Kaur, Harminder Preet; Kaur, Kirandeep; Kaur, Amarjeet (2011), 'Cellular immune response of *Spodoptera litura* (Fabricious) (Lepidoptera: Noctuidae) during mycosis of the

entomopathogenic fungus *Beauveria bassiana* (Balsamo) Vuillemin', *Journal of Biological Control*, 25(2), April, pp 152-155.

1403. Kaur, Sanehdeep; Kaur; Harminder Preet; Kaur, Kirandeep; Kaur Amarjeet (2011), 'Effect of different concentrations of *Beauveria bassiana* on development and reproductive potential of *Spodoptera litura* (Fabricius)', *Journal of Biopesticides*, 4 (2), pp 161-168 .
1404. Kaur, Sukhraj (2013), 'Pathogenic Mycobacteria and Water', in P.P. Singh and V. Sharma, (eds.) *Water and Health*, Springer India Pvt. Ltd., 109-121.
1405. Kaur, Talwinder; Sharma, Deepika; Kaur, Amarjeet; Manhas, Rajesh Kumari (2013), 'Antagonistic and plant growth promoting activities of soil and endophytic actinomycetes', *Archieves of Phytopathology and Plant Protection,* 46(14), March, pp 1756-1768.
1406. Kaur, Talwinder; Manhas, Rajesh Kumari (2013), 'Antifungal, insecticidal and plant growth promoting potential of *Streptomyces hydrogenans* DH16', *Journal of Basic Microbiology* DOI 10.1002/jobm.201300086, May.
1407. Manickam, Natesan; Reddy, M.K.; Saini, Harvinder Singh; Shanker, Rishi (2008), 'Isolation of hexachlorocyclohexane-degrading Sphingomonas sp. by dehalogenase assay and characterization of genes involved in γ-HCH degradation', *Journal of Applied Microbiology*, 104, pp 952-960.
1408. Manickam, Natesan; Bajaj, A.; Saini, Harvinder Singh; Shanker, Rishi (2012), 'Surfactant mediated enhanced biodegradation of hexachorocyclohexane (HCH) isomers by *Sphingomonas* sp. NM 05', *Biodegradation*, 23, pp 673-682.
1409. Nazir, Asiya; Soni, Rohit; Saini, Harvinder Singh; Manhas, Rajesh Kumari; Chadha, Bhupinder Singh (2009), 'Purification and characterization of endoglucanase from Aspergillus terreus: highly active against β-barley-glucan & xyloglucan', *World Journal of Microbiology & Biotechnology,* 25 (7), July, pp 1189-1197.
1410. Nazir, Asiya; Soni, Rohit; Saini, Harvinder Singh; Manhas, Rajesh Kumari; Chadha, Bhupinder Singh (2009), 'Regulation of expression of multiple β glucosidases of Aspergillus terreus & their purification and characterization', *Bioresources*, 4(1), June, pp, 155-171.
1411. Nazir, Asiya; Soni, Rohit; Saini; Harvinder Singh; Kaur, Amarjeet; Chadha, Bhupinder Singh (2010), 'Profiling differential expression of cellulases and metabolite footprints in *A. terreus' Applied Biochemistry & Biotechnology*, 162(2), September, pp, 538-547.
1412. Nazir, Asiya; Soni, Rohit; Chadha, Bhupinder Singh (2012), 'Molecular profiling and optimization of cellulase production by thermotolerant *Aspergillus terreus* AN1', *Current Biotechnology*, 1(4), June, pp 336-345.
1413. Neogi, Ujjwal; Sood, Vikas; Husain, Sajid; Wanchu, Ajay; Banerjea, Akhil C. (2009), 'Global HIV-1 Molecular epidemiology with special

reference to genetic analysis of HIV-1 subtypes circulating in North India: Functional and pathogenic implications of genetic variation', *Indian Journal of Experimental Biology* , l47, pp 424-431.

1414. Neogi, Ujjwal; Husain, Sajid (2013), 'Genetic and Functional Analysis of HIV-1 genes from North India', Proceedings of the International Conference on emerging frontiers and challenges in HIV/AIDS research(ICMR) ISBN No. 978-81-91054057, pp 41-52.
1415. Onsare, Jemimah.Gesare; Kaur, Harpreet; Arora, Daljit Singh (2013), 'Antimicrobial activity of *Moringa oleifera* from different locations against some human pathogens', *Academia Journal of Medicinal Plants*, 1, pp 80-91.
1416. Raja, Alsaba F; Ali, Furqan; Khan, Inshad Ali; Shawl, Abdul S.; Arora, Daljit Singh; Shah, Bhahwal A.; Taneja, Subhash C, (2011), 'Antistaphycoccal and biofilm inhibitory activities of acetyl- 11-keto-β-boswellic acid from *Boswellia serrata', BMC Microbiology*, 11, pp 54.
1417. Raja, Alsaba F; Ali, Furqan; Khan, Inshad Ali; Shawl, Abdul S; Arora, Daljit Singh (2011), 'Acetyl-11-keto-beta-boswellic acid (AKBA); targeting oral cavity pathogen', *BMC Research Notes* 4, pp 406.
1418. Saini, Harvinder Singh; Barragán-Huerta, B. E.; Lebrón-Paler, A.; Pemberton, J. E.; Vázquez, R. R.; Burns, A. M.; Marron, M.T.; Seliga, C. J.; Gunatilaka A. A. L.; Raina, Miller Maier (2008), 'The Biosurfactant Viscosin from *Pseudomonas libanensis* Strain M9-3: Efficient Purification and Its Physicochemical and Biological Properties', *Journal of Natural Products*, 71, pp 1011-1015
1419. Sharma, Deepika; Kaur, Talwinder; Chadha, Bhupinder Singh; Manhas, Rajesh Kumari (2011), 'Antimicrobial activity of actinomycetes against various pathogens, multidrug resistant *Staphylococcus aureus* and *E. coli'*, *Tropical Journal of Pharmaceutical Research,* 10 (6), December, pp 801-808.
1420. Sharma, Deepika; Manhas, Rajesh Kumari (2013), 'Application of Plackett-Burman experimental design and Box and Wilson design to improve broad-spectrum antibiotic production by novel *Streptomyces* sp. 2A', *Indian Journal of Biotechnology* 12, July 2013, pp 386-394.
1421. Sharma, Madhunika; Agrawal, Satyam Kumar; Sharma, P. R.; Chadha, Bhupinder Singh; Khosla, M. K.; Saxena, A. K. (2010), 'Cytotoxic and apoptotic activity of essential oil from *Ocimum viride* towards COLO 205 cells', *Food and Chemical Toxicology* 48(1), January, pp, 336-344.
1422. Sharma, Manju; Chadha, Bhupinder Singh; Kaur, Mandeep; Ghatora, Sonia Kaur; Saini, Harvinder Singh (2008), 'Molecular characterization of xylanase producing thermophilic/thermotolerant fungi', *Letters in Applied Microbiology*, 46 (5), June, pp. 526-535.
1423. Sharma, Manju; Chadha. Bhupinder Singh; Saini, Harvinder Singh (2010), 'Purification and characterization of two thermostable

xylanases from *Malbranchea flava* active under alkaline conditions', *Bioresource Technology,* 101 (22), November, pp, 8834-8842.

1424. Sharma, Manju; Soni, Rohit; Nazir, Asiya; Oberoi, Harinder Singh; Chadha, Bhupinder Singh (2011), 'Evaluation of glycosyl hydrolases in the secretome of *Aspergillus fumigatus* and saccharification of alkali treated rice straw', *Applied Biochemistry & Biotechnology,* 163 (5), July, pp, 577–591.
1425. Sharma, Manju; Chadha, Bhupinder Singh (2011), 'Production of Hemicellulolytic Enzymes for Hydrolysis of Lignocellulosic Biomass' in Ashok Pandey, Christian Larroche, Steven C Ricke, Claude-Gilles Dussap, Edgard Gnansounou (eds.) *Biofuels*, Burlington: Academic Press, pp. 203-228.
1426. Sharma, Rakesh Kumar; Arora, Daljit Singh (2010), 'Changes in biochemical constituents of paddy straw during degradation by white rot fungi and its impact on *in vitro* digestibility', *Journal of Applied Microbiology*, 109, pp 679-686.
1427. Sharma, Rakesh Kumar; Arora, Daljit Singh (2010), 'Production of lignocellulolytic enzymes and enhancement of in vitro digestibility during solid state fermentation of wheat straw by *Phlebia floridensis'*, *Bioresource Technology,* 101, pp 9248-9253.
1428. Sharma, Rakesh Kumar; Chandra, Priyanka; Arora, Daljit Singh (2010), 'Antioxidant properties and nutritional value of bioprocessed wheat straw by *Phanerochaete chrysosporium* and *Daedalea flavida', Journal of General and Applied Microbiology,* 56 pp 519-523.
1429. Sharma, Rakesh Kumar; Arora, Daljit Singh (2011), 'Biodegradation of paddy straw obtained from different geographic locations by means of *Phlebia* spp. for animal feed', *Biodegradation,* 22, 143-152.
1430. Sharma, Rakesh Kumar; Arora, Daljit Singh (2011), 'Solid state degradation of paddy straw by *Phlebia floridensis* in the presence of different supplements for improving its nutritive status', *International Biodeterioration and Biodegradation*, 65, pp 990-996
1431. Sharma, Rakesh Kumar; Arora, Daljit Singh (2013), 'Fungal degradation of lignocellulosic residues: An aspect of improved nutritive quality', *Critical Reviews in Microbiology* early online 1-9 DOI10.3109/1040841X2013.791247.
1432. Sharma, Suman; Singh, Partap Bir; Raj, Mayil; Chadha, Bhupinder Singh; Saini, Harvinder Singh (2009), 'Aqueous phase partitioning of hexachlorocyclohexane (HCH) isomers by biosurfactant produced by *Pseudomonas aeruginosa* WH-2', *Journal of Hazardous Materials*, 171, pp 1178-1182.
1433. Singh, Bahaderjeet; Thakur, Abhinay; Kaur, Sanehdeep; Chadha, Bhupinder Singh; Kaur, Amarjeet (2012), 'Acetylcholinesterase Inhibitory Potential and Insecticidal Activity of an Endophytic *Alternaria* sp. from *Ricinus communis*.', *Applied Biochemistry and Biotechnology*, 168, September, pp 991-1002

1434. Singh, Bahaderjeet; Bhagat, Jyoti; Chadha, Bhupinder Singh; Kaur, Amarjeet (2013), 'Cholinesterase inhibitory potential of different *Alternaria* spp. and their phylogenetic relationships', *Biologia* (accepted).
1435. Singh, Partap Bir; Sharma, Suman; Saini, Harvinder Singh; Chadha, Bhupinder Singh (2009), 'Biosurfactant production by *Pseudomonas* sp. and its role in aqueous phase partitioning and biodegradation of chlorpyrifos', *Letters in Applied Microbiology*, 49, pp 378–383.
1436. Singh, Partap Bir; Saini, Harvinder Singh (2013), 'Exploitation of agro-industrial wastes to produce low-cost microbial surfactants', in S.K. Brar et al. (eds.) *Biotransformation of Waste Biomass into High Value Biochemicals*, Springer Science+Business Media New York 2013DOI 10.1007/978-1-4614-8005-1_18,
1437. Soni, Rohit; Nazir, Asiya; Chadha, Bhupinder Singh; Saini, Harvinder Singh (2008), 'Novel sources of cellulases of thermophilic/ thermotolerant fungi for efficient deinking of composite paper waste', *Bioresources*, 3(1), Feburary, pp 234-246.
1438. Soni, Rohit; Nazir, Asiya; Chadha, Bhupinder Singh (2010), 'Optimization of cellulase production by a versatile *Aspergillus fumigatus* fresenius strain (AMA) capable of efficient deinking and enzymatic hydrolysis of Solka floc and bagasse,' *Industrial Crops and Products*, 31(2), March, pp 277-283.
1439. Sood, V.; Rathore, Anurag; Hussain, Sajid; Khan, Sohrab; Neogi, Ujjwal; Ramachandran, V.G.; Banerjea, Akhil C. (2008), 'Host genes that affect HIV-1 progression in India and novel gene therapeutic approaches against HIV', *Indian Journal of Biochemistry and Biophysics*, 45, pp 141-148.
1440. Thakur, Abhinay; Kaur, Sanehdeep; Kaur, Amarjeet; Singh, Varinder (2012), 'Detrimental effects of endophytic fungus *Nigrospora* sp. on survival and development of *Spodoptera litura', Biocontrol Science and Technology,* 22(2), February, pp 151-161.
1441. Thakur, Abhinay; Kaur, Sanehdeep; Singh, Varinder; Kaur, Amarjeet (2013), 'Enhanced Resistance to *Spodoptera litura* in Endophyte Infected Cauliflower Plants.' *Environmental Entomology*, 42(2), April, pp 240-246.
1442. Thakur, Abhinay; Singh, Varinder; Kaur, Amarjeet; Kaur, Sanehdeep (2013), 'Insecticidal potential of an endophytic fungus, *Cladosporium uredinicola*, against *Spodoptera litura*.' *Phytoparasitica,* DOI 10.1007/s12600-013-0298-9
1443. Velu , V.; Husain, Sajid (2009), 'Enhancing SIV-specific immunity *in vivo* by PD-1 blockade', *Nature* , 458(7235), March 12, pp 206-210.

Molecular Biology and Biochemistry

1444. Amandeep Kaur, Rajinder Singh, Sukhdev Singh Kamboj, Jatinder Singh, Girish J. Kotwal (2008), "*In vitro* Antiviral activity of Crinum latifolium lectin against Poxvirus replication', *Journal of Biological Sciences,* 8, 1236-1240.
1445. Chhavi, Gupta P.H. and Balwant Singh (2008), "Influence of exercise on lipid profile, free radical scavenging enzymes and lipid peroxidation in Indian Long Distance Runners", *J. Sports and Sports Sci*., 31, 20-27.
1446. Narang, U, Thukral, A. K., Bhardwaj, R. and Garg, S.K. (2008), "Glutathione-Ascorbate cycle for Phytoremediation of mercury by *Eichhornia cressipes* (Mart) Solms". *Japanese Journal of Environmental Toxicology,* 11, 1-9.
1447. Narang, U, Thukral, A. K., Bhardwaj, R. and Garg, S.K. (2008), "Mercury-Induced Lipid Peroxidation and Changes in Antioxidants in *Eichhornia crassipes",* (Mart.) Solms. Plant Stress, 2, 70-74.
1448. Narang, U., Bhardwaj, R., Garg, S.K. and Thukral, A.K. (2008), "Pytoremediation potential of *Eichhornia crassipes",* (Mart.) Solms. *The ICFAI- Journal of Environmental Sciences,* 2, 19-31.
1449. Narang, U., Thukral, A.K., Bhardwaj, R. and Garg, S.K. (2008), "Role of antioxidative defence system in *Eichhornia crassipes",* (Mart.) Solms during pytoremediation of mercury. *Can. J. Pure Appl. Sci.* 2, 537-545.
1450. Ajit Kumar Saxena, Madhulika Bhagat, Jatinder Singh (2008), "*In vitro* cytotoxicity of extracts and fractions of *Calotropis procera* (Ait.) roots against human cancer cell lines", *Int. J. Green Pharmacy*.
1451. Kumar V, Khosla R, Gupta V, Sarin BC and Sehajpal PK. (2008), "Differential association of -308 tumor necrosis factor alpha single nucleotide polymorphism with tuberculosis and asthma", *Nat Med J Ind,* 21, 120-123.
1452. Kumar A, Gupta V, Changotra H, Sarin BC and Sehajpal PK (2008), "Tumor necrosis factor - alpha and transforming growth factor - beta1 polymorphisms in bronchial asthma". *Ind J Med Sci* 62, 323-30.
1453. Changotra H, Dwivedi A, Nayyar AK and Sehajpal PK (2008), "Diganosing different stages of Hepatitis B infection using a competitive polymerase chain reaction assay", *Ind J Med Micro* 26, 138-142.
1454. Bhagat, M., Saxena, A.K. and Arora and J.S. (2009), "In *vitro cytotoxicity of Cassia ocidentalis* against human cancer cell lines of liver and neuroblastoma origin", *Indian Journal of Botanical Research* 5, 85-90.
1455. Bhagat, M., Saxena, A.K. and Arora and J.S. (2009), "Inhibitory effect of extracts of *Eucalyptus citriodara* leaf part against human cancer cell lines", *Journal of Pharmacy Research* 2, 738-741.

1456. Bhagat, M., Saxena, A.K. and Arora and J.S. (2009), "In vitro cytotoxicy of extracts and fraction from aerial parts of *Calotropis procera* against CNS cancer cell lines". *Asian Journal of Biosciences* 4, 69-72.
1457. Kaur, M., Singh, K., Rup, P.J., Kamboj, S.S., Singh, J. (2009), "Anti-insect potential of lectins from *Arisaema* species towards *Bactrocera cucurbitae", Journal of Environmental Biology* 30, 1019-1023.
1458. Kaur, M., Singh, K., Rup, P.J., Kamboj, S.S., Singh, J. (2009), "Effects of Indian coral tree, Erythrina indica lectin on eggs and larval development of melon fruit fly, *Bactrocera cucurbitae", Journal of Environmental Biology* 30, 509-514.
1459. Gupta S, Hrishikeshvan HJ, Sehajpal PK (2009), "Spirulina protects against Rosiglitazone induced osteoporosis in insulin resistance rats. *Diabetes Research and Clinical Practice",* 87, 38-43.
1460. Gupta S, Aggarwal BK, Goel RK, Sehajpal PK (2009), "Angiotensin-Converting Enzyme gene polymorphism in hypertensive rural population of Haryana", *Journal of Emergencies, Trauma and Shock,* 2, 150-154.
1461. Khosla R, Dwivedi A, Sarin BC, Sehajpal PK (2009), "Peripheral blood based C-PCR assay for diagnosing extra pulmonary tuberculosis", *Ind J Exp Biol,* 47, 393-400.
1462. Dhuna V, Dhuna K, Singh J, Agarwal SK, Saxena AK (2010), "Isolation, purification and characterization of an N-acetyl-D-lactosamine binding mitogenic and anti-proliferative lectin from tubers of a cobra lily *Arisaema utile* Schott", *Advances in Bioscience and Biotechnology,* 1, 79-90.
1463. Bhagat M, Singh J, Saxena AK (2010), "*In vitro* cytotoxicity of extracts and fractions of *Calotropis procera* (Ait.) roots against human cancer cell lines", *International Journal of Green Pharmacy,* 4, 36-40.
1464. Dhuna V, Dhuna K, Singh J, Agarwal SK, Saxena AK (2010), "Purification and characterization of an Anti-proliferative and mitogenic plant lectin from tubers of *Arisaema speciosum", Pharmacognosy Journal,* 2, 272-283.
1465. Sharma U, Gaikwad SM, Suresh CG, Dhuna V, Khan M, Singh J, Singh S (2010), "Conformational transitions in *Arisaema curvatum* lectin: characterization of an acid induced active molten globule", *Journal of Fluorescence,* 21, 753-763.
1466. Sharma S, Kumar V, Khosla R, Kajal NC, Sarin BC, Sehajpal PK (2010), "Association of P2X7 receptor +1513 (A-->C) polymorphism with tuberculosis in a Punjabi population", *Int J Tub Lung Dis* 14, 1159-63.
1467. Gupta S, Aggarwal BK, Sehajpal PK, Goel RK (2011), "Prevalence and Predictors of Hypertension in Rural Region of Haryana: A Hospital Based Study", *J Rural Trop Public Health*, 10, 29 – 34.

1468. Singh RS, Bhari R, Singh J, Tiwary AK (2011), "Purification and characterization of a mucin-binding mycelial ectin from Aspergillus nidulans with potent mitogenic activity", *World Journal of Microbiology and Biotechnology,* 27, 547-554.
1469. Chaudhary H, Dhuna V, Singh J, Kamboj SS, Seshadri S (2011), "Evaluation of hydro-alcoholic extract of *Eclipta alba* for its anticancer potential: An *in vitro* study", *Journal of Ethnopharmacology,* 136, 363-336.
1470. Kaur M, Singh J, Kamboj SS, Saxena AK (2011), "A lectin with anti-proliferative, mitogenic and anti-insect potential from the tubers of *Caladium bicolor* Vent", *The Asian and Australasian Journal of Plant Science and Biotechnology,* 5, 1-9.
1471. Chauhan Devesh, Mehla Kritika, Nair Anroop, Sehajpal Prabodh Kumar and Gupta Sumeet (2012), "Spirulina reverses histomorphological changes in Diabetic osteoporosis in Pioglitazone treated Rats", *J Diabetes Metab S* 1-6. http://dx.doi.org/10.4172/2155-6156.S1-006.
1472. Dhuna K, Dhuna V, Bhatia G, Singh J and Kamboj SS (2012), "Neuroprotective effect of *Convolvulus pluricaulis* methanol extract on hydrogen peroxide induced oxidative stress in human IMR32 neuroblastoma cell line", *British Biotechnology Journal,* 2, 192-210.
1473. Dhuna K, Dhuna V, Bhatia G, Singh J and Kamboj SS (2013), "Cytoprotective effect of methanolic extract of *Nardostachys jatamansi* against hydrogen peroxide induced oxidative damage in C6 glioma cells", *Acta Biochemica Polonica* 60, 21-31.
1474. Kaur A, Sohal SK, Kaur M and Singh J (2013), "Monitoring growth, survival and enzyme system of melon fruit fly *Bactrocera cucurbitae* (Coquillett) under the influence of affinity purified pea lectin", *Entomological Science,* 16, 91-99.
1475. Thakur K, Kaur M, Kaur S, Kaur A, Kamboj SS and Singh J (2013), "Purification of Colocasia esculenta and determination of its anti-insect potential towards Bactrocera cucurbitae", *Journal of Environmental Biology* 34, 31-36.
1476. Ali S, Chopra R, Manavati S, Singh Y, Kaul, N, Behura A, Mahajan A, Sehajpal P, Gupta S, Dhar M, Chainy G, Bhanwer AJS, Sharma S, Bamezai RNK. (2013), "Replication of Type 2 diabetes candidate genes variations in three geographically unrelated Indian population groups", *PLoS ONE* 8(3), e58881. doi:10.1371/journal.pone.0058881
1477. Changotra H and Sehajpal PK (2013), "An improved method for the isolation of hepatitis B virus DNA from human serum", *Ind J Virol* 24, 174-179.
1478. Prakash O, Sharma R and Sehajpal PK (2014), "TbD1 based genetic diversity in *M. tuberculosis c*linical isolates from North India", *Int J Tub Lun Dis* 18, 196-197.

1479. Kumar A, Gupta V, Chaudhary M, Singh A, Sehajpal PK (2014), "Depleted TGF-β_1 levels in end stage renal disease patients from North India", *Gene* 534, 440-443.

Pharmaceutical Science

1480. Bande, M.S.; Nepali, K.; Goyal, R.; Thakur, V.; Suri, J.; Budhiraja, R.D.; Suri, O.P.; Bedi, P.M.S.; Dhar, K.L (2012), 'Evaluation of antiasthmatic activity of 7, 8, 9, 10-tetrahydroazepino [2, 1-b] quinazolin-12 (6H)-one in combination with ambroxol in Guinea pigs', *Medicinal Chemistry Research*, 21(12), pp 4158-4167
1481. Bedi, N.; Singh, I.P.; Bansal, P.; Bodiwala, H.S.; Bedi, P.M.S. (2010), 'Scientific Evaluation of an Innovative Herbal Medicine for Relief in Respiratory Disorders', *Canadian Journal of Pure and Applied Science,* 4(3), pp 1249-1255.
1482. Bedi, N.; Bedi, P.M.S.; Sooch, B. (2013), 'Patenting and R&D in Indian Pharma industry: Post TRIPs Scenario', *Journal of Intellectual Property Rights,* 18, pp 105-110.
1483. Bhatia, R.K.; Sharma, V.; Gupta, D.; Ishar, M.P.S. (2009), 'Mechanism of unusual formation of 3-(5-phenyl-3H-[1,2,4]dithiazol-3-yl) chromen-4-ones and 4-oxo-4H-chromene-3-carbothioic acid N-phenylamides and their antimicrobial evaluation', *European Journal of Medicinal Chemistry*, 44, pp 3209-3216.
1484. Bhatti, R.; Singh, K.; Ishar, M.P.S.; Singh, J (2008), 'The Effect of Allium Sativum on Ischemic Preconditioning and Ischemia Reperfusion Induced Cardiac Injury', *Indian Journal of Pharmacology*, 40, pp-261-265
1485. Bhatti, R.; Kaur, S.; Singh, J.; Ishar, M.P.S. (2009), 'Ameliorative Effect of Volatile Oil from Cinnamomium zeylanicum on Hyperalgesia in Alloxan Diabetic Rats', *Canadian Journal of Pure & Applied Sciences*, 3, pp 887 – 895.
1486. Bhatti, R.; Sharma, S.; Singh, J.; Ishar, M.P.S. (2011), 'Ameliorative effect of Aegle marmelos leaf extract on early stage alloxan-induced diabetic cardiomyopathy in rats', *Pharmaceutical Biology*, 49(11), pp 1137-43.
1487. Bhatti, R.; Singh, R.; Jatinder, S.; Ishar, M.P.S (2012), 'Effect of aegle marmelos leaf extract treatment on diabetic neuropathy in rats: a possible involvement of adrenoceptors', *International Journal of pharmacy & Pharmaceutical Sciences*, 4, 632
1488. Bhatti, R.; Singh, J.; Nepali, K.; Ishar, M.P.S. (2013), 'Possible Involvement of PPAR-γ in the Anticonvulsant Effect of Aegle marmelos (L.) Correa', *Neurochemical Research*, DOI:10.1007/s11064-013-1064-6
1489. Bhella, S.S.; Ishar, M.P.S.; Singh, S.; Singh, R.; Singh, G.; Raj, T. (2008), 'Synthesis of Constrained Aromatic $\beta^{2,3,3}$-Amino alcohol

Scaffolds – Precursors of Non- proteinogenic Phenylalanine for Peptidomimetics', *Canadian Journal of Medicinal Chemistry*, 86, pp 451-455.

1490. Bhella, S.S.; Pannu, A.P.S.; Elango, M.; Kapoor, A.; Hundal, M.S.; Ishar, M.P.S.(2009), 'Investigations on synthesis of indole based constrained mimetic scaffolds through 1,3- dipolar cycloadditions of the C-(3-indolyl)-N-phenylnitrone with a variety of olefinic and allenic dipolarophiles under microwave irradiation', *Tetrahedron*, 65, pp 5928 -5935.
1491. Bhella, S.S.; Elango, M.; Ishar, M.P.S. (2009), 'Design, synthesis and conformational analysis of turn inducer cyclopropane scaffolds: Microwave assisted amidation of unactivated esters on catalytic solid support to obtain γ-turn- mimic scaffolds', *Tetrahedron* , 65, pp 240-246.
1492. Budhiraja, A.; Kadian, K.; Kaur, M.; Aggarwal, V.; Garg, A.; Sapra, S.; Nepali, K.; Suri, O.P.; Dhar, K.L (2012), 'Synthesis and biological evaluation of naphthalene, furan and pyrrole based chalcones as cytotoxic and antimicrobial agents', *Medicinal Chemistry Research*, 21(9), pp 2133- 2140
1493. Budhiraja, A.; Nepali, K.; Sapra, S.; Gupta, S.; Kumar, S.; Dhar, K.L. (2013), 'Bioactive metabolites from an endophytic fungus of Aspergillus species isolated from seeds of Gloriosa superba Linn', *Medicinal Chemistry Research*, 22(1), pp 323-329.
1494. Dhiman, R.; Sharma, S.; Singh, G.; Nepali, K.; Bedi, P.M.S (2013). 'Design and Synthesis of Aza-Flavones as a New Class of Xanthine Oxidase Inhibitors', *Archiv der Pharmazie,* 346(1), pp 7-16.
1495. Faruk, A.; Ishar, M.P.S. (2009), 'In Vivo Passive and Ionotphoretic Delivery of Lisinopril Using Wistar Rat Model', *International Journal of Pharmaceutical Science and Clinical Research,* 1(3), pp 131-135.
1496. Faruk, A.; Singh, G.; Ishar, M.P.S. (2009), 'Effect of concentration and permeation enhancer on iontophoretic transport of salbutamol sulphate *in vitro', International Journal of Pharmaceutical Sciences and Nanotechnology*, 1(4), pp 341-348.
1497. Faruk, A.; Singh, G.; Ishar, M.P.S. (2010), 'In vitro passive and iontophoretically assisted transport of salbutamol sulphate through hairless mice skin', *International Journal of Pharmaceutical Sciences and Nanotechnology*, 3(1), pp 811-818.
1498. Faruk, A.; Ishar, M.P.S.; (2010), 'Derivatization of steroids for obtaining conjugates: use as vectors for drug delivery', *Journal of Pharmaceutical Research*, 9(1), pp 5-10.
1499. Goel, R.; Sharma, V.; Budhiraja, A.; Ishar, M.P.S. (2012), 'Synthesis and evaluation of novel 3a,9a-dihydro-1-ethoxycarbonyl-1-cyclopenteno[5,4-b]benzopyran-4-ones as antifungal agents', *Bioorganic & Medicinal Chemistry Letters*, 22(14), pp 4665-4667.

1500. Gupta, M.; Verma, P.R.P.; Marwaha, R.K.; Faruk, A.; Singh, G (2008), 'Formulation and Evaluation of Meloxicam Gel', *Journal of Pharmaceutical Research*, 7(1), pp 27-31.
1501. Gupta, S.; Bedi, P.M.S.; Bedi, N.; (2010), 'Development and Invitro Evaluation of Eudragit RS100 and Inulin coated Pectin matrix Tablets of 5-Fluorouracil for Colon targeting', *International Journal of Applied Pharmaceutics,* 2(1), pp- 1-6.
1502. Ishar, M.P.S.; Raj, T.; Agrawal, S.K.; Saxena, A.K.; Singh, L.; Singh, R.; Bhella, S.S (2008), 'Synthesis and Cytotoxic Activity of Some Novel Polycyclic γ-Butyrolactones', *Bioorganic and Medicinal Chemistry Letter*, 18, pp 4809 - 4812.
1503. Jain, S.; Gupta, C. (2012), 'Microparticulate sustained drug delivery system for the treatment of Neuropathic pain', *Annals of Neurosciences,* 19, pp 87.
1504. Jain, S.K.; Mahajan, M. (2013), 'Novel Drug Delivery Approaches for Colon Targeting Biotechnology'. In B. S. Bhoop (ed.) Drug Delivery. published by M/S Studium Press LLC, USA.
1505. Jain, S.K.; Mahajan, M. (2013), 'Novel Carrier Approaches for Topical and Transdermal Drug Delivery'. In B. S. Bhoop (ed.) *Recent Developments in Biotechnology*. M/S Studium Press LLC publishers, USA.
1506. Jain, S.K.; Mahajan, M. (2013), "Thermoresponsive Gels: Preparation Methods, Characterization Techniques and Biomedical Applications", Encyclopedia of Biomedical Polymers and Polymeric Biomaterials. Taylor and Francis Group Publishers, USA.
1507. Kalia, A.; Khurana, S.; Bedi, N. (2009), 'Formulation and Evaluation of Mouth Dissolving Tablets of Oxcarbazepine', *International Journal of Pharmacy and Pharmaceutical Sciences*, 1(1), pp - 12-23.
1508. Kapil, A.; Singh, J.P.; Kaur, T.; Singh, B.; Singh, A.P. (2013), 'Involvement of peroxisome proliferator-activated receptor gamma in vitamin D-mediated protection against acute kidney injury in rats', *Journal of Surgical Research,* DOI: S0022-4804(13)00703-8.10.1016/j.jss. 2013.07.017.
1509. Kapur, K.; Kumar, L.; Singh, P.; Singh, M.; Elango, V.; Subramanian, V.; Gupta, P.; Ishar, M.P.S.(2009), 'Tandem Reorganization of 1,3-Dipolar Cycloadducts of Nitrones with Allenic esters/ketones and Alternative Cycloaddition - Palladium Catalyzed Cyclization Pathway', *Tetrahedron,* 65, pp 4593 – 4603.
1510. Kaur, G.; Mahajan, M.; Bassi, P (2012), 'Derivatized Polysaccharides: Preparation, Characterization, and Application as Bioadhesive Polymer for Drug Delivery', *International Journal of Polymeric Materials and Polymeric Biomaterials*, 62, pp 475–481.
1511. Kaur, N.; Gupta, S.; Bedi, P.M.S.; Bedi, N (2010), 'Formulation Development and Evaluation of Targeted Oral System containing

Inulin and Guar Gum as Carriers for Colon release of 5-Fluorouracil', *Indian Drugs*, 47(3), pp- 2132.

1512. Kaur, S.; Jaggi, R. K (2010), 'Antinociceptive activity of chronic administration of different extracts of *Terminalia bellerica* Roxb. and *Terminalia chebula* Retz. Fruits', *Indian Journal of Experimental Biology* , 48, pp 925-930.
1513. Kaur, S.; Singh, N.; Chopra, D. (2010), '*Equisetum arvense*: Pharmacology and Phytochemistry-A Review', *Asian Journal of Pharmaceutical and Clinical Research*, 3, pp 146-150.
1514. Kaur, S.; Singh, N.; Chopra, D. (2010), 'Amelioration of paracetamol induced hepatotoxicity by a protein isolated from the leaves of the herb *Cajanus acutifolius* Linn', *International Journal of Pharmacy and Pharmaceutical Sciences*, 2, pp 75-80.
1515. Kaur, S.; Singh, N.; Bedi, P.M.S.; Kaur, D. (2011), 'Anxiolytic effect of *Equisetum arvense* Linn.extracts in mice', *Indian Journal of Experimental Biology*, 49, pp 352-356.
1516. Kumar, N.; Nepali, K.; Sapra, S.; Bijjem, K.R.V.; Kumar, R.; Suri, O.P.; Dhar, K.L (2012), 'Effect of nitrogen insertion on the antitussive properties of menthol and camphor', *Medicinal Chemistry Research*, 21(4), pp 531-537
1517. Kumar, R.; Darpan.; Sharma, S.; Singh, R. (2011), 'Xanthine oxidase inhibitors: a patent survey', *Expert Opinion on Therapeutic Patents,* 21(7), pp 1071-108.
1518. Khurana, N.; Ishar, M.P.S.; Gajbhiye, A.; Goel, R.K. (2011), 'PASS assisted prediction and pharmacological evaluation of novel nicotinic analogs for nootropic activity in mice', *European Journal of Pharmacology*, 662(1-3), pp 22-30.
1519. Mahajan, M.; Kaur, S.; Kaur, R. (2012), 'An Itinerary to access the colon', *Journal of Drug Delivery & Therapeutics*, 2(4), pp 29-39.
1520. Mahajan, M.; Kaur, G. (2013), 'Formulation and Evaluation of Buccal Bioadhesive Patches Employing Derivatized Tamarind Seed Polysaccharide' *International Journal of Polymeric Materials,* Manuscript ID GPOM-2013-1683
1521. Malhi, S.S.; Budhiraja, A.; Arora, S.; Chaudhari, K. R.; Nepali, K.; Kumar, R.; Sohi, H.; Murthy, R.S.R. (2012), 'Intracellular delivery of redox cycler-doxorubicin to the mitochondria of cancer cell by folate receptor targeted mitocancerotropic liposomes', *Bioorganic & Medicinal Chemistry*, 19(6), pp 1950-1958
1522. Mangla, V.; Nepali, K.; Singh, G.; Singh, J.; Guru, S.; Gupta, M.K.; Mahajan, P.; Saxena, A.K.; Dhar, K.L. (2013), 'Structure Activity Relationship of Arylidene Pyrrolo and Pyrido [2, 1-b] Quinazolones as Cytotoxic Agents: Synthesis, SAR Studies, Biological Evaluation and Docking Studies', *Medicinal Chemistry Research*, 9 (5), pp 642-650

1523. Mishra, A.; Bhatti, R.; Singh, A.; Ishar, M.P.S. (2010), 'Ameliorative effect of the cinnamon oil from Cinnamomum zeylanicum upon early stage diabetic nephropathy', *Planta Medica*, 76(5), pp 412-147.
1524. Mohan, C.; Bhargava, G.; Bedi, P.M.S. (2009), 'Thieno [3, 2-d] pyrimidin-4-one Derivatives as Potential Antibacterial Agents', *Journal of Life Science,* 1 (2), pp 97-101.
1525. Nepali, K.; Agarwal, A.; Sapra, S.; Mittal, V.; Kumar, R.; Banerjee, U.C.; Gupta, M.K.; Satti, N.K.; Suri, O.P.; Dhar, K.L. (2011), 'N-(1, 3-Diaryl-3-oxopropyl) amides as a new template for xanthine oxidase inhibitors', *Bioorganic and Medicinal Chemistry*, 19(18), pp 5569-5576.
1526. Nepali, K.; Singh, G.; Turan, A.; Agarwal, A.; Sapra, S.; Kumar, R.; Banerjee, U. C.; Verma, P.K.; Satti, N.K.; Gupta, M.K.; Suri, O.P.; Dhar, K.L. (2011), 'A rational approach for the design and synthesis of 1-acetyl-3, 5-diaryl-4, 5-dihydro pyrazoles as a new class of potential non-purine xanthine oxidase inhibitors', *Bioorganic and Medicinal Chemistry*, 19(6), pp 1950-1958.
1527. Nepali, K.; Kadian, K.; Ojha, R.; Dhiman, R.; Garg, A.; Singh, G.; Buddhiraja, A.; Bedi, P.M.S.; Dhar, K.L (2012), 'Effect of ring A and ring B substitution on the cytotoxic potential of pyrazole tethered chalcones', *Medicinal Chemistry Research*, 21(10), pp - 2990-2997.
1528. Nepali, K.; Bande, M.S.; Sapra, S.; Garg, A.; Kumar, S.; Sharma, P.; Goyal, R.; Satti, N.K.; Suri, O.P.; Dhar, K.L (2012), 'Antitussive effects of azepino[2,1-b]quinazolones', *Medicinal Chemistry Research*, 21(7), pp 1271-1277.
1529. Nepali, K.; Ojha, R.; Ojha. A.; Sharma, S.; Bedi, P.M.S.; Dhar, K.L. (2013), 'Tubulin Inhibitors- A Patent Survey', *Recent Patents on Anticancer Drug and Discovery*. (Epub Ahead of schedule).
1530. Nepali, K.; Sharma, S.; Ojha, R.; Dhar, K.L. (2013), 'Vasicine and structurally related quinazolines', *Medicinal Chemistry Research* 22 (1), 1-15.
1531. Ojha, R.; Nepali, K.; Goyal, R.; Dhar, K.L.; Bhardwaj, T (2012), 'Synthesis, *In Vitro* Hydrolysis, Bioanalytical Method Development and Pharmacokinetic Study of an Amide Prodrug of Ibuprofen', *Current Pharmaceutical Analysis*, 8(3), pp 261-271.
1532. Paneersalvam, P.; Raj, T.; Ishar, M.P.S.; Singh, B.; Sharma, V.; Rather, B.A (2010), 'Anticonvulsant activity of Schiff bases of 3-amino-6,8-dibromo-2-phenyl-quinazolin-4(3H)-ones', *Indian Journal of Pharmaceutical Sciences*, 72(3), pp 375-378.
1533. Pundir, M.; Arora, S.; Kaur, T.; Singh, R.; Singh, A.P (2013), 'Effect of modulating the allosteric sites of N-methyl-D-aspartate receptors in ischemia-reperfusion induced acute kidney injury', *Journal of Surgical Research,* 183(2), pp 668-77.

1534. Puri, R.; Jain, S. (2012), 'Ethogel topical formulation for increasing the local bioavailability of 5-Flurouracil: A mechanistic study', *Anticancer Drugs,* 23(9), pp 223-2334.
1535. Puri, R.; Jain, S. (2013), 'Use of biochemical and microscopic techniques to determine enhanced skin permeation of nanovesicles: A mechanistic study', *Pharmaceutical Nanotechnology*, 1(3): pp 213-223
1536. Puri, R.; Jain, S. (2013), 'Development and Characterization of Bioadhesive Gels for Localized Delivery of 5-Fluorouracil', *Current Drug Delivery*.
1537. Raj, T.; Ishar, M.P.S.; Gupta, V.; Pannu, A.P.S.; Kanwal, P.; Singh, G. (2008), 'Unusual Conversion of Substituted-3-formylchromones to 3-(5-Phenyl-3H-[1,2,4]dithiazol-3-yl)-chromen-4-ones: A Facile and Efficient Route to Novel 1,2,4-Dithazole', *Tetrahedron Letters*, 49, pp 243-246.
1538. Raj, T.; Bhatia, R. K.; Kapur, A.; Sharma, M.; Saxena, A. K.; Ishar, M.P.S. (2010), 'Cytotoxic activity of 3-(5-phenyl-3H-[1,2,4]dithiazol-3-yl)chromen-4-ones and 4-oxo-4H-chromene-3-carbothioic acid N-phenylamides', *European Journal of Medicinal Chemistry*, 45(2), pp 790-794.
1539. Rather, B.A.; Raj, T.; Reddy, A.; Ishar, M.P.S.; Sivakumar, S.; Paneerselvam, P. (2010), 'Synthesis and Evaluation of Novel 2-Substituted-quinazolin-4(3H)-ones as Potent Analgesic and Anti-inflammatory Agents', *Archiv der Pharmazie* (Weinheim, Germany), 343(2), pp 108-113.
1540. Saini, N.; Varshney, R.; Tiwari, A.K.; Kaul, A.; Ishar, M.P.S. (2013), 'Synthesis conjugation and relaxation studies of gadolinium (III)-4 Benzothiazole-2-yl-phenylamine as potential brain specific MR contrast agent', *Dalton Transaction,* 42, 4994-5003.
1541. Sankar, R.; Jain, S. (2013), 'Determination of Target *In-Vitro* Drug Release Profile for Extended Release Formulation of Acyclovir through Pharmacokinetic Simulations', *Anti Infective Agents.* 11 (2), pp -204-211.
1542. Sankar, R.; Jain, S. (2013), 'Approaches for enhancing the bioavailability of acyclovir: a critical review' *International Journal of Pharma & BioScience.*4: pp 1-12.
1543. Sankar, R.; Jain, S. (2013), 'Development and characterization of gastroretentive sustained release formulation by combination of swelling and mucoadhesive approach: a mechanistic study', *Drug Development & Technol.*
1544. Sapra, S.; Bhalla, Y.; Sharma, S.; Singh, G.; Nepali, K. Budhiraja, A.; Dhar, K.L. (2013), 'Colchicine and its various physicochemical and biological aspects', *Medicinal Chemistry Research,* 22(2), pp 531-547.
1545. Sharma, D.; Chopra, R.; Bedi, N. (2012), 'Development and Evaluation of Paracetamol Taste Masked Orally Disintegrating Tablets

Using Polymer Coating Technique', *International Journal of Pharmacy and Pharmaceutical Sciences*, 4(3), pp 129-134.

1546. Sharma, V.; Singh, G.; Kaur, H.; Saxena, A. K.; Ishar, M.P.S. (2012), 'Synthesis of β-ionone derived chalcones as potent antimicrobial agents', *Bioorganic & Medicinal Chemistry Letters*, 22(20), pp 6343-6346.
1547. Sharma, V.; Kalia, R.; Raj, T.; Gupta, V.K.; Suri, N.; Saxena, A.K.; Sharma, D.; Bhella, S.S.; Singh, G.; Ishar, M.P.S. (2012), 'Synthesis and cytotoxic evaluation of substituted 3-(3'-indolyl-/3'-pyridyl)-isoxazolidines and bis-indoles', *Acta Pharmaceutica Sinica B*, 2(1), pp 32-41.
1548. Sharma, V.; Gupta, V.; Anthal, S.; Saxena, A. K.; Ishar, M.P.S. (2012), 'Photochemical formation and decomposition of 8-[β-arylethenyl]-2,2,6-trimethyl-7,9,10-trioxa-tricyclo[6.2.2.01,6]dodec-11-ene to novel 6-hydroxy-1,7,7-trimethyl-2-oxa bicyclo[4.4.0] dec-4-en-3-one in the presence of oxygen', *Tetrahedron Letters*, 53(42), pp 5649-5651.
1549. Sharma, V.; Chaudhary, A.; Arora, S.; Saxena, A.K.; Ishar, M.P.S. (2013), 'β-Ionone derived chalcones as potent antiproliferative agents', *European Journal of Medicinal Chemistry*, 69, pp 310-315.
1550. Singh, A.; Bedi, N. (2013), 'Psoriasis: History, Present and Future Prospects', *Current Trends in Biotechnology and Pharmacy*, 7(3), pp 808-824.
1551. Singh, A.K.; Kaur, T.; Dahiya, R.S.; Singh, N.; Bedi, P.M.S. (2010), 'Ameliorative role of rosiglitazone in hyperhomocysteinemia-induced experimental cardiac hypertrophy', *Journal of Cardiovascular Pharmacology*, 56(1), pp 53-59.
1552. Singh, A.P.; Goel, R.K.; Kaur, T. (2011), 'Mechanisms pertaining to arsenic toxicity', *Toxicology International*, 18(2), pp 87-93.
1553. Singh, B.; Chopra, A.; Ishar, M.P.S.; Sharma, A.; Raj, T (2010), 'Pharmacognostic and antifungal investigations of Elaeocarpus ganitrus (Rudrakasha)', *Indian Journal of Pharmaceutical Sciences*, 72(2), pp 261-265.
1554. Singh, B.; Raj, T.; Ishar, M.P.S.; Kumar, S.; Jaggi, R.K.; Sharma, A (2010), *'In vivo* anti-malarial activity of *Ocimum sanctum* Linn. and *O. bacilicum* Linn.', *Canadian Journal of Pure and Applied Sciences*, 4, pp 1033-37.
1555. Singh, B.; Kalsi, V.; Sharma, A.; Ishar, M.P.S. (2011), 'Antianxiety effect of stem, leaf and tissue culture extracts of *Ocimum sanctum* Linn', *Journal of Pharmacy Research*, 4(9), pp 2904-2906.
1556. Singh, G.; Kaur, A.; Sharma, V.; Suri, N.; Sharma, P.R.; Saxena, A.K.; Ishar, M.P.S. (2013), 'Synthesis and cytotoxicity evaluation of regioisomeric substituted N-phenyl-3′-(chrom-4-one-3-yl)-isoxazolidines: induction of apoptosis through a mitochondrial-dependent pathway', *Medicinal Chemistry Communication,* 4, pp 972-978.

1557. Singh, J.; Sharma, S.; Saxena, A.K.; Nepali, K.; PMS Bedi, P.M.S. (2013), 'Synthesis of *1*, 2, 3-triazole tethered bifunctional hybrids by click chemistry and their cytotoxic studies'. *Medicinal Chemistry Research,* 22(7), pp 3160-3169.
1558. Singh, L.; Ishar, M.P.S.; Elango, M.; Subramanian, V.; Gupta, V.; Kanwal, P. (2008), 'Synthesis of Unsymmetrical Substituted 1,4-Dihydropyridines through Thermal and Microwave Assisted [4+2] Cycloadditions of 1-Azadienes and Allenic esters'*, Journal of Organic Chemistry,* 73, pp 2224-2233.
1559. Singh, M.; Jain, S. (2011), 'Nanoemulsions for skin targeting: Present status and future prospects', *Drug Delivery Letters***,** 1(2), pp 159-170.
1560. Singh, P.; Kaur, S.; Kumar, V.; Bedi, P.M.S.; Mahajan, M.P.; Sehar, I.; Pal, H.C.; Saxena, A.K. (2011), 'Synthesis and *in vitro* cytotoxic evaluation of N-alkylbromo and N -alkylphthalimido-isatins', *Bioorganic & Medicinal Chemistry Letters*, 21(10), pp 3017-3020.
1561. Singh, P.; Raj, R.; Kumar, V.; Mahajan, M.P.; Bedi, P.M.S.; Kaur, T.; Saxena, A.K (2012), '1, 2, 3-Triazole tethered β-lactam-Chalcone bifunctional hybrids: Synthesis and anticancer evaluation', *European Journal of Medicinal Chemistry*, 47, pp 594-600.
1562. Singh, P.; Sharma, P.; Anand, A.; Bedi, P.M.S.; Kaur, T.; Saxena, A.K.; Kumar, V (2012), 'Azide-alkyne cycloaddition en route to novel 1 H-1, 2, 3-triazole tethered-isatin conjugates with in vitro cytotoxic evaluation', *European Journal of Medicinal Chemistry,* 55, pp 455-461.
1563. Singh, R.; Singh, G.; Ishar, M.P.S. (2010), 'Facile ketone sensitized photochemical ring opening of isoxazolidines to β-enaminocarbonyl compounds', *Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry*, 49B(2), pp 234-240.
1564. Singh, R.; Singh, A.P.; Singh, M.; Krishan, P. (2011), 'Impact of obesity on hypertension-induced cardiac remodeling: role of oxidative stress and its modulation by gemfibrozil treatment in rats', *Free Radic Biol Med*., 50(2), pp 363-70.
1565. Utreja, P.; Jain, S.; Tiwary, A.K. (2011), 'Localized delivery of paclitaxel using elastic liposomes: Formulation and evaluation', *Drug Delivery***,** 18(5), pp 367-376.
1566. Utreja, P.; Jain, S.; Yadav, S.; Khandhuja, K.; Tiwary, A.K (2011), 'Efficacy and toxicological studies of Cremophor EL free alternate paclitaxel formulation', *Current Drug Safety*, 6(5), pp 329-338.
1567. Utreja, P.; Jain, S and Tiwary, A.K. (2012), 'Evaluation of biosafety and intracellular uptake of Cremophor EL free Paclitaxel elastic liposomal formulation', *Drug Delivery,* 19(1), pp 11-20.

1568. Arora, Gurpreet Kaur; Jai Rup, Pushpinder; Sohal, Satwinder Kaur (2008), 'Role of enzymes in the metabolism of Coumarin in the nymphs of *Lipaphis erysimi* (Kalt.)', *Allelopathy Journal*, 22(1), pp 221-230.
1569. Bal, Rupali; Dua, Anish (2010), 'Cranes in unlisted wetlands of North West Punjab', *Birding Asia,* 14, pp 103-105.
1570. Bal, Rupali; Dua, Anish (2010), 'Birds of Natural Wetlands of North–West Punjab, India', *Our Nature*, 8, pp 72-81.
1571. Chadha, Pooja; Yadav, Joginder Singh (2008), 'Efficacy of Vitamin C as a genoprotective agent among gutkha consumers', *Journal of Cytolology and Genetics*, 9, pp 65-73.
1572. Chadha, Pooja; Jai Rup, Pushpinder; Kaur, Sandeep; Singh, Kuljinder; Rani, Rama; Jyoti Prethy Ratan (2009), 'Evaluation of genotoxic potential of lectins isolated from *Abrus precatorius*, *Phaseolus vulgaris* and *Canavalia ensiformis* using *Bactrocera cucurbitae* as a model', *Journal of Cytology and Genetics*, 10, pp 73-81.
1573. Chadha, Pooja; Mehta, Anupam (2011), 'Chromosome study in few species of Acrididae (Acrididae tryxaline); Karyotype analysis and distribution pattern of constitutive heterochromatin', *Journal of Entomology and Nematology*, 3 (1), pp 14-19.
1574. Chadha, Pooja; Yadav, Joginder Singh (2011), 'Studies on the genotoxicity of Gutkha', *International Journal of Human Genetics,* 11(4), pp 277-282.
1575. Chadha, Pooja; Sandhu, Sandeep Kaur; Kaur, Sharanjeet; Salem, Rashid; Saini, Sanehdeep (2012), 'Assessment of genotoxic potential of entomopathogenic fungi *Beauveria bassiana* and *Metarhizium anisopilae* using *Acrida turrita* L. (Orthoptera: Acrididae) as a model', *Journal of Biological Control*, 26(1), pp 43-48.
1576. Chadha, Pooja; **S**ingh, Zorawar (2013), 'Health concern in welding industry', *International Journal of enhanced Research in Science Technology & Engineeering*, 2(1), pp 1-5.
1577. Chadha, Pooja**;** Bhatt, Gulzar Ahmed; Singh, Zorawar (2013), 'Genotoxic biomonitoring of Human population exposed to pesticide', *Journal of Experimental Zoology India*, 16(1), pp 239-244.
1578. Chadha, Pooja; Sandhu, Sandeep Kaur (2013), 'A study on distribution of morphological, behavioural and serological traits in three endogamous groups of scheduled caste in Jammu and Kashmir', *CIB Tech Journal of Zoology*, 2(1), pp 47-50.
1579. Chadha, Pooja and Prabha (2013), 'Evaluation of genotoxicity in pesticide distributors of Punjab ', *Journal of Life Science*, 5(1), pp 17-22.

1580. Dua, Anish; Parkash Chander (2009), 'Distribution and abundance of fish populations in Harike Wetland- A Ramsar Site in India', *Journal of Environmental Biology,* 30 (2), pp 247-251.
1581. Gupta, Neeraj; Dua, Anish (2010), 'Mercury induced behavioural alterations in *Channa punctatus'*, *Pollution Research*, 29(4), pp 721-723.
1582. Kanta, Uma; Kaur, Sanehdeep; Singh, Dharam Pal; Brar, Kartar Singh (2008), 'Biosupression of *Chilo partellus* with *Trichogramma chilonis* on kharif maize', *Journal of Insect Science,* 21 (1), pp 87-89.
1583. Kaur, Amandeep; Singh, Rajbir; Kaur, Harpreet; Sohal, Satwinder Kaur; Arora, Saroj (2009), 'Growth regulatory effect of *Acacia auriculiformis* (A. Cunn.) on melon fruit fly, Bactrocera cucurbitae (Coquillett)', *Biopesticides International,* 5(1), pp35-40.
1584. Kaur, Amandeep; Sohal, Satwinder Kaur; Singh, Rajbir; Arora, Saroj (2010), 'Development inhibitory effect of *Acacia auriculiformis* extracts on *Bactrocera cucurbitae* (Coquillett) (Diptera: Tephritidae)', *Journal of Biopesticides*, 3(2), pp 499-504.
1585. Kaur, Amandeep; Kaur, Harpreet; Kaur, Amrit Pal; Arora, Saroj; Sohal, Satwinder Kaur (2012), 'Biopesticidal Bark Extracts of *Acacia Auriculiformis* A. Cunn', *Crop Improvement*, (Special issue), pp 883-884.
1586. Kaur, Amrit Pal; Sohal, Satwinder Kaur (2010), 'Survival of melon fruit fly (*Bactrocera cucurbitae*) as affected by partially purified protease inhibitor from soyabean', *Crop Improvement*, 37(2), pp 193.
1587. Kaur, Amrit Pal; Sohal, Satwinder Kaur (2012), 'Influence of Partially purified Soybean Protease Inhibitor on Second Instar Larvae of *Bactrocera cucurbitae* (Coquillett) (Diptera: Tephritidae)', *The Asian and Australasian Journal of Plant Science and Biotechnology*, 6 (Special issue 1), pp 82-87.
1588. Kaur, Amrit Pal; Kaur, Harpreet; Kaur, Amandeep; Sohal, Satwinder Kaur (2012), 'Developmental assessment of melon fruit fly under the influence of partially purified soybean protease inhibitors', *Crop Improvement*, (Special issue), pp 887-888.
1589. Kaur, Amrit Pal; Sohal, Satwinder Kaur; Kaur, Manpreet; Singh, Jatinder (2013), 'Monitoring Growth, Survival and Enzyme system of melon fruit fly, *Bactrocera cucurbitae* (Coquillett) under the influence of affinity purified Pea lectin', *Entomological Science,*16, pp91-99.
1590. Kaur, Amrit Pal; Sohal, Satwinder Kaur (2013), 'Bio–Potency of Partially Purified Protease Inhibitor from Peas on Larval Growth, Development and Enzyme System of *Bactrocera cucurbitae* (Coquillett)', *International Journal of Tropical Insect Science,* 33, pp82-90.
1591. Kaur, Arvinder; Singh, Jaswinder; Vig, Adarsh Pal; Dhaliwal, S.S.; Jai Rup, Pushpinder (2010), 'Composting with and without *Eisenia fetida*

for recycling paper mill sludge into soil conditioner', *Bioresource Technoogy,*101, pp 8192-8198.
1592. Kaur, Arvinder; Kaur, Kirandeep (2012), 'Genotoxicity of basic violet-1 to *Labeo rohita* (Ham.)', *Crop Improvement*, (Special issue), pp 1467-1468.
1593. Kaur, Arvinder; Arora, Manveen; Singh, Navpreet (2012), 'Anthropogenic influence on distribution of earthworms', *Crop improvement* (Special issue), pp 665-666.
1594. Kaur, Harminder Preet; Kaur, Sanehdeep; Kaur, Amarjeet (2012), 'Effect of fungal endophytes isolated from *Azadirachta indica* A. Juss. for insecticidal potential against *Spodoptera litura* (Fabricius) (Lepidoptera:Noctuidae)', *Crop Improvement* (Special issue), pp 949-950.
1595. Kaur, Harminder; Singh, Bahadur; Kaur, Amarjeet; Kaur, Sanehdeep (2013), ' Antifeedent and toxic activity of endophytic *Alternaria alternata* against tobacco caterpillar *Spodoptera litura', Journal of Pest Science*, 86, pp 543–550
1596. Kaur, Harpreet; Kaur, Amrit Pal; Sohal, Satwinder Kaur; Jai Rup; Pushpinder; Kaur, Amandeep (2009), 'Effect of soybean trypsin inhibitor on development of immature stages of *Bactrocera cucurbitae* (Coquillett), *Biopesticides International,* 5, pp 114-124.
1597. Kaur, Harpreet; Sohal, Satwinder Kaur; Jai Rup; Pushpinder (2010), 'Growth and Development of *Bactrocera cucurbitae* (Diptera: Tephritidae) larvae under the influence of Soybean Trypsin Inhibitors', *International Journal of Tropical Insect Science*, 30 (4), pp 200-206.
1598. Kaur, Mandeep; Kaur, Sanehdeep (2013), 'Tritrophic interactions among coumarin, the herbivore *Spodoptera litura* and a gregarious ectoparasitoid *Bracon hebetor'*, *BioControl* DOI 10.1007/s10526-013-9533-z
1599. Kaur, Rajbir; Dua, Anish (2012), 'Fish scales as indicators of wastewater toxicity from an International water channel Tung Dhab', *Environmental Monitoring and Assessment*, 184 pp 2729-2740.
1600. Kaur, Ravinderjit; Ohri, Puja; Bhardwaj, Renu (2012), 'Role of 28-homobrassinolide on some antioxidative enzymes of tomato plant during pathogenesis', *Journal of Environmental and Research Development,* 7(1A), pp 411-415.
1601. Kaur, Ravinderjit; Ohri, Puja; Bhardwaj, Renu (2012), 'Effect of 28-homobrassinolide on susceptible and resistant tomato plants seven days after *Meloidogyne incognita* infection. *Crop Improvement,* (special issue)
1602. Kaur, Ravinderjit; Ohri, Puja; Bhardwaj, Renu (2013), 'Effect of 28-homobrassinolide on susceptible and resistant cultivars of tomato after nematode inoculation',*Plant Growth Regulation,* DOI 10.1007/s10725-013-9820-9

1603. Kaur, Ravinderjit; Ohri, Puja; Bhardwaj, Renu (2013), '28-homobrassinolide induces changes in defense enzymes in tomato seedlings during nematode infection', *Annals of Plant Protection Sciences,* 21**(2),** pp 459-460
1604. Kaur S.; Sharma, Neetika; Kaur, Mandeep; Kaur, Rabinder (2009), 'Studies on biology of *Bracon hebetor* (Say), an ectoparasitoid of Spodoptera litura (F.) (Noctuidae)', *Pest Management and Economic Zoology*, 17 (1), pp 71-76.
1605. Kaur, Sanehdeep; Kumar, Vijay; Singh, Paramjit; Brar, Kartar Singh (2009), 'Influence of weather factors and spray patterns on wheat aphids and their coccinellid predator', *Journal of Biological Control,* 23(4) pp 375-379.
1606. Kaur, Sanehdeep; Kaur, Harminder Preet; Kaur, Kirandeep; Kaur, Amarjeet (2011), 'Cellular immune response of *Spodoptera litura* (Fabricious) (Lepidoptera: Noctuidae) during mycosis of the entomopathogenic fungus *Beauveria bassiana* (Balsamo) Vuillemin', *Journal of Biological Control*, 25 (2), pp 152-155.
1607. Kaur, Sanehdeep; Kaur, Harminder Preet; Kaur, Kirandeep; Kaur, Amarjeet (2011), 'Effect of different concentrations of *Beauveria bassiana* on development and reproductive potential of *Spodoptera litura* (Fabricius)', *Journal of Biopesticides*, 4 (2), pp 161-168.
1608. Kaur, Sanehdeep; Kumari, Jyoti; Singh, Paramjit; Menakshi; Kaur, Mandeep (2012), 'Effect of abiotic factors on biology of diamondback moth, *Plutella xylostella* (Linnaeus) on cabbage. *Journal of Insect Science,* 25 (1), pp 24-28.
1609. Kaur, Sanehdeep; Kaur, Mandeep; Sharma, Nitika (2012), 'Effect of different host plants on biology of tobacco caterpillar, *Spodoptera litura* (Fabricius) (Lepidoptera:Noctuidae)', *Journal of Insect Science* 25 (3), pp 304-307.
1610. Kaur, Satinder; Kaur, Arvinder; Kaur, Harpreet; Rajni (2012), 'Effect of acid blue-113 on antioxidative and detoxification enzymes of *Labeo rohita* and *Cirhinus mrigala', Crop Improvement (*Special issue), pp1537-1538.
1611. Kaur, Ramandeep; Kaur, Arvinder (2012), 'Evaluation of toxicity of six azo dyes to *Labeo rohita'*, *Crop Improvement,* (Special issue), pp 1519-1520.
1612. Kumar, Ashwani; Dua, Anish (2009), 'Water quality monitoring of river Ravi in Indian region', *Pollution Research,* 28 (2), pp 263-269.
1613. Kumar, Ashwani; Dua, Anish (2009), 'Water quality index for assessment of water quality of river Ravi at Madhopur (India)', *Global Journal of Environmental Sciences,* 8(1), pp 49-57.
1614. Lal Krishn; Dua, Anish (2013), 'Fisheries Cooertaive Society , Kutlehar & Its Status during the years 2007-08 to 2012-13', *Journal of Contemporary Education, Commerce, Science, Law & Humanities,* 1(1), pp 28-32.

1615. Mohan, Vikas Chander; Watts, Pallavi; Kaur, Arvinder (2013), 'Diversity and distribution of earthworm Species in Guru Nanak Dev University Campus, Amritsar, Punjab, India', *Research Journal of Agriculture and forestry sciences*, 1(12), pp 1-6.
1616. Ohri, Puja; Sohal, Satwinder Kaur; Bhardwaj, Renu; Khurma, Uma Rai (2008), 'Studies on *Meloidogyne incognita* under the influence of 24-epibrassinolide', *Annals of Plant Protection Science*, 16(1), pp 198-202.
1617. Ohri, Puja; Sohal, Satwinder Kaur; Bhardwaj, Renu; Khurma, Uma Rai (2008), 'Biochemical evaluation of some enzymes of root-knot nematode, *Meloidogyne incognita* under the influence of brassinosteroids', *International Journal of Nematology*, 18(2), pp216-220.
1618. Ohri, Puja; Pannu, Satinder Kaur (2009), 'Effect of terpenoids on nematodes- a review', *Journal of Environmental Research and Development,* 4(1), pp 171-177.
1619. Ohri, Puja; Pannu, Satinder Kaur (2010), 'Effect of phenolic compounds on nematodes', *Journal of Applied and Natural Sciences*, 2 (2), pp 344-350.
1620. Ohri, Puja; Kaur, Prabhjot (2011), 'Nematicidal potential of seed extracts of *Brassica juncea* against *Meloidogyne incognita* using methanol and petroleum ether as solvents', *Biopesticides International,* 7(2), pp 143-148.
1621. Ohri, Puja; Kaur, Ravinderjit; Kaur, Satwinder; Bhardwaj, Renu (2011), 'Plant Growth Regulators and Nematodes', In D. Prasad & Satya Kumar (eds.) *Plant Protection, Diversity and Conservation,* New Delhi: BioTech Books pp 56-68. ISBN No. 978-81-7622-239-6 (vol.1).
1622. Ohri, Puja; Kaur, Ravinderjit (2011), 'Role of 28-homobrassinolide on antioxidative defense system of host plant (*Brassica juncea*) during root-knot nematode (*Meloidogyne incognita*) infection', *Advances in Applied Research,* 3(2), pp 120-126.
1623. Ohri, Puja; Bhardwaj, Renu; Kaur, Rupinder (2011), 'Effect of 24-epibrassinolide regulated antioxidative defense system in *Brassica juncea* during *Meloidogyne incognita* infection', *Annals of Plant Protection Science*, 19(2), pp 423-427.
1624. Ohri, Puja; Sandhu, Shubneet (2011), 'Effect of organic amendment with *Brassica juncea* against *Meloidogyne incognita* infection to tomato', *Indian Journal of Nematology,* 41(1), pp 107-109.
1625. Saini, Archana; Dua, Anish; Mohindra. Vindhya (2008), 'Comparative morphometrics of two populations of giant river catfish, *Mystus seenghala* (Sykes), from Sutlej and Beas rivers of Indus river system in India', *Integrative Zoology*, 3(3), pp 219-226.
1626. Saini, Archana; Dua, Anish; Mohindra, Vindya (2009), 'A morphometric study of giant River Cat Fish (*Sperata Seenghala*)

PopulationiIn Maharana Pratapsagar Lake of Pong Dam', *Ecology, Environment and Conservation,* 15(4), pp 857-862.
1627. Saini, Archana; Dua, Anish; Mohindra, Vindya (2009), 'Identification of Plastic and nonplastic characteristics in a population of giant river catfish *Sperata seenghala* (Sykes) at Harike wetland', *The Bioscan*, 4(4), pp 591-594.
1628. Saini, Archana; Dua, Anish; Mohindra, Vindhya (2010), 'Genetic variability analysis of giant river catfish, *Sperata*s s*eenghala* (Sykes) populations from Indus River System by RAPD-PCR', *Russian Journal of Genetics,* 46(8), pp 982-987.
1629. Sandhu, Sandeep Kaur; Chadha, Pooja (2012), 'Karyological studies of four species of grasshoppers from Gurdaspur district of Punjab, India', *Nucleus,* 55, pp 167-170.
1630. Sharma, Ashutosh; Thakur, Abhinay; Kaur, Sanehdeep; Pati, Partap Kumar (2012), 'Effect of *Alternaria alternata* on the coccinellid pest *Henosepilachna vigintioctopunctata* and its implications for biological pest management', *Journal of Pest Science,* 85, pp 513-518.
1631. Sharma, Ruchi; Sohal, Satwinder Kaur (2013), 'Exploration of Quercetin as a biopesticide against melon fruit fly, *Bactrocera cucurbitae* (Coquillett) (Diptera: Tephritidae), *Bulletin of Insectology,* 66(1), pp79-83.
1632. Sharma, Ruchi; Sohal, Satwinder Kaur (2013), 'Toxicity of gallic acid to melon fruit fly, *Bactrocera cucurbitae* (Coquillett) Diptera: Tephritidae), *Archives of phytopathology and plant protection* (DOI:10.1080/03235408.2013.783981).
1633. Singh, Bahadurjeet; Thakur, Abhinay; Kaur, Sanehdeep; Chadha, Bhupinder Singh; Kaur, Amarjeet (2012), 'Acetylcholinesterase inhibitory potential and insecticidal activity of an endophytic *Alternaria* sp. from *Ricinus communis'*, *Applied Biochemistry and Biotechnology,* 168, pp 991-1002
1634. Singh, Jaswinder; Kaur, Arvinder; Vig, Adarsh Pal; Jai Rup, Pushpinder (2010), 'Role of *Eisenia fetida* in rapid recycling of nutrients from biosludge of beverage industry', *Ecotoxicology and Environmental Saftely*, 73, pp 430-435.
1635. Singh, Jaswinder; Kaur, Arvinder; Vig, Adarsh Pal; JaiRup, Pushpinder (2011), 'Optimization of earthworm density for degradation time and physico-chemical properties of distillery waste', *Waste Management,* (Special issue), pp 484-490.
1636. Singh, Jaswinder; Kaur, Arvinder (2013), 'Vermidegradation for faster remediation of chemical sludge and spent carbon generated by soft drink industries', *Journal of Environmental Science and Sustainability,* 1 (1), pp 13-20.
1637. Singh, Paramjit; Kaur, Sanehdeep; Kumar, Vijay; Singh, Harsharan; Brar, Dulcha Singh (2008), 'Estimation of yield losses in wheat due to

wheat aphids at different population levels', *Journal of Insect Science*, 21(2), pp 194-196.

1638. Singh, Zorawar; Chadha, Pooja; Sharma, Suman (2013), 'Evaluation of oxidative stress and genotoxicity in battery manufacturing workers occupationally exposed to lead' , *Toxicology International,* 20(1), pp 95-100.
1639. Singh, Zorawar; Chadha, Pooja (2013), 'Genotoxic effect of fibre dust among textile industry workers', *Journal of Environmental Science and Sustainability*, 1(3), pp 81-84.
1640. Sohal, Satwinder Kaur; Jai Rup, Pushpinder; Sehgal, Ritu; Kaur, Sukhraj (2008), 'Activity of eleven enzymes in nymphs of *Lipaphis erysimi* as affected by 2,4-D (Herbicide) treatment', *Bulletin of insectology,* 61(2), pp 239-244.
1641. Sohal, Satwinder Kaur; Sharma, Ruchi (2011), 'Bioactivity of Pyrogallol (a phenolic compound) against melon fruit fly, *Bactrocera cucurbitae* (Coquillett) (Tephritidae: Diptera)', *Phytoparasitica,* 39, pp 361-367.
1642. Thakur, Abhinay; Kaur, Sanehdeep; Kaur, Amarjeet; Singh, Varinder (2012), 'Detrimental effects of endophytic fungus *Nigrospora* sp. on survival and development of *Spodoptera litura', Biocontrol Science and Technology,* 22 (2), pp 151-161.
1643. Thakur, Abhinay; Kaur, Tamanreet; Singh, Bahadurjeet; Kaur, Sanehdeep; Kaur, Amarjeet (2012), 'Insecticidal activity of fungal endophyte of *Acacia Arabica* (Fabales: Fabaceae) against *Spodoptera litura* (Fabricius)', *Crop Improvement* (Special issue), pp 875-876.
1644. Thakur, Abhinay; Singh, Varinder; Kaur, Amarjeet; Kaur, Sanehdeep (2013), 'Insecticidal potential of an endophytic fungus, *Cladosporium uredinicola*, against *Spodoptera litura'*, *Phytoparasitica*, 41, pp 373–382.
1645. Thakur, Abhinay; Kaur, Sanehdeep; Singh, Varinder; Kaur, Amarjeet (2013), **'**Enhanced Resistance to *Spodoptera litura* in Endophyte Infected Cauliflower Plants' *Environmental Entomology*, 42(2), pp 240-246.

FACULTY OF PHYSICAL PLANNING AND ARCHITECTURE

Architecture

1646. Chahal, K.S.; Dua, Sandeep (2010), "A Study on the Various Art Forms Found In Historic Sikh Shrines", *IUP Journal of Architecture,* Vol. II, No. 2, pp 66-81.
1647. Chahal, K.S.; Aulakh, R.S. (2010), "Impact of Courtyard Planning on Architectural Design", *IE (I) Journal-AR*, Vol. 91, October 2010, pp 12-16

1648. Chahal, K.S.; Dua, Sandeep (2010), "Rainwater Harvesting: Importance and Techniques", *Journal of the Indian Institute of Architects*, Vol. 75, issue 10, October. pp 7-12
1649. Chahal, K. S.; Aulakh, R. S. (2010), "Structural Behaviour of Masonry Cast in Nanakshahi Brick " NJCM, Vol. 25, No. 4, Oct-Dec, pp 70-77.
1650. Chahal, K.S.; Dua, Sandeep (2011), "Green construction: A Necessity" at an International Conference on 'Rapid Advances in Sustainable Architecture –RASA 2011' held at Apeejay College of Fine Arts Jalandhar on August 26-27, 2011.
1651. Chahal K.S.; Dua, Sandeep; Singh, Sulakhan (2012), "Architectural evolution of Gurudwara : An Overview" *The IUP Journal of Architecture*, Vol. IV(1), pp 7-32
1652. Chahal, K.S.; Dua, Sandeep (2012), "Architectural Evolution of Gurudwaras: An Overview', *The IUP Journal of Architecture*, February .
1653. Chahal, K.S.; Dua, Sandeep (2012), "Passive Solar Concepts for Energy Efficient Building Design", published in the proceedings of a National Conference on "Energy Efficient Design of Buildings: Seeking Cost Effective Solutions" organized by Department of Architecture, D.C.R. University of Science and Technology Murthal, India on February 6-7, 2012.
1654. Chhabra, Pankaj (2011), 'Role of Construction Industry towards Sustainable Development', Descriptio, *An International Journal of Design*, 1(1), pp 20-26.
1655. Chhabra, Pankaj (2011), 'The Contemporary Concerns in Residential Architecture', International Conference on "Contemporary Architecture-beyond Corbusierism", Chandigarh, October, pp 346-353.
1656. Chhabra, Pankaj (2012), 'Urban Conservation: From Concepts to Implementation', *Journal of Architecture*, 2(1), December, pp 06-10.
1657. Chhabra, Pankaj (2012), 'Inclusive Planning: An approach towards sustainable urban development', *Journal of Architecture*, 1(2), June, pp 01-07.
1658. Dua, Sandeep; Chahal, K.S. (2010), "Making Open Spaces Sustainable" published and presented at an International Conference on 'Urbanism And Green Architecture" organized jointly by Department of Architecture, National Institute of Technology, Hamirpur (HP) and The Indian Institute of Architects (Chandigarh-Punjab Chapter), Chandigarh on October 30-31, 2010.
1659. Dua, Sandeep; Najamuddin, Jain R.K. (2011), 'Integration of Urban Form And Architecture Through Geometrical Systems In Indian Context' *The IUP Journal of Architecture*, August.
1660. Dua, Sandeep; Chahal K.S. (2012), "Sustainable Approach Towards Urban Identity of Medieval Cities: A Case Study of Amritsar", *Abacus,* 7, No. 1, Spring. pp 93-99.

1661. Singh, Kuldip; Dua, Sandeep (2012), "Influence of Spatial Attributes on Residential Location Choice by Households in a City", *Nagarlok*, Vol. XLIV, No. 2, April-June 2012.
1662. Singh, Kuldip; Dua, Sandeep (2012), "Socio-economic and Demographic Characteristics of Households and Choice of Residential Location in a City", *Spatio-Economic Development Record*, Vol. 19 No. 5 September- October.

Guru Ramdas School of Planning

1663. Dagnew, B,; Kiran Sandhu, K. (2012), 'Quality of Life Assessment in Road Traffic Accidents, The Case of Addis Ababa', in Samson, K, Van Dijk, M. P. and Bongwa,A (eds.), Cities as Engines of Growth and Transformation in Ethiopia, Addis Ababa: Lesan Press,p 80-88, ISBN No. 987-9994-834-8-8.
1664. Johari, Gopal Kumar (2008), "E governance-A tool for managing Cities", *Journal of Local Self Government*, pp 28-35
1665. Johari, Gopal Kumar; Kaur, Gursharan Jeet (2008), "Fire Safety in High Rise Building" *The Journal of Indian Building Congress,* 15(1), pp 227-232.
1666. Johari, Gopal Kumar; Sikka, Anu (2008*),* "Sustainability of Tall buildings", *The Journal of Indian Building Congress,* 15(1), pp 36-40.
1667. Johari, Gopal Kumar; Kaur, Gursharan Jeet (2008), "Managing Urban Infrastructure : Public Private Partnership" Technical Paper in XXXVI IAHS World Congress on Housing Science- National Housing Programmes-New Visions, Kolkatta, November, pp.73-75
1668. Johari, Gopal Kumar; Sikka, Anu (2009), "Preventing Environment Deterioration of a Planned City – Chandigarh" Technical Paper in *Seminar on Environment Protection in Building Industry, Indian Building Congress,* Nagpur, 16(1), pp 58-64.
1669. Johari, Gopal Kumar; Kaur, Gursharan Jeet (2010), "Tourism in India", *Journal of Tourism, Hospitality & Culinary Arts,* 2(2), pp 1-10. ISBN: 1985-8914
1670. Kaur, Gursharan (2012), "Urban Land Development in Punjab – Some Issues", *Local Government Quarterly*, July – September, pp 28 -43
1671. Kaur, Gursharan (2012*),* "Issues related to Residential Areas Development in Amritsar City – A Comparative Analysis", *Local Government Quarterly,* October – December, pp 31-38
1672. Luthra, Ashwani (2008), "Developmental Issues in Peri-Urban Areas of Punjab", *Local Government Quarterly,* 77(2), April-June, pp. 5-16.
1673. Luthra, Ashwani; Mehra, Gaurav (2009), "Land Value Determination Model for Amritsar in India", *Sri Lankan Journal of Real Estate*, 2, January, pp 17-32.
1674. Luthra, Ashwani (2011), "*Transportation Strategies for Green Cities",* Green Cities: Design, Planning and Management, MACMILLAN Publishers India, Ltd., New Delhi, pp. 329-340.

1675. Luthra, Ashwani; Sastri, N. N. (2012), "Relationship between Spatial Separation Accessibility Approaches: A Case of Amritsar City", *Spatio-Economic Development Record*, New Delhi, 19(4), July-August, pp. 89-95.
1676. Luthra, Ashwani; Sastri, N. N. (2012), "Accessibility as a Measure to Urban Population Density Structure: A Case of Amritsar City", *ITPI Journal*, 9(4), October-December, pp. 91-104.
1677. Sahni, Sakshi; Raghuram, G. (2012), 'Factors affecting non aeronautical sources of revenue with focus on Brown field Airport Privatization' in 'Aviation Monograph', Public Systems Group , Indian Institute of Management , Ahmedabad , PSG Monograph pp 74.
1678. Sandhu, K. (2008), "Growth Dynamics and Challenges in an Infant Metropolis; The Case of Amritsar City", *Sri Lankan Journal of Real Estate,* (1), pp. 49-64.
1679. Sandhu, K.; Dhillon, G. S. (2008), 'Roads or Death Traps? Impacts and quality of life outcomes of road traffic accidents', *Indian Highways Journal,* pp 65-72.
1680. Sandhu, K. (2008), 'Environment Concerns and Human Rights Interface in a Globalizing World', *Spatio-Economic Development Record,* 15(3), pp 20-29.
1681. Sandhu, K.; Ariyawansa, R. (2009), 'Housing Stock Generation for the Urban Poor in the Informal Sector; Pragmatic Insights', *Spatio Economic Development Record,* 16 (5) September, pp 22-27.
1682. Sandhu, K. (2009), *'Poverty and Deprivation amongst the Ragpickers of Amritsar City: Pragmatic Insights*, in Sandhu R.S., Sandhu, J, Arora, B (eds.) Urban Poverty in Developing Countries, Issues and Strategies for Sustainable Cities, New Delhi, Bookwell Publications, pp 225- 243, ISBN No. 978-81-89640-85-9.
1683. Sandhu, K. (2009), 'Access to Land by the Urban Poor in Cities of the Developing World; Exploring Recourses', *Sri Lankan Journal of Real Estate,* (2), January, pp 1-15.
1684. Sandhu, K.; Gill, G.S. (2010), 'Impact of Neo-Liberal Paraphernalia on Amritsar City; Of Transformations and Transgressions', *Sri Lanka Journal of Real Estate,* (4), December, pp 1-17.
1685. Sandhu, K. (2010), 'Exploring Conjectural Perspectives of Evaluation as an Integral Part of the Project Cycle', *Indian Journal of Management,* 3(5), June, pp 3-11.
1686. Sandhu, K. (2011), "Mobility Hazard on Indian Roads, A Consequence of Inept Transport Management", *Indian Journal of Management,* 5(4), April, pp 39- 44.
1687. Sandhu, K. (2011), 'Public Private Partnerships in Infrastructure Development in a Liberalised Milieu; A Kaleidoscopic Account,' *International Strategic Management Review Journal.*
1688. Sekhon, B.S. (2008), '*Global Interventions in Poverty Eradication Programs- a Paradigm of Slum Mapping in Amritsar,*' in Published

Theory and Practice, Colloquium of RTPI delegates, Global Planners Network, Zhenjiang China.

1689. Sekhon, B.S. (2012*),* 'Usefulness of Planning in Globalizing Cities: Aspirations and Achievements,' *Journal of Institute of Town Planners*, India, Oct-Dec. pp 76-89.
1690. Sekhon, Bikramjit S (2013), '*Globalizing Cities and Challenges to Urban Local Bodies in Punjab'* in Jasmeet Sandhu and Gurpreet Bal (ed.) Urban Development and Governance, Issues Concerns and Challenges, Rawat.
1691. Sharma, Sunanda (2012), "Peri Urban Area – The Development and Issues', *Local Government Quarterly,* LXXXII(2), Apr-June, pp 37-47.
1692. Singh, Balvinder (2011), 'Tangible & Intangible Heritage of The Sikhs: Need for its Documentation and Conservation', *Guru Nanak Journal of Sociology,* 32 (1&2), pp 123-136.
1693. Singh, Balvinder (2011), 'Analysis of Historical Areas, Structures, Lifestyles and Values: A Case of Amritsar', *Journal of the Institute of Town Planners,* 8(4) October- December, pp 67-75.
1694. Singh, Balvinder (2012), *'Tangible and Intangible Heritage of the Walled Cities of Amritsar and Lahore: Need for an Integrated Conservation Approach'* in Parvaiz Vandal (ed.) Portrait of Lahore, Lahore Pakistan: THAAP Publications p 77-96. ISBN No. 978-969-9359-07-1.
1695. Singh, Balvinder (2012), 'Redevelopment and Conservation: The Case of Amritsar', 'Context Built, Living and Natural', *A Journal of the Development and Research Organization for Nature, Arts and Heritage,* X (1), pp 35-42.
1696. Singh, Balvinder (2012), 'Tangible and Intangible Heritage of the Walled Cities of Amritsar and Lahore: Need for an Integrated Conservation Approach', *SPACE: The SPA Journal of Planning and Architecture*, 16(2), pp 38-59.
1697. Singh, Kuldip; Dua, Sandeep (2012), 'Influence of Spatial Attributes on Residential Location Choice by Households in a City', *Nagarlok,* Vol. XLIV(2), April-June, pp 36-44.
1698. Singh, Kuldip; Dua, Sandeep (2012), 'Socio-economic and Demographic Characteristics of Households and Choice of Residential Location in a City', *Spatio-economic Development Record,* 19(5), September-October, pp 128-133.
1699. Singla, R.; Kumar, Sandeep (2012), "Authorised and Unauthorised Private Sector Development in Punjab: An Overview", *Spatio-economic Development Record,* pp 42-47
1700. Singla, R. (2011), "Urbanisation, Planning Legislation and Planned Development in Punjab", *Spatio-economic Development Record,* 18(3), May-June, pp 77-80

1701. Singla, R. (2011), "Built Environment in Ludhiana – Issues & Options", *Journal of the Institute of Town Planners,* 8(4), Oct-Dec., pp 90-95
1702. Singla, R. (2012), "Changing Environment of Ludhiana Metropolis : Issues & Mitigation Measures", *Nagarlok,* Vol. XLIV No. 1, January - March, pp 28-39
1703. Singla, R. and S. Kumar, (2012), "Authorised and Unauthorised Private Sector Development in Punjab: An Overview", *Spatio-economic Development Record,* 19(2), March-April, pp 42-47.
1704. Singla, R. (2012), "Role of Development Schemes in Punjab: Issues & Strategies", *Local Government Quarterly,* Vol. LXXXII No. 2, April-June, pp 28-36
1705. Singla, R. (2012), "Master Planning of Cities in Punjab*", Journal of the Institute of Town Planners,* 9(3), July-September, pp 93-100
1706. Singla, R. (2012), "Scenario of Housing in Punjab - Case of Amritsar", *Local Government Quarterly,* Vol. LXXXII No. 4, Oct.-Dec., pp 39-44.

FACULTY OF SCIENCES

Chemistry

1707. Aggarwal, Rajni; Singh, Sukhprit; Hundal, Geeta (2013), 'Synthesis, characterization and evaluation of cyclohexanoxy carbonyl methyl pyridinium and imidazolium ionic liquids', *Indust. & Eng. Chem. Res.,* 52, 1179-1189.
1708. Ajayakumar, M.R.; Hundal, Geeta; Mukhopadhyay, Pritam (2013), 'A Tetrastable Naphthalenediimide: Anion Induced Charge Transfer, Single and Double Electron Transfer for Combinational Logic Gates', *Chem. Comm.* 49, 7684-7686, selected as inner cover article
1709. Ali, Afsar; Hundal, Geeta; Gupta, Rajeev (2012), 'Co^{3+}–based Building Blocks with Appended Phenol and Catechol Groups: Examples of Placing H–bond Donors and Acceptors in a Single Molecule', *Crystal Growth & Design*, 12, 1308-1319.
1710. Anand, Amit; Bhargava, Gaurav; Kumar, Vipan; Mahajan, Mohinder P. (2010), 'A regio and diastereoselective transformation of 3-dienyl-2-azetidinones to novel pyrroloxazine', *Tetrahedron Lett.*, *51*, 2312.
1711. Anand, Amit; Singh, Pardeep; Mehra, Vishu; Amandeep, Kumar, Vipan; Mahajan, Mohinder P. (2012), 'Tandem Michael addition-Fries rearrangement of sorbylanilides: A convenient one pot synthesis of novel benzo[b]azocin-6-ones', *Tetrahedron Letters*, 53, 2417.
1712. Anand, Amit; Singh, Pardeep; Kumar, Vipan; Singh, Parvesh; Bisetty, Krishna; Mahajan, Mohinder P. (2012), 'Diastereoselective nitroso Diels-Alder cycloaddition reactions of 3-dienyl-2-azetidinones with nitrosoarenes', *Letters in Org. Chem.*, 9, 411-421.

1713. Anand, Amit; Mehra, Vishu; Kumar, Vipan (2013), 'Triflic acid mediated Fries rearrangement of 3-dienyl-2-azetidinones: Facile synthesis of 3-(but-2-enylidene)-quinolin-4(3*H*)-ones', *SYNLETT*, *24*, 865-867.
1714. Babu, J.N.; Bhalla, V.; Kumar, M.; Mahajan, R.K.; Puri, R.K. (2008), 'A chloride selective sensor based on a calix[4]arene possessing a urea moiety'. *Tetrahedron Letters, 49*, 2772.
1715. Babu, J. N.; Bhalla, V.; Kumar, M.; Puri, R. K.; Mahajan, R. K. (2009), 'Chloride ion recognition using thiourea/urea based receptors incorporated into 1,3-disubstituted calix[4]arenes', *New Journal of Chemistry*, 33, 675.
1716. Bajaj, L; Chawla, HM; Kumar, S; Hundal, G.; Hundal M.S. (2013), 'Synthesis and Crystal Structure of p-acylated calix[4]arene ethers', *J. Incl. Phen. Macro. Chem*. In Press.
1717. Bakshi, M. S.; Thakur, P.; Kaur, G.; Kaur, H.; Banipal, T. S.; Possmayer, F.; Petersen, N. O. (2009), 'Stabilization of PbS Nanocrystals by Bovine Serum Albumin in its Native and Denatured States', *Adv. Funct. Mater.*, *19*, 1.
1718. Bakshi, M.S.; Jaswal, V.S.; Kaur, G.; Simpson, T.W.; Banipal, P.K.; Banipal, T. S.; Possmayer, F.; Petersen, N.O. (2009), 'Biomineralization of BSA-Chalcogenide Bioconjugate Nano- and Microcrystals', *J. Phys. Chem. C*, *113*, 9121.
1719. Bakshi, Mandeep Singh; Kaur, Harpreet; Banipal, Tarlok Singh; Singh, Narpinder; Kaur, Gurinder (2010), 'Biomineralization of Gold Nanoparticles by Lysozyme and Cytochrome c and Their Applications in the Protein Film Formation', *Langmuir.*, *26*, 13535.
1720. Bakshi, Mandeep Singh; Kaur, Harpreet; Khullar, Poonam; Banipal, Tarlok Singh; Kaur, Gurinder; Singh, Narpinder (2011), 'Protein Films of Bovine Serum Albumen Conjugated Gold Nanoparticles: A Synthetic Route from Bioconjugated Nanoparticles to Biodegradable Protein Films', *J. Phys. Chem. C, 115*, 2982.
1721. Bala, Neeraj; Chimni, S.S.; Saini, H.S.; Chadha, B.S (2010), 'Bacillus alcalophilus MTCC10234 catalyzed enantioselective kinetic resolution of aryl glycidyl ethers', *J. Mol. Catalysis B: Enzymatic*., *63*, 128.
1722. Bala, Neeraj; Kaur, K; Chimni, S S; Saini, H S; Kanwar, S S (2011), 'Bioresolution of Benzyl Glycidyl Ether Using Whole Cells of *Bacillus alcalophilus*'. *J. Basic Microbiology*, *52*, 383.
1723. Bala, R.; N. Kaur, J. Kim (2011), 'The first complex of azidopentaamminecobalt(III) containing organic anion: synthesis, characterization and X-ray structure determination of azidopentaamminecobalt(III) *p*-nitrobenzoate dihydrate', *J. Mol. Struct.,* 1003, 47-51
1724. Banipal, P. K.; Singh, Vickramjeet; Kaur, Gurpreet; Kaur, Mandeep; Banipal, T. S. (2008), 'Thermodynamic and transport properties of

some disaccharides in aqueous ammonium sulphate solutions at various temperatures'. *J. Chem. Eng. Data, 53*, 1713.

1725. Banipal, P.K.; Dhanjun, H. Singh; Sharma, S.; Hundal, H.; Banipal, T.S. (2008), 'Effect of sodium sulphate on the volumetric, rheological and refractometric properties of some disaccharides in aqueous solutions at different temperatures'. *Z. Phys. Chem.*, *222,* 1.
1726. Banipal, P.K.; Arora, J.; Singh, M.; Banipal, T.S. (2008), 'Thermodynamic investigations on binary solutions consisting of N,N-dimethyl formamide and 1-Alkanols at 303.15K'. *Natl. Acad. Sci. India, Allahabad*, *78*, 309.
1727. Banipal, P.K., Chahal, Amanpreet K.; Banipal, T. S. (2009), 'Studies on Volumetric Properties of Some Saccharides in Aqueous Potassium Chloride Solutions over Temperature Range (288.15 to 318.15) K', *J. Chem. Thermodyn*., *41*, 452
1728. Banipal, P.K.; Chahal, A.K.; Banipal, T.S. (2009), 'Studies on volumetric properties of some saccharides in aqueous potassium chloride solutions over temperature range (288.15 to 318.15 K)', *J. Chem. Thermodynamics, 41*, 452.
1729. Banipal, P. K.; Singh, Vickramjeet; Chahal nee Hundal, Amanpreet K.; Banipal, Tarlok S. (2011), 'Effect of sodium acetate on the rheological behaviour of some mono-, di- and tri-saccharides in aqueous solutions over temperature range (288.15 to 318.15K)', *J. Chem. Thermodynamics, 43*, 290
1730. Banipal, P.K.; Hundal, A.K. (2012), 'Viscometric Studies on Saccharides in Aqueous Magnesium Chloride Solutions at *T* = (288.15 to 318.15) K.', *J. Chem. Thermodyn., 51*, 70.
1731. Banipal, P.K.; Singh, Vikramjeet; Banipal, T.S; Singh, Harpreet (2013), 'Ultrasonic studies of some mono-, Di-, and Tri saccharides in aqueous sodium acetate solutions at different temperatures', *Z. Phys .Chem*, (accepted)
1732. Banipal, T.S.; Singh, Kultar; Banipal, P.K.; Singh, Pardeep; Singh, Gurpreet; Patyar, Poonam (2008), 'Volumetric and Viscometric Studies of Some Metal Acetates in Aqueous Solutions at T=(288.15 to 318.15)K'., *J. Chem. Eng. Data*, 53, 2758.
1733. Banipal, T.S., D. Kaur, Banipal, P.K.; Singh, Gagandeep (2008), 'Interactions of Some Peptides with Sodium Acetate and Magnesium Acetate in Aqueous Solutions at 298.15K'; A Volumetric Approach., *Journal of Molecular Liquids*, *40*, 54
1734. Banipal, T. S.; Singh, Kultar; Banipal, P.K.; Kaur, Jasbir (2008), 'Study of interactions of L-aspartic acid and L-glutamic acid with some metal acetates through volumetric behaviour over the temperature range (288.15 to 318.15 K)'. *J. Chem. Thermodyn.,* 40, 1166.
1735. Banipal, T.S.; Kaur, Jasbir; Banipal, P.K.; Singh, Kultar (2008), 'Study of interactions between amino acids and zinc chloride in aqueous

solutions through volumetric measurements at T = (298.15 to 318.15 K)', *J. Chem. Eng. Data*, *53*, 1803.
1736. Banipal, T.S.; Singh, Harpreet; Banipal, Parampaul K. (2010), 'Volumetric and Viscometric Properties of Some Sulpha Drugs in Aqueous Solutions of Sodium Chloride at T = (288.15 to 318.15 K)', *J. Chem. Eng. Data., 55, 3872.*
1737. Banipal, T. S.; Sood, Ashwani Kumar; Singh, Kultar (2011), 'Micellization Behavior of the 14-2-14 Gemini Surfactant with Some Conventional Surfactants at Different Temperatures', *J Surfact Deterg., 14*, 235.
1738. Banipal, T.S.; Sood, A.K.; Kaur, Jaswinder; Singh, Kultar (2011), 'Mixed Micellization Behavior of 12-2-12 Gemini Surfactant with Some Alkyltrimetyl Ammonium Bromide Surfactants', *J. Dispersion Science and Technology, 32*, 881.
1739. Banipal, T.S.; Kaur, J.; Banipal, P.K.; Sood, A.K.; Singh, Kultar (2011), 'Volumetric and Viscometric Studies of Some Amino Acids in Aqueous Solutions of Cadmium Chloride at T = (288.15 to 318.15) K and at Atmospheric Pressure', *J. Chem. Eng. Data*, *56*, 2751
1740. Banipal, T. S.; Kaur, Jasbir; Banipal, Parampaul K. (2012), 'Interactions of some amino acids with aqueous manganese chloride tetrahydrate at T (288.15 to 318.15) K: A volumetric and viscometric approach', *J. Chem. Thermodynamics, 48*, 181
1741. Banipal, T.S.; Singh, Harpreet; Banipal, P.K.; Singh, Vikramjeet (2013), 'Volumetric and viscometric studies on L-ascorbic acid, Nicotinic acid, Thiamine Hydrochloride and pyridoxine Hydrochloride in water at temperatures (288.15-318.15K) and at atmospheric pressure', *Thermochemica Acta*, 553, 31.
1742. Bari, S. S.; Reshma, Bhalla, Aman; Hundal, Geeta (2009), 'Stereoselective synthesis and Lewis acid mediated functionalization of novel 3-methylthio-β-lactams', *Tetrahedron, 65*, 10060.
1743. Bari, S.S; Bhalla, Aman; Reshma; Hundal, Geeta (2013), 'Facile synthesis of novel bicyclic β-lactams: analogues of C-fused penicillin type ring systems', *Tet. Letters*, 54, 483–486.
1744. Bari, S. S.; Bhalla, Aman; Reshma; Hundal, Geeta (2013), 'Facile synthesis of novel bicyclic β-lactams: analogues of C-fused penicillin type ring systems', *Tet. Letters*, 54, 483–486.
1745. Baul, T. S. B.; Paul, A.; Pellerito, L.; Scopelliti, M.; Singh, Palwinder; Verma, Pooja; Duthie, A.; D. de Vos, Tiekink, E. R. T. (2010), 'Dibutyltin (IV) complexes containing arylazobenzoate ligands: chemistry, in-vitro cytotoxicity effects on human tumor cell lines and mode of interaction with some enzymes', *Invest. New Drugs* 28, 587-599.
1746. Baul, T. S. B.; Paul, A.; Pellerito, L.; Scopelliti, M.; Pellerito, C.; Singh, Palwinder; Verma, Pooja; Duthie, A; D. de Vos, Verma, R. P.; Englert, U. (2010), 'Molecular basis of the interaction of novel

tributyltin(IV) 2/4-[(E)-2-(aryl)-1-diazenyl]benzoates endowed with an improved cytotoxic profile: Synthesis, structure, biological efficacy and QSAR studies', *J. Inorg. Biochem.*, *104*, 950.

1747. Baul, Tushar S. Basu; Verma, Pooja; Singh, Palwinder (2011), 'Molecular docking of dichlorodiorgano [N-(2-pyridylmethylene) arylamine]tin(IV) complexes with some enzymes', *J. Comput. Method. Mol. Design,* 1, 11-23.
1748. Bhadani, Avinash; Singh, Sukhprit (2009), 'Novel Gemini Pyridinium Surfactants: Synthesis and study of their Surface activity, DNA binding and Cytotoxicity', *Langmuir*, *25*, 11703.
1749. Bhadani, Avinash; Kataria, Hardeep; Singh, Sukhprit (2011), 'Synthesis, characterization and comparative evaluation of phenoxy ring containing long chain gemini imidazolium and pyridinium amphiphiles', *J. Colloid Interface Sci., 361*, 33
1750. Bhadani, Avinash; Singh, Sukhprit (2011), 'Synthesis and Properties of Thioether Spacer Containing Gemini Imidazolium Surfactants', *Langmuir, 27*, 14033.
1751. Bhadani, Avinash; Singh, Sukhprit; Kamboj, Raman; Chauhan, Vinay (2013), 'Synthesis and self aggregation properties of ester-functionalized heterocyclic pyrrolidinium surfactants', *Colloid Polym Sc*i, 291, 2289-2297.
1752. Bhalla, Vandana; Tejpal, Ruchi; Kumar, Manoj and Sethi, Amandeep (2009), 'Terphenyl Derivatives as 'Turn On' Fluorescent Sensors for Mercury', *Inorg. Chem*., *48*, 11677.
1753. Bhalla, V.; Tejpal, R.; Kumar, M.; Puri, R. K. and Mahajan, R. K. (2009), 'Terphenyl based "Turn On" fluorescent sensor for mercury', *Tetrahedron Letters*, 50, 2649.
1754. Bhalla, Vandana; Tejpal, Ruchi; Kumar, Manoj (2010), 'Rhodamine appended terphenyl: A reversible "Off-On" fluorescent chemosensor for mercury ions', *Sensors and Actuators-B.*, *B151*, 180.
1755. Bhalla, Vandana; Tejpal, Ruchi; Kumar, Manoj (2011), 'Terphenyl based fluorescent chemosensor for Cu^{2+} and F^- ions employing excited state intramolecular proton transfer', *Tetrahedron, 67*, 1266.
1756. Bhalla, Vandana; Singh, Hardev; Kumar, Manoj (2011), 'Triazole Modified Triphenylene Derivative: Self-assembly and Sensing Applications', *Langmuir,* 27, 15275
1757. Bhalla, Vandana; Roopa, Gupta, Ankush; Dhir, Abhimanew; Kumar, Manoj (2011), 'A Pentaquinone Based 4-2 Bit Photonic Encoder'., *Dalton Trans.,* 40, 5176.
1758. Bhalla, Vandana; Tejpal, Ruchi; Kumar, Manoj (2011), 'Terphenyl based fluorescent chemosensor for Cu^{2+} and F^- ions employing excited state intramolecular proton transfer'., *Tetrahedron, 67*, 1266.
1759. Bhalla, Vandana; Gupta, Ankush; Roopa, Singh, Hardev; Kumar, Manoj (2011), 'Fluoride Induced Cyclization of Pentacenequinone to Higher Quinones'., *J. Org. Chem.*, 76, 1578.

1760. Bhalla, Vandana; Arora, Harshveer; Dhir, Abhimanew; Kumar, Manoj (2011), 'Triphenylene Based Zinc Ensemble as Oxidation Inhibitor', *Chem. Commun.*, 48, 4722.
1761. Bhalla, Vandana; Vij, Varun; Kumar, Manoj; Sharma, Parduman; Kaur, Tandeep (2012), 'Recognition of AMP and $H_2PO_4^-$ using Zinc Ensemble of New Hexaphenylbenzene Derivative: Potential Bio-probe and Multichannel Keypad System' *Organic Letters,* 14, 1012.
1762. Bhalla, Vandana; Roopa, Kumar, Manoj; Sharma, Parduman Raj; Kaur, Tandeep (2012), 'New Fluorogenic Sensors for Hg^{2+} Ions: Through Bond Energy Transfer from Pentaquinone to Rhodamine', *Inorganic Chemistry,* 51, 2150.
1763. Bhalla, Vandana; Tejpal, Ruchi; Kumar, Manoj (2012), 'Terphenyl-phenanthroline conjugate as a Zn^{2+} sensor: $H_2PO_4^-$ induced tuning of emission wavelength', *Dalton Trans.,* 41, 10182.
1764. Bhalla, Vandana; Singh, Hardev; Kumar, Manoj (2012), 'Triphenylene to supertriphenylene: new chemodosimeter for fluoride ions', *Sensors and Actuator B: Chemical,* B 171-172, 1007.
1765. Bhalla, Vandana; Gupta, Ankush; Kumar, Manoj (2012), 'Fluorescent Nanoaggregates of Pentacenequinone Derivative for Selective Sensing of Picric acid in Aqueous Media', *Organic Letters, 14*, 3112 (Highlighted).
1766. Bhalla, Vandana; Roopa; Kumar, Manoj (2012), 'Fluoride Triggered Fluorescence "Turn On" Sensor for Zn^{2+} Ions based on Pentaquinone Scaffold that works as a Molecular Keypad Lock', *Organic Letters,* 14*,* 2802.
1767. Bhalla, Vandana; Tejpal, Ruchi; Kumar, Manoj (2012), 'New Terphenyl Based Mercury Ensemble for Detection of Acetate Ions in Plasma like System', *Dalton Trans.,* 41, 403.
1768. Bhalla, Vandana; Roopa; Kumar, Manoj; Sharma, Parduman; Kaur, Tandeep (2013), 'Hg^{2+} induced hydrolysis of pentaquinone based Schiff Base: A new chemodosimeter for Hg^{2+} ions in mixed aqueous media', *Dalton Trans.*, 42, 15063.
1769. Bhalla, Vandana; Singh, Gopal; Kumar, Manoj; Singh, Charan; Rawat, Madhu; Anand, R.S. (2013), 'Carbazole based linear conjugated molecules: structure property relationship and device properties'., *RSC Advances*, 3, 14722.
1770. Bhalla, Vandana; Roopa; Kumar, Manoj (2013), 'Pentaquinone based probe for relay recognition of F^- and Cu^{2+} ions: Sequential logic operations at molecular level', *Dalton Trans*., 42, 13390.
1771. Bhalla, Vandana; Chhabra, Sharanjit Kaur; Vij, Varun; Kumar, Manoj (2013), 'Mercury Modulated Supramolecular Assembly of Hexaphenylbenzene Derivative for Selective Detection of Picric Acid', *Inorganic Chemistry*, 52, 4860.
1772. Bhalla, Vandana; Gupta, Ankush; Kumar, Manoj (2013), 'Pentacenequinone derivative with aggregation-induced emission

enhancement characteristics for the picogram detection of Fe^{3+} ions in mixed aqueous media'. *Dalton Trans.*, 42, 4464.

1773. Bhalla, Vandana; Vij, Varun; Tejpal, Ruchi; Singh, Gopal; Kumar, Manoj (2013), 'Solvent Dependent Competition between Fluorescence Resonance Energy Transfer and Through Bond Energy Transfer in Rhodamine Appended Hexaphenylbenzene Derivatives for Sensing of Hg^{2+} Ions', *Dalton Trans.*, 42, 4456.
1774. Bhalla, Vandana; Gupta, Ankush; Kumar, Manoj; Rao, D.S. Shankar; Prasad, Krishna (2013), 'Self-assembled Pentacenequinone Derivative for Trace Detection of Picric Acid', *Appl. Mater. And Interface*, 5, 672.
1775. Bhalla, Vandana; Arora, Harshveer; Kumar, Manoj (2013), 'Aggregates of Triphenylene Based Chemosensing Ensemble for Sensitive Detection of Cyanide Ions in Aqueous Medium'. *Dalton Trans.* 42, 4450.
1776. Bhalla, Vandana; Pramanik, Subhamay; Kumar, Manoj (2013), 'Cyanide Modulated Fluorescent Supramolecular Assembly of Hexaphenylbenzene Derivative for Detection of Trinitrotoluene at Attogram Level', *Chem. Comm.*, 49, 877.
1777. Bhalla, Vandana; Gupta, Ankush; Kumar, Manoj (2013), 'Fe^{3+} - Ensemble of Triazole Appended Pentaquinone Derivative for "Turn-on" Detection of Fluoride Ions', *Talanta*, 105, 152.
1778. Bhalla, Vandana; Roopa; Kumar, Manoj (2013), 'Pentaquinone based probe for nanomolar detection of zinc ions: Chemosensing ensemble as an antioxidant', *Dalton Trans*., 42, 975.
1779. Bhalla, Vandana; Arora, Harshveer; Singh, Hardev; Kumar, Manoj (2013), 'Triphenylene Derivatives: Chemosensors for Sensitive Detection of Nitroaromatic Explosives', *Dalton Trans*. , 42, 969.
1780. Bhardwaj, Vimal K.; Singh, Narinder; Pannu, Ajay pal Singh; Hundal, Maninder Singh; Hundal, Geeta (2008), 'Synthesis of new tripodal receptors- a 'CHEF' based 'off-on' recognition of $Ag^{+'}$, *Tetrahedron*, *64*, 5384.
1781. Bhardwaj, Vimal K.; Hundal, Maninder Singh; Hundal, Geeta (2009), 'A tripodal receptor bearing catechol groups for the chromogenic sensing of F- ions via frozen proton transfer', *Tetrahedron.*, *65*, 8556.
1782. Bhardwaj, Vimal K.; Hundal, Maninder Singh; Hundal, Geeta (2009), 'A tripodal receptor bearing catechol groups for the chromogenic sensing of F- ions via frozen proton transfer'., *Tetrahedron*, *65*, 8556.
1783. Bhardwaj, Vimal K.; Aliaga-Alcalde, Núria; Corbella, Montserrat; Hundal, Geeta (2010), 'Synthesis, Crystal Structure, Spectral and Magnetic Studies and Catecholase Activity of copper(II) complexes with di- and tri-podal ligands', *Inorg. Chim. Acta*, *363*, 97.
1784. Bhardwaj, Vimal K.; Sharma, Sanyog; Singh, Narinder; Hundal, Geeta; Hundal, Maninder Singh (2011), 'New tripodal and dipodal colorimetric sensors for anions based upon tris/bis urea/thiourea moieties', *Supramolecular Chem., 23*,790-800.

1785. Bhardwaj, Vimal K.; Hundal, Maninder Singh; Corbella, Montserrat; Gómez, Verónica; Hundal, Geeta (2012), 'Salicylaldimine Schiff bases - generation of self-assembled and chiral complexes with Ni(II) and Zn(II) ions. An unusual antiferromagnetic interaction in a triply bridged Ni(II) dimer', *Polyhedron.,*38, 224.
1786. Bhardwaj, Vimal K.; Saluja, P.; Hundal, G.; Hundal, M.S.; Singh, N.; Jang, D.O. (2013), 'Benzthiazole-based multifunctional chemosensor: Fluorescent recognition of Fe^{3+} and chromogenic recognition of HSO_4', *Tetrahedron.*, 69 (5), 1606-1610.
1787. Bhella, Surinderjit Singh; Pannu, Ajay Pal Singh; Elango, Munusamy; Kapoor, Ashish; Hundal, Maninder Singh; Ishar, Mohan Paul S. (2009), 'Investigations on synthesis of indole based constrained mimetic scaffolds through 1,3 dipolar cycloadditions of the C-(3-indolyl)-N-phenylnitrone with a variety of olefinic and allenic dipolarophiles under microwave irradiation', *Tetrahedron.*, *65*, 5928.
1788. Chauhan, P.; Chimni, S S (2010), 'Asymmetric Addition of Indoles to Isatins Catalysed by Bifunctional Modified Cinchona Alkaloid Catalysts', *Chemistry: A Eur. Journal*., *16*, 7709.
1789. Chauhan, P.; Chimni, S.S.; (2011), 'Asymmetric Organocatalytic aza-Friedel-Crafts Reaction of Naphthols with N-Sulfonyl Imines', *European. J. Organic Chemistry,* 1636
1790. Chauhan, P.; Kaur, K.; Bala, N.; Kumar, V.; Chimni, S.S. (2011), 'Catalyst-free and Solventless Hantzsch Ester Mediated Reduction of Nitroolefins at Elevated Temperature', *Indian J. Chemistry*, *50B*, 304.
1791. Chauhan, P.; Chimni, S S (2011), 'Facile Construction of Vicinal Quaternary and Tertiary Stereocenters via Regio- and Stereoselective Organocatalytic Michael Addition to Nitrodienes'. *Adv. Synth. Catal.*, *353*, 3202-3212
1792. Chauhan, P.; Chimni, S.S. (2012), 'Grinding Assisted Asymmetric Organocatalysis: A Solvent-free Approach Towards the Construction of Vicinal Quaternary and Tertiary Stereocenters'. *Asian J. Org. Chem*. 1, 138-141.
1793. Chauhan, P.; Chimni, S.S. (2012), 'Recent advances in asymmetric organocatalytic conjugate addition of arenes and hetero-arenes', *RSC Advances,* 2, 6117
1794. Chauhan, P.; Chimni, S.S. (2012), 'Aromatic Hydroxyl Group - A Hydrogen Bonding Activator in Bifunctional Asymmetric Organocatalysis', *RSC Adv.,* 2, 737.
1795. Chauhan, P.; Chimni, Swapandeep Singh (2013), 'Organocatalytic asymmetric synthesis of 3-amino-2-oxindole derivatives bearing a tetra-substituted stereocenter' *Tetrahedron: Asymmetry*, 24(7), 343-356.
1796. Chauhan, P.; Kaur, Jasneet; Chimni, Swapandeep Singh (2013), 'Asymmetric organocatalytic addition reactions of maleimides. A

promising approach towards the synthesis of chiral succinimide derivatives' *Chemistry - An Asian Journal* 2013, 8(2), 328-346.
1797. Chauhan, P.; Singh, S. & Chimni, S. S. (2013), 'D-Camphor-10-sulfonic acid: A water compatible organocatalyst for Friedel-Crafts reaction of indoles with electron deficient olefins', *Indian J. Chemistry*., *52B*, 245-251.
1798. Chauhan, P.; Chimni, S. S. (2013), 'Organocatalytic Enantioselective Morita–Baylis–Hillman Reaction of Maleimides with Isatins'. *Asian J. Org. Chem*., *2*, 586-592.
1799. Chauhan, Vinay; Singh, Sukhprit; Bhadani, Avinash (2012), 'Synthesis, characterization and surface properties of long chain β-hydroxy- γ-alkyloxy-N-methylimidazolium surfactants', *Colloids and Surfaces A: Physicochemical and Engineering Aspects,* 395, 1.
1800. Chawla, J.; Mahajan, R.K. (2011), 'Cloud Point Studies of Tween and Glycol in the Presence of Salts', *Journal of Dispersion Science and Techn., 32*, 822
1801. Chimni, S. S.; Singh, Sarbjit; Mahajan, Dinesh; (2008), '(S)-prolinamide derivatives-water compatible organocatalysts for direct asymmetric aldol reaction', *Tetrahedron: Asymmetry*, *19*, 2276.
1802. Chimni, S. S.; Singh, Sarbjit; Kumar, Akshay (2009), 'pH of the reaction controls the stereoselectivity of organocatalyzed direct aldol reaction in water'., *Tetrahedron: Asymmetry, 20*, 1722.
1803. Chimni, S. S.; Bala, Neeraj; Dixit, V A; Bharatam, P V (2010), 'Thiourea catalyzed aminolysis of epoxides under solvent free conditions. Electronic control of regioselective ring opening', *Tetrahedron*, *66*, 3042.
1804. Chimni, S.S.; Kaur, K.; Bala, N. (2013), 'Highly enantioselective kinetic resolution of trans-2-(Phenylthio)cyclohexanol derivatives by immobilized *Candida antarctica* B lipase', *J. Molecular Catalysis B: Enzymatic, 96*, 67-74.
1805. Dhir, Abhimanew; Bhalla, Vandana; Kumar, Manoj (2008), 'Ratiometry of monomer/ excimer emissions of dipyrenyl thiacalix[4]arene for Cu^{2+} detection: a potential Cu^{2+} and K^{+} switched INHIBIT logic gate with NOT and YES logic functions'. *Tetrahedron Lett.*, *49*, 4227.
1806. Dhir, Abhimanew; Bhalla, Vandana; Kumar, Manoj (2008), 'Ratiometric sensing of Hg^{2+} based on calix [4] arene of partial cone conformation possessing a dansyl moiety', *Organic Letters*, 4891
1807. Dias, F. B.; Bourdakos, K. N.; Jankus, V.; Moss, K. C.; Kamtekar, K. T.; Bhalla, Vandana; Santos, J.; Bryce, M. R.; Monkman, A. P. (2013), 'Triplet harvesting with 100% efficiency by way of thermally activated delayed fluorescence in charge transfer OLED emitters', *Advanced Materials*, 25, 3707.
1808. Dong, Y.; Kim, T. H.; Kim, H. J.; Lee, M. H.; Lee., S. Y; Mahajan, R. K.; Kim, H.; Kim, J. S. (2009), 'Spectroscopic and electrochemical

studies of two distal diethyl ester azocalix[4]arene derivatives.', *Journal of Electroanalytical Chemistry*, 628, 119.

1809. Gupta, Manik; Randhawa, B.S. (2011), 'Mossbauer, magnetic and electric studies on mixed Rb-Zn ferrites prepared by solution combustion method', *Materials Chemistry and Physics, 130*, 513.
1810. Haridas, V.; Sadanandan, Sandhya; Hundal, Geeta; Suresh, Cherumattathu H. (2012), '1,3-phenyl linked urea-based receptors for anions and the facile cyclization to imidazolidinedione', *Tetrahedron Lett*., doi.org/10.1016/j.tetlet.2012.08.001
1811. Hazra, Dipak K.; Mukherjee, Monika; Kumar, Subodh (2009), 'Synthesis, crystal structure and DFT studies of 3,4-bis-(2-chloro-phenyl)-2-oxa-bicyclo [2.2.1] heptan-6-one'., *J. Mol. Struct.*, *920*, 114.
1812. Hundal, Geeta; Hwang, Young Kyu; Chang, Jong-San (2009), 'Isolation of Keggin anion via encapsulation by the macrocation: synthesis and X-ray crystal structure of a 3D polymeric complex $[\{Na_6(C_9H_5O_6)_3(H_2O)_{15}\}\{PW_{12}O_{40}\}]_\infty$ with a 'Ball-in-Bowl' type molecular structure', *Polyhedron, 28*, 2450.
1813. Jaswal, V.S.; Banipal, P.K.; Bakshi, M. S. (2011), 'Bovine Serum Albumin Driven Interfacial Growth of Selenium-Gold/Silver Hybrid Nanomaterials', *J. Nanosci. & Nanotech., 11*, 3824.
1814. Kamboj, Raman; Singh, Sukhprit; Bhadani, Avinash; Kataria, Hardeep; Kaur, Gurcharan (2012), 'Gemini Imidazolium Surfactants: Synthesis and Their Biophysiochemical Study', *Langmuir*, 28*,* 11969.
1815. Kamboj, Raman; Bhadani, Avinash; Singh, Sukhprit (2011), 'Synthesis of β-Amino Alcohols from Terminal Epoxy Fatty Acid Methyl Ester', *Ind. Eng. Chem. Res., 50*, 8379.
1816. Kanwar, Shamsher Singh; Sharma, Chanderkant; Verma, Madan Lal; Chauhan, Sandeep; Chimni, Singh, Swapandeep; Chauhan, Ghansham Singh; (2008), 'Short-chain ester synthesis by transesterification employing poly (MAc-co-DMA-cl-MBAm) hydrogel-bound lipase of Bacillus Coagulans MTCC-6375'. *J. Applied Polymer Science*, *109*, 1063.
1817. Kapoor, Pratibha; Pannu, Ajay Pal Singh; Sharma, Mukesh; Hundal, M. S. Kapoor, Ramesh; Corbella, Montserrat; Aliaga-Alcalde, Nuria (2010), 'Syntheses, X-ray crystal structure and magnetic studies of a new dinuclear Cu(II) complex, $[Cu_2(\mu\text{-}Cl)_2L_2Cl_2].2CH_3CN$, (L=N,N,N',N'- tetraisopropylpyridine-2,6-dicarboxamide)', *J. Mol. Struc.*, *981*, 40.
1818. Kapoor, Pratibha; Pannu, Ajay Pal Singh; Sharma, Mukesh; Hundal, Geeta; Hundal, M. S.; Kapoor, Ramesh (2010), 'Syntheses and structures of cobalt(II), nickel(II) and copper(II) complexes with N,N,N',N'-tetraalkylpyridine-2,6-dicarboxamides (O-daap) containing nitrate group as the counter ion'., *J. Coord. Chem*., *63*, 3635.
1819. Kapoor, Pratibha, Pannu, Ajay Pal Singh; Hundal, Geeta; Kapoor, Ramesh; Corbella, Montserrat; Aliaga-Alcalde, Núria; Hundal, M. S.

(2010), 'First report on a N,N'-diisoalkylisonicotinamide 1D coordination network containing linear trinuclear $[Co_3L_4Cl_6]$ units with mixed $Co^{II}(T_d)$-$Co^{II}(O_h)$-$Co^{II}(T_d)$ geometries: structure and magnetic properties', *Dalton Trans.*, *39*, 7951.

1820. Kapoor, Pratibha; Pannu, Ajay Pal Singh; Sharma, Mukesh; Hundal, Geeta; Kapoor, Ramesh; Hundal, Maninder Singh (2011), 'Syntheses and structures of cobalt(II), nickel(II) and copper(II) complexes with N,N,N',N'-tetraalkylpyridine-2,6-dicarboxamides (O-daap) containing nitrate group as the counter ion', *J. Coord. Chem., 64*, 256-271
1821. Kapoor, Pratibha; Pannu, Ajay Pal Singh; Rana, Love Karan; Kapoor, Ramesh; Hundal, Geeta; Hundal, Maninder Singh (2013), 'Synthesis and X-ray crystal structures of N,N,N′,N′-tetraalkylpyridine-2,6-dithiocarboxamides (*S*-dapt) coordination complexes of cobalt(II) and nickel(II) ions', *J. Coord. Chem*.
1822. Kapoor, Ramesh; Gupta, Anand; Venugopalan, Paloth; Pannu, Ajay Pal Singh; Hundal, Maninder Singh; Kapoor, Pratibha (2009), 'Structural studies of diorganotin(IV) sulfonates: The synthesis of $[(n\text{-}C_4H_9)_2Sn\{OSO_2C_6H_3(CH_3)_2\text{-}2,5\}_2]$ and $[(n\text{-}C_4H_9)_2Sn\{OSO_2R)_2 \cdot 2$(hexamethylphosphoric triamide)] [R=CH_3, *4*-$C_6H_4CH_3$, *2*,*5*-$C_6H_3(CH_3)_2$, *2*,*4*,*6*-$C_6H_2(CH_3)_3$] and crystal structures of $[(n\text{-}C_4H_9)_2Sn(\mu\text{-}OH)(OSO_2C_6H_3(CH_3)_2\text{-}2,5)]_2$ and $(n\text{-}C_4H_9)_2Sn\{OSO_2R)_2 \cdot 2$(hexamethylphosphoric triamide)] [R= *4*-$C_6H_4CH_3$, *2*,*5*-$C_6H_3(CH_3)_2$, *2*,*4*,*6*-$C_6H_2(CH_3)_3$]', *Journal of Organometallic Chemistry ,* 694, 623
1823. Kaur, Amanpreet; Hundal, Geeta; Hundal, Maninder Singh (2013), 'Spontaneous resolution upon crystallization of 3D, chiral inorganic networks assembled from achiral, polyoxometallate units and metal ions', *Crystal Growth & Design*, 13, 3996-400.
1824. Kaur, Amanpreet; Hundal, Geeta; Hundal, Maninder Singh (2013), 'Synthesis, characterization and crystal structure of 3-(1, 2, 3, 4-Tetrahydroquinazoline-2-yl)phenol-A ring-chain tautomerized 2-substituted 1, 2, 3, 4-tetrahydroquinazoline', *Mol. Cry. Liq. Cry.*, 115, 115-121.
1825. Kaur, D.; Kohli, Ruchi (2008), 'Intra and intermolecular hydrogen bonding in formohydroxamic Acid', *Int. J. Quantum Chem.*, *108*, 119.
1826. Kaur, D.; Sharma, Punita; Bharatam, P. V.; Kaur, Mandeep (2008), 'Understanding selenocysteine through conformational analysis, proton affinities, acidities and bond dissociation energies', *Int. J. Quantum Chem., 108*, 983.
1827. Kaur, D.; Kaur, Rupinder Preet (2008), 'A Theoretical Study on N-H Bond dissociation energies of oxo, thio and seleno carbamates and their N-protonated and N-deprotonated species'. *J. Mol. Structure (THEOCHEM*), *858*, 94.
1828. Kaur, D.; Kohli, Ruchi; Kaur, Rupinder Preet (2008), 'A comparative study on hydrogen bonding ability of Thioformohydroxamic acid and Formohydroxamic acid'. *J. Mol. Structure (THEOCHEM), 864*, 72.

1829. Kaur, D.; Kohli, Ruchi; Kaur, Rupinder Preet (2009), 'The role of isomerism and medium effects on stability of anions of formo and thioformohydroxamic acid,' *J. Mol. Structure (THEOCHEM)*., *911*, 30.
1830. Kaur, D.; Kaur, Rupinder Preet; Kohli, Ruchi (2009), 'Correlation between proton affinity and conjugation effects in carbamic acid and its higher chalcogenide analogs' *J. Mol. Structure (THEOCHEM)*., *913*, 90.
1831. Kaur, D.; Kaur, Rupinder Preet; Kohli, Ruchi (2009), 'Substituent Effect on N-H Bond Dissociation Enthalpies of Amines and Amides:' A theoretical Study.. *Int. J. Quantum Chem.*, *109*, 559.
1832. Kaur, D.; Khanna, Shweta; Kaur, Rupinder Preet (2010), 'The role of conjugative interactions in acidic and basic character of five membered aromatic heterocyclics', *J. Mol. Structure (THEOCHEM), 949*, 14.
1833. Kaur, D.; Sharma, Punita; Bharatam, P.V. (2010), 'Importance of selenium in antioxidant behavior of Ebselen; A theoretical study', *J. Mol. Structure (THEOCHEM), 939*, 118.
1834. Kaur, D.; Kohli, Ruchi (2010), 'Hydrogen Bond cooperativity in dimers of hydroxamic acids', *Int. J. Quantum Chemistry.*
1835. Kaur, D.; Kohli, Ruchi (2011), 'Hydrogen Bond cooperativity in dimers of hydroxamic acids', *Int. J. Quantum Chemistry,* 111, 2931.
1836. Kaur, D.; Khanna, Shweta (2011), 'Intermolecular hydrogen bonding interactions of furan, isoxazole and oxazole with water', *Computational and Theoretical Chemistry*, 71, 963.
1837. Kaur, D.; Sharma, Ritika; Aulakh, Darpandeep (2011), 'The hydrogen bond donor and acceptor ability of thioformic acid', *Struct. Chem., 22*, 1015
1838. Kaur, D.; Sharma, Ritika (2013), 'Quantum chemical investigation on the influence of aminosubstitution on proton affinity of oxazolidin-2-one', *Struct Chem* DOI: 10.1007/s11224-013-0228-y
1839. Kaur, Damanjit; Khanna, Shweta; Aulakh, Darpandeep (2013), 'The explicit interactions of five-membered saturated heterocyclics containing one and two heteroatoms with single water molecule', *Struct Chem*, 24, 357-367.
1840. Kaur, Damanjit; Aulakh, Darpandeep; Sharma, Ritika; Singh, Harpreet (2013), 'A computational investigation into the nature of hydrogen bonds involving divalent sulfur', *Journal of Sulfur Chemistry*, doi.ORG/10.1080/17415993.2012.736129.
1841. Kaur, Damanjit; Kohli, Ruchi (2013), 'Hydrogen bonding of formo- and thioformohydroxamic acid with methanethiol and methaneselenol as amino acid side chain groups', *Struct Chem*, DOI 10.1007/s11224-013-0309-y
1842. Kaur, Damanjit; Kaur, Rajinder; Khanna, Shweta (2013), 'Impacts of medium, substituents, and specific interactions with water on hydration of carbonyl compounds', *Struct Chem*, DOI 10.1007/s11224-013-0308-z

1843. Kaur, Harpreet; Singh, Jashanpreet; Gandotra, Karun; Randhawa, B.S. (2011), 'Synthesis and characterization of nanosized ferrites from the thermolysis of strontium and barium tris(succinato) ferrate (III) precursors', *J. Appl. Phys, 109*, 07B510
1844. Kaur, Inderpreet; Pratibha (2012), 'Acid treated Indian Rosewood Sawdust (Dalbergia Sissoo): An efficient Adsorbent for Methylene blue', *Journal of Industrial Research and Technology*, 3 (2), 58-66.
1845. Kaur, Inderpreet; Zhao, Xiaotao; Bryce, Martin R.; Schauer, Phil A.; Low, Paul J.; Kataky, Ritu (2013), 'Modification of electrode surfaces by self-assembled monolayers of thiol-terminated oligo(phenyleneethynylene)s', ChemPhysChem, 14, 431-440.
1846. Kaur, Jatinder; Singh, Palwinder (2011), 'ATP selective acridone based fluorescent probes for monitoring of metabolic events'. *Chem. Comm.,* 47, 4472.
1847. Kaur, Jatinder; Singh, Palwinder (2011), 'Acridine derivatives: a patent review (2009 -- 2010)'. *Expert Opin. Ther. Patents*, 21(4), 437-454.
1848. Kaur, Karamjeet; Mittal, Susheel K; SK, Ashok Kumar; Kumar, Ashwani; Kumar, Subodh (2013), "Viologen substituted anthrone derivatives for selective detection of cyanide Ions using voltammetry", *Analytical Methods,* 5, pp 5565-5571.
1849. Kaur, Kuljit; Kumar, Subodh (2010), '1-Aminoanthracene-9,10-dione based chromogenic molecular sensors: effect of nature and number of nitrogen atoms on metal ion sensing behaviour', *Tetrahedron, 66*, 6990.
1850. Kaur, Kuljit; Kumar, Subodh (2011), 'Dansyl-anthracene dyads for ratiometric fluorescence recognition of Cu^{2+}', *Dalton Transactions, 40*, 2451-2458.
1851. Kaur, Kuljit; Saini, Rajnish; Kumar, Ashwani; Luxami, Vijay; Kaur, Navneet; Singh, Prabhpreet; Kumar, Subodh (2012), 'Chemodosimeters: An approach for estimation of biologically relevant metal ions, anions and thiols', *Coord. Chem. Rev.*, 256, 1992.
1852. Kaur, Navneet; Kumar, Subodh (2008), 'Near-IR region Absorbing 1,4-Diaminoanthracene-9,10-dione motif based Ratiometric Chemosensors for Cu^{2+} *Tetrahedron, 64*, 3168
1853. Kaur, Navneet; Kumar, Subodh; (2008), 'A differential receptor for selective and quantitative multi-ion analysis of Co^{2+} and Ni^{2+}/Cu^{2+}', *Tetrahedron Lett*.,*49*, 5067.
1854. Kaur, Navneet; Kumar, Subodh; (2008), 'Near-IR region absorbing 1,4-diamino anthracene-9,10-dione motif based ratiometric chemosensors for $Cu^{2+'}$. *Tetrahedron, 49*, 4265
1855. Kaur, Navneet; Kumar, Subodh (2011), 'Insights into the photophysics, protonation and Cu^{2+} ion coordination behaviour of anthracene-9,10-dione based chemosensors', *Supramolecular Chemistry*, *23*, 768-777
1856. Kaur, Navneet; Kumar, Subodh (2011), 'Colorimetric metal ion sensors', *Tetrahedron*, *67*, 9233-9264.

1857. Kaur, Navneet; Kumar, Subodh (2012), 'Aminoanthraquinone-based chemosensors: colorimetric molecular logic mimicking molecular trafficking and a set–reset memorized device', *Dalton Trans.,* 41, 5217.
1858. Kaur, Paramjit; Kaur, Sandeep; Mahajan, Aman; Singh, Kamaljit; (2008), 'Highly selective colorimetric sensor for Zn^{2+} based on hetarylazo derivative', *Inorg. Chem. Commun*, *11*, 626.
1859. Kaur, Paramjit; Sarangal, Anjali; Kaur, Sandeep; (2008), 'Synthesis and characterization of the TCNQ derivatives of Ni(II) and Cu(II) complexes of pyrazole based ligands', *J. Coord. Chem, 61*, 3839.
1860. Kaur, Paramjit; Kaur, Sandeep; Singh, Kamaljit (2009), 'Colorimetric detection of cyanide in water using highly selective Cu^{2+} chemosensor', *Inorg. Chem. Comm., 12*, 978.
1861. Kaur, Paramjit; Sareen, Divya; Kaur, Sandeep; Singh, Kamaljit (2009), 'An efficacious "naked-eye" selective sensing of cyanide from aqueous solutions using a triarylmethane leuconitrile', *Inorg. Chem. Comm.*, *12*, 275.
1862. Kaur, Paramjit; Kaur, Sandeep; Kasetti, Yoganjaneyulu; Bharatam, Prasad. V.; Singh, Kamaljit (2010), 'A New Colorimetric Chemodosimeter for Hg^{2+} based on Charge-transfer Compound of N-Methylpyrrole with TCNQ', *Talanta*, *83*, 644.
1863. Kaur, Paramjit; Sareen, Divya; Singh, Kamaljit (2011), 'Selective colorimetric sensing of Cu^{2+} using triazolyl monoazo derivative', *Talanta*, 83, 1695
1864. Kaur, Paramjit; Sareen, Divya (2011), 'The synthesis and development of a dual-analyte colorimetric sensor: Simultaneous estimation of Hg^{2+} and Fe^{3+}', , *Dyes and Pigments*, *88*, 296
1865. Kaur, Paramjit; Kaur, Sandeep; Singh, Kamaljit (2011), 'A Fluoride selective Dipyrromethane-TCNQ colorimetric sensor based on charge-transfer', *Talanta,* 84, 947.
1866. Kaur, Paramjit; Kaur, Mandeep; Singh, Kamaljit (2011), 'Ferrocene based chemosensor for Cu^{2+}- A dual channel signaling system', *Talanta,* 85, 1050-1055.
1867. Kaur, Paramjit; Kaur, Sandeep; Singh, Kamaljit; Sharma, Parduman Raj; Kaur, Tandeep (2011), 'Indole-Based Chemosensor for Hg^{2+} and Cu^{2+} Ions: Applications in Molecular Switches and Live Cell Imaging', *Dalton Trans., 40*, 10818.
1868. Kaur, Paramjit; Kaur, Mandeep; Singh, Kamaljit (2011), 'Ferrocene based chemosensor for Cu^{2+}- A dual channel signaling system', *Talanta, 85,* 1050
1869. Kaur, Paramjit; Kaur, Sandeep; Singh, Kamaljit (2011), 'A Fluoride selective Dipyrromethane-TCNQ colorimetric sensor based on charge-transfer', *Talanta, 84*, 947
1870. Kaur, Paramjit; Sareen, Divya; Singh, Kamaljit (2011), 'Selective colorimetric sensing of Cu^{2+} using triazolyl monoazo derivative', *Talanta,* 83, 1695

1871. Kaur, Paramjit; Sareen, Divya; Singh, Kamaljit (2012), 'Chemodosimeter for CN^- - interplay between experiment and theory', *Dalton Trans.*, 41, 9607.
1872. Kaur, Paramjit; Sareen, Divya; Singh, Kamaljit (2012), 'Aza crown ether appended hetarylazo dye-single molecular dual analyte chemosensor for Hg^{2+} and Pb^{2+}', *Dalton Trans.*, 41, 8767.
1873. Kaur, Paramjit; Kaur, M.; Depotter, G.; Cleuvenbergen, S.V.; Asselberghs, I; Clays, K.; Singh, K. (2012), 'Thermally stable ferrocenyl "push-pull" chromophores with tailorable and switchable second-order non-linear optical response: synthesis and structure-property relationship', *J. Mater. Chem.,* 22, 10597.
1874. Kaur, Paramjit; Kaur, Sandeep; Singh, Kamaljit (2012), 'Bis(N-methylindolyl)methane-based chemical probes for Hg^{2+} and Cu^{2+} and molecular IMPLICATION gate operating in fluorescence mode', *Org. Bioml. Chem.,* 10, 1497
1875. Kaur, Paramjit; Sareen, Divya; Kaur, Mandeep; Singh, Kamaljit (2013), 'Multi-signalling cation binding behaviour of a bis(pyridin-2-yl methyl)aniline based hetarylazo dye. Synthesis, characterization and experiment-theory correlation', *Anal. Chimica Acta*, 778, 79-86
1876. Kaur, Paramjit; Kaur, Hardeep; Singh, Kamaljit (2013), 'A *'turn-off'* emission based chemosensor for HSO_4^- - formation of a hydrogen-bonded complex', *Analyst,* 138(2), 431
1877. Kaur, Paramjit; Kaur, Hardeep and Singh, Kamaljit (2013), 'A quinoline-based turn-off fluorescent cation sensor-dynamic and static quenching', *RSC Adv*, 3, 64.
1878. Kaur, R.; Kumar, S.; Aswal, V.K.; Mahajan, R.K. (2012), 'Interactional and aggregation behavior of twin tail cationic surfactants with Pluronic L64 in aqueous solution', *Colloid and Polymer Science*, 290, 127.
1879. Kaur, Sumanjit; Walia, T.P.S. and Mahajan, R.K. (2008), 'Comparative studies of zinc, cadmium, lead and copper on economically viable adsorbents', *J. Environ. Eng. Sci.*, *7*, 83.
1880. Kaur, Sumanjit; Mahajan, R.K.; Rani, S.; Walia, T.P.S.; Kaur, Ravneet (2010), 'Adsorptive removal of five acid dyes using various unconventional adsorbents', *J. Surface Sci. Technol, 26*, 77.
1881. Khullar, Poonam; Mahal, Aabroop; Singh, Vijender; Banipal, Tarlok Singh; Kaur, Gurinder; Bakshi, Mandeep Singh (2010), 'How PEO-PPO-PEO Triblock Polymer Micelles Control the Synthesis of Gold Nanoparticles: Temperature and Hydrophobic Effects', *Langmuir.*, *26*, 11363.
1882. Khullar, Poonam; Singh, Vijender; Mahal, Aabroo; Kaur, Harpreet; Singh, Vickramjeet; Banipal, Tarlok Singh; Kaur, Gurinder; Bakshi, Mandeep Singh (2011), 'Tuning the Shape and Size of Gold Nanoparticles with Triblock Polymer Micelle Structure Transitions and Environments', *J. Phys. Chem. C, 115,* 10442.

1883. Khattar, R.; Hundal M.S.; Mathur, Pavan (2012), 'Synthesis, structure and oxidation of alkynes using a μ-oxo-diiron complex with the ligand bis(1-(pyridine-2-ylmethyl)-benzimidazole-2-ylmethyl)ether' *Inorg. Chim. Acta.,* 390, 129.
1884. Kim, In; Bong, S.; Woo, S.; Mahajan, R.K.; Kim, H. (2011), 'Highly active 40 wt % PtRu/C anode electrocatalysts for PEMFCs prepared by an improved impregration method', *International Journal of Hydrogen Energy, 36*, 1803.
1885. Kim, Y. R.; Mahajan, R. K.; Kim, J. S. and Kim, H. (2010), 'Highly Sensitive Gold Nanoparticle-Based Colorimetric Sensing of Mercury(II) Through Simple Ligand Exchange Reaction in Aqueous Media', *ACS Applied Materials & Interfaces*., *2*, 292.
1886. Kumar, A.; Singh, S.; Kumar, V.; Chimni, S.S. (2011), 'Asymmetric *syn*-Selective Direct Aldol Reaction of Protected Hydroxyacetone Catalyzed by Primary Amino Acid Derived Bifunctional Organocatalyst in the Presence of Water', *Org. Biomol. Chem.*, 2731
1887. Kumar, Akshay; Chimni, Swapandeep Singh (2013), 'Organocatalyzed direct asymmetric aldol reaction of isatins in water: low catalyst loading in command', *Tetrahedron*, 69(25), 5197-5204.
1888. Kumar, A.; Kumar, Sachin (2013), 'Non woven Scaffolds for Tissue Engineering of blood vessels', *Asian Technical Textiles*, 7(1), 26-32.
1889. Kumar, A. & Chimni, S. S. (2013), 'Organocatalytic Asymmetric Direct Aldol Reaction of Pyruvic Aldehyde dimethyl Acetal with Isatin Derivatives', *Eur. J. Org. Chem*., 4780–4786
1890. Kumar, Ashok; Mittal, Susheel K.; Kumar, Subodh (2011), 'Highly selective potentiometric determination of Ag(I) using 1,2,4,5-tetrakis(8-hydroxyquinolin oxymethyl)benzene based coated-wire ion selective electrode', *Sensors Letters*, *9*, 1-8.
1891. Kumar, Ashwani; Kumar, Subodh (2012), 'Anthroneamine based chromofluorogenic probes for Hg^{2+} detection in aqueous solution', *Tetrahedron Letters*, 53, 2030-2034.
1892. Kumar, Ashwani; Vanita, Vanita; Walia, Aman; Kumar, Subodh (2013), "N,N-Dimethylaminoethylaminoanthrone - A chromofluorogenic chemosensor for estimation of Cu^{2+} in aqueous medium and HeLa cells imaging", *Sensors and Actuators B, 177*, 904–912.
1893. Kumar, B.; Aga, M. A.; Mukherjee, D.; Chimni, S. S.; Taneja, S. C. (2009), 'Allyl tetrahydropyranyl ether: a versatile alcohol/thiol protecting reagent'., *Tetrahedron Letters.*, *50*, 6236.
1894. Kumar, Kewal; Singh, Pardeep; Kremer, Laurent; Guérardel, Yann; Biot, Christophe; Kumar, Vipan (2012), 'Synthesis and *in vitro* anti-tubercular evaluation of 1,2,3-triazole tethered *β*-lactam–ferrocene and *β*-lactam–ferrocenylchalcone chimeric scaffolds', *Dalton Transaction*, *41*, 5778.

1895. Kumar, Kewal; Carrère-Kremer, Séverine; Kremer, Laurent; Guérardel, Yann; Biot, Christophe; Kumar, Vipan (2013), '1*H*-1,2,3-Triazole-Tethered Isatin-Ferrocene and Isatin-Ferrocenylchalcone Conjugates: Synthesis and *in vitro* Anti-tubercular Evaluation', *Organometallics*, DOI: 10.1021/om301157z
1896. Kumar, Kewal; Carrère-Kremer, Séverine; Kremer, Laurent; Guérardel, Yann; Biot, Christophe; Kumar, Vipan (2013), 'Azide–alkyne cycloaddition **en route** towards 1**H**-1,2,3-triazole-tethered β-lactam–ferrocene and β-lactam–ferrocenylchalcone conjugates: synthesis and **in vitro** anti-tubercular evaluation', *Dalton Transaction*, 42, 1492-1500.
1897. Kumar, Manoj; Kumar, Rajesh; Bhalla, Vandana (2009), 'A reversible fluorescent Hg^{2+}/ K^{+} switch that works as keypad lock in the presence of F^{-} ion', *Chem. Comm.,* 7384.
1898. Kumar, Manoj; Dhir, Abhimanew; Bhalla, Vandana (2009), 'Regulation of metal ion recognition by allosteric effects in thiacailx[4] crown based receptors'., *Tetrahedron.*, *65*, 7510.
1899. Kumar, Manoj; Dhir, Abhimanew; Bhalla, Vandana (2009), 'ON-OFF Switchable Binuclear Chemosensor Based on Thiacalix [4] crown armed with Pyrene Moieties'., *Eur. J. Org. Chem.*, 4534.
1900. Kumar, Manoj; Kumar, Rajesh; Bhalla, Vandana (2009), 'F^{-}-Induced "Turn-On" fluorescent chemosensor based on 1,3-*alt* thiacalix[4]arene.', *Tetrahedron*, 65, 4340.
1901. Kumar, Manoj; Babu, J. Nagendra; Bhalla, Vandana (2009), 'Chromogenic sensing of Cu(II) by imino linked thiacalix[4]arene in mixed aqueous environment'., *Inorg. Chem. Commun*., 332.
1902. Kumar, Manoj; Dhir, Abhimanew; Bhalla, Vandana (2009), 'A molecular keypad lock based on thiacalix[4]arene of 1,3-alternate conformation', *Organic Lett., 11*, 2567.
1903. Kumar, Manoj; Dhir, Abhimanew; Bhalla, Vandana (2010), 'Switching and fluorescence signal amplification with metal ions in allosteric systems based on 1,3-Alternate thiacalix [4] crown'., *Dalton Trans.*, 39, 10122.
1904. Kumar, Manoj; Dhir, Abhimanew; Bhalla, Vandana (2010), 'A Ni^{2+} Selective chemosensor based on partial cone conformation of calix[4]arene'., *Dalton Trans.*, *39*, 10116
1905. Kumar, Manoj; Kumar, Rajesh; Bhalla, Vandana (2010), 'On-Off" reversible switch for Fe^{3+} and F^{-} mimicking XNOR logic function', *Tetrahedron Lett.*, *51*, 5559
1906. Kumar, Manoj; Dhir, Abhimanew; Bhalla, Vandana (2010), 'Molecular trafficking based on latch circuit', *Chem. Comm.*, 6746.
1907. Kumar, Manoj; Dhir, Abhimanew; Bhalla, Vandana; Sharma, Richa; Puri, R. K.; Mahajan, R. K. (2010), 'Highly effective chemosensor for mercury ions based on bispyrenyl derivative', *Analyst, 135*, 1600.

1908. Kumar, Manoj; Babu, J. Nagendra; Bhalla, Vandana (2010), 'Azophenol appended (thia)calix[4]arenes for colorimetric sensing of anions : A complexation induced extended conjugation'., *Talanta.*, *81*, 9.
1909. Bhalla, Vandana; Singh, Hardev; Kumar, Manoj (2010), 'A Facile Cyclization of Terphenyl to Triphenylene: A New Chemodosimeter for Fluoride Ions'., *Org. Lett*., 628
1910. Kumar, Manoj; Babu, J. Nagendra; Bhalla, Vandana and Kumar, Rajesh (2010), 'Ratiometric/ 'On-Off' sensing of Pb^{2+} ion using pyrene-appended calix[4]arenes'., *Sensors & Actuators: B. Chemical*., *144*, 183.
1911. Kumar, Manoj; Babu, J. Nagendra; Bhalla, Vandana (2010), 'Fluorescent chemosensor for Cu^{2+} ion based on iminoanthryl appended calix[4]arenes', *J. Inclu. Phenom. and Macrocyclic Chem.*, 1-2, 139.
1912. Kumar, Manoj; Kumar, Rajesh; Bhalla, Vandana (2011), 'Thiacalix[4]arene based reconfigurable molecular switches: set-reset memorized sequential device'., *Org. Biomol. Chem., 9*, 8237.
1913. Kumar, Manoj; Kumar, Rajesh; Bhalla, Vandana (2011), 'Fluorescent probe for Fe^{3+} and CN^{-} in aqueous media mimicking a memorized molecular crossword puzzle', *RSC Adv., 1*, 1045
1914. Kumar, Manoj; Kumar, Naresh; Bhalla, Vandana (2011), 'FRET-induced nanomolar detection of Fe^{2+} based on cinnamaldehyde-rhodamine derivative'., *Tetrahedron Lett..*, 52, 4333
1915. Kumar, Manoj; Kumar, Naresh; Bhalla, Vandana (2011), 'Ratiometric Detection of Hg^{2+} ions: An Allosterically Synchronized Hg^{2+}/Li^{+} Switch Based on Thiacalix[4]crown'., *Dalton Trans.*, 40, 5170.
1916. Kumar, Manoj; Kumar, Naresh; Bhalla, Vandana; Singh, Hardev; Sharma, Parduman Raj; Kaur, Tandeep (2011), 'Naphthalimide Appended Rhodamine Derivative: Through Bond Energy Transfer for Sensing of Hg^{2+} Ions', *Organic Letters,* 13, 1422 (Highlighted).
1917. Kumar, Manoj; Kumar, Rajesh; Bhalla, Vandana (2011), 'Optical Chemosensor for Ag^{+}, Fe^{3+} and Cysteine: Information Processing at Molecular level', *Organic Lett., 13*, 366.
1918. Kumar, Manoj; Vij, Varun; Bhalla, Vandana (2012), 'Vapor Phase Detection of Trinitrotoluene by AIEE Active Hetero-oligophenylene Based Carbazole Derivatives', *Langmuir,* 28, 12417.
1919. Kumar, Manoj; Kumar, Naresh; Bhalla, Vandana (2012), 'Ratiometric nanomolar detection of Cu^{2+} ions in mixed aqueous media: A Cu^{2+}/Li^{+} ions switchable allosteric system based on thiacalix[4]crown', *Dalton Trans.*, 41, 10189.
1920. Kumar, Manoj; Kumar, Naresh; Bhalla, Vandana; Singh, Hardev; Sharma, Parduman Raj; Qurishi, Yasrib (2012), 'Charge transfer assisted fluorescent probe for selective detection of hydrogen peroxide among different reactive oxygen species', *Chem. Commun.*, 48, 4719.

1921. Kumar, Manoj; Bhalla, Vandana; Vij, Varun; Dhir, Abhimanew (2012), 'Hetero-oligophenylene Based AIEE Material as Multiple Probe for Bio-molecules and Metal Ions Constructing Logic Circuits: Application in Bio-electronics and Chemionics', *Chemistry: A European Journal*, 18, 3765.
1922. Kumar, Manoj; Kumar, Naresh; Bhalla, Vandana; Sharma, Parduman Raj; Kaur, Tandeep (2012), 'Highly selective fluorescence turn-on chemodosimeter based on rhodamine for nanomolar detection of copper ions', *Organic Letters,* 14, 406.
1923. Kumar, Manoj; Kumar, Naresh; Bhalla, Vandana (2012), 'ICT-induced nanomolar detection of Ag^{+} ions based on thiacalix[4]arene-cinnamaldehye derivative', *Org. Bio. Chem.*, 10, 1769.
1924. Kumar, Manoj; Kumar, Naresh; Bhalla, Vandana (2012), 'Rhodamine appended thiacalix[4]arene of 1,3-alternate conformation for nanomolar detection of Hg^{2+} ions', *Sensors and Actuator B: Chemical,* 161, 311
1925. Kumar, Manoj; Kumar, Rajesh; Bhalla, Vandana (2012), 'Thiacalix[4]arene based Fluorescent Probe for Sensing and Imaging of Fe^{3+} ions', *Dalton Trans.,* 41, 408.
1926. Kumar, Manoj; Sharma, Neetu; Kumar, Naresh; Bhalla, Vandana (2013), 'Rhodamine based fluorescence turn-on chemosensor for nanomolar detection of Fe^{3+} ions', *Sensors and Actuator B: Chemical*, 178, 228.
1927. Kumar, Manoj; Kumar, Rajesh; Bhalla, Vandana (2013), 'Differential fluorogenic sensing of F^{-} vs CN^{-} based on thiacalix[4]arene derivatives'., *Tetrahedron Lett*., 54, 1524.
1928. Kumar, Manoj; Kumar, Naresh; Bhalla, Vandana (2013), 'Naphthalimide based chemosensor for Zn^{2+}, pyrophosphate and H_2O_2: Sequential logic operations at the molecular level', *ChemComm*, 49, 895.
1929. Kumar, Manoj; Kumar, Rajesh; Bhalla, Vandana (2013), 'Ratiometric/'turn-On' fluorescent chemosensor for CN-: mimicking XNOR logic function with Fe^{3+} ions', *Dalton Trans.*, 42, 8808.
1930. Kumar, Manoj; Kumar, Naresh; Bhalla, Vandana (2013), 'Highly selective fluorescent probe for detection and visualization of palladium ions in mixed aqueous media', *RSC Advances*, 3, 1097
1931. Kumar, Manoj; Kumar, Naresh; Bhalla, Vandana (2013), 'Thiacalix[4]crown based optical chemosensor for Fe^{3+}, Li^{+} and cysteine: A Fe^{3+}/Li^{+} ions synchronized allosteric regulations'., *Dalton Trans*. 2013, 42, 981.
1932. Kumar, Manoj; Kumar, Naresh; Bhalla, Vandana; Kaur, Amandeep (2013), 'Calix[4]arene Based Fluorescent Receptor for Selective Turn-On Detection of Hg^{2+} ions', *Supramolecular Chemistry,* 25(1) 28.
1933. Kumar, Naresh; Bhalla, Vandana; Kumar, Manoj (2013), 'Recent Developments of Fluorescent Probes for the Detection of

Gasotransmitters (NO, CO, H_2S)', *Coord. Chem. Rev.*, 257, 15-16, 2335.

1934. Kumar, Rahul; Kumar, Sandeep; Singh, Prabhpreet; Hundal, Geeta; Hundal, Maninder Singh; Kumar, Subodh (2012), 'A fluorescent chemosensor for detection of perchlorate ions in water', *Analyst,* 137, 4913-4916.
1935. Kumar, Rajesh; Bhalla, Vandana; Kumar, Manoj (2008), 'Cu^{2+} and CN^--selective fluorogenic sensors based on pyrene-appended thiacalix[4]arenes'. *Tetrahedron,* 66, 8095.
1936. Kumar, Rakesh; Obrai, Sangeeta; Kaur, Amanpreet; Hundal, Geeta; Meehnian, H.; Jana, A. K. (2013), 'Synthesis, crystal structure determination and antimicrobial studies of copper(II) picrate complexes with N,N,N',N'-tetrakis(2-hydroxyethyl/propyl) ethylenediamine and tris(2-hydroxyethyl)amine', *Polyhedron,* 56, 55-61.
1937. Kumar, Sachin; Butola, B.S.; Joshi, M. (2013), 'Polypropylene/POSS hybrid nanocomposite monofilaments by reactive extrusion', *Fibers and Polymers Fibers and Polymers*, 14 (3), 428-435
1938. Kumar, Sachin; Butola, B.S.; Joshi, M. (2013), 'Preparation of hybrid Polypropylene/POSS nanocomposite monofilaments by radiation induced grafting', *Fibers and Polymers* 14(4), 550-555.
1939. Kumar, Sandeep; Shafali, Singh, Prabhpreet; Kumar' Subodh (2012), '1-(2-Naphthyl) benzimidazolium based tripod for the fluorescence enhancement based recognition of surfactants in water', *RSC Adv.,* 9969-9975.
1940. Kumar, Sandeep; Singh, Prabhpreet; Kumar, Subodh (2012), '1-(2-Naphthalenyl) benzimidazolium based fluorescent probe for acetate ion in 90% aqueous buffer', *Tetrahedron Letters*, 53, 2248.
1941. Kumar, Sandeep; Singh, PP; Hundal, Geeta; Hundal, M.S.; Kumar, Subodh (2013), 'A chemodosimeter for ratiometric detection of cyanide in aqueous media and human blood serum', *Chem. Commun*., 49, 2667-2669.
1942. Kumar, Sandeep; Singh, Prabhpreet; Mahajan, Aman; Kumar, Subodh (2013), "Aggregation induced emission enhancement in ionic self-assembled aggregates of benzimidazolium based cyclophane and sodium dodecylbenzenesulfonate", *Org. Lett.,* 15, pp 3400-3403.
1943. Kumar, Satish; Sharma, Poonam; Kapoor, Kamal K.; Hundal, M. S. (2008), 'An efficient, catalyst- and solvent-free, four-component and one-pot synthesis of polyhydroquinolines on grinding'. *Tetrahedron, 64*, 536.
1944. Kumar, Satish; Taneja, S.C.; Kapoor, Kamal K.; Hundal, M. S. (2008), 'One-pot synthesis of α-aminophosphonates catalyzed by antimony trichoride adsorbed on alumina Ambica', *Tetrahedron Lett., 49,* 2208.

1945. Kumar, Subodh; Kaur, Navneet; Singh, Harjit; (2008), 'Chapter 3: Metallacaliarenes: Organo-Inorgano hybrid molecular archetectures' *Advances in Hetreocyclic Chemistry, 96*, 123.
1946. Kumar, Subodh; Luxami,Vijay; Kumar, Ashwani; (2008), 'Chromofluorescent Probes for Selective Detection of Fluoride and Acetate Ions' *Org. Lett*,10, 5549
1947. Kumar, Subodh; Luxami, Vijay; Singh, Harjit (2009), 'Conjugates of Calixarenes and Heterocycles in the Design of Newer Chemical Entities'. *Adv. Heterocycl. Chem*., *97*, 219.
1948. Kumar, Subodh; Kumar, Sandeep (2009), '1-(4-Nitrophenyl)-benzimidazolium salt based ratiometric chemodosimeters for cyanide ion', *Tetrahedron Lett*., *50*, 4463.
1949. Kumar, Subodh; Luxami, Vijay; Saini, Rajnish; Kaur, Damanjit (2009), 'Superimposed molecular keypad lock and half-subtractor implications in a single fluorophore', *Chem. Comm.*, 3044.
1950. Kumar, Subodh; Saini, Rajnish; Kaur, Damanjit (2011), '2-(*p*-Nitrophenylthioureido)-3-aminonaphtho-1,4-quinone as a water tolerant F^- anion probe', *Sensors and Actuators B: Chemical, 160*, 705-712
1951. Kumar, Vipan; Mahajan, Aman; Chibale, Kelly (2009), 'Recent Developments in the Synthetic Medicinal Chemistry of Antimalarial Natural Products', *Bioorg. Med. Chem.*, *17*, 2236.
1952. Liu, C.W.; Sarkar, B.; Liaw, B.-J.;. Lin, Y.-W; Lobana, T.S.; Wang, J.-C. (2009), 'The influence of alkane spacer of bis(diphenylphosphino) alkanes on the nuclearity of silver(I):Syntheses and structures of P,P′-bridged clusters and coordination polymers involving dithiophosphates', *J. Organomet.Chem*., *694*, 2134.
1953. Lobana, Tarlok S.; Khanna, Sonia; Sharma, Rekha; Hundal, Geeta; Sultana, Razia; Manisha; Butcher, R. J. (2008), 'Versatility of thiosemicarbazones in the construction of monomers, dimers and and H-Bonded networks of silver(I) complexes', *Cryst. Growth and Design* , *8*, 1203.
1954. Lobana, Tarlok S. ; Bawa, Gagandeep; Castineiras, A.; Butcher, R.J. (2008), 'Synthesis of Cu^{II}-Ru^{II}-Cu^{II} trinuclear complexes via redox reaction of copper(I) across thiosemicarbazones coordinated to ruthenium(II)'. *Inorg. Chem., 47*, 1488.
1955. Lobana, Tarlok S.; Bawa, Gagandeep; Hundal, Geeta; Zeller, M.(2008), 'The influence of substituents at C^2 carbon of thiosemicarbazones $\{R(H)C^2{=}N^3{-}N^2(H){-}C^1(=S){-}N^1H_2\}$ on their dentacy in Pt^{II}/Pd^{II} complexes : synthesis, spectroscopy and crystal structures'. *Z. Anorg. Allg. Chem, 634*, 931.
1956. Lobana, Tarlok S.; Sharma, Rohit; Butcher, Ray J. (2008), 'Pyridine-2-thione (pySH) derivatives of silver(I): synthesis and crystal structures of dinuclear $[Ag_2X_2(\mu\text{-S-pySH})_2(PPh_3)_2]$ complexes (X =Cl, Br)', *Polyhedron*., *27*, 1375.

1957. Lobana, Tarlok S.; Kaur, P. J.; Hundal, Geeta; Butcher, R. J.; Castineiras, A. (2008), 'Variable bonding modes of pyrimidine-2-thione in Pd^{II}/Pt^{II} complexes $[M(\eta^2\text{-N, S-pymS})(\eta^1\text{-S-pymS})(PPh_3)]$ and $[M(\eta^1\text{-S-pymS})_2(L\text{-L})$ (L-L dppm, dppe).' *Z Anorg. Allg. Chem., 634*, 747.
1958. Lobana, Tarlok S.; Sharma, Renu; Sharma, Rekha; Sultana, Razia; Butcher, R. J. (2008), 'Metal derivatives of 1, 3 –imidazolidine–2-thione with divalent d^{10} metal ions (Zn –Hg) : Synthesis and structures.', *Z Anorg Allg Chem., 634*, 718.
1959. Lobana, Tarlok S; Sultana, Razia; Hundal, Geeta (2008), 'Heterocyclic thioamides of copper(I) : synthesis and crystal Structures of Copper complexes with 1, 3-imidazoline-2- thiones in the presence of triphenylphosphine.' *Polyhedron, 27*, 1008.
1960. Lobana, Tarlok S.; Bawa, Gagandeep; Castineiras, A; Butcher, R. J.; Zeller, M. (2008), 'Bis(diphenylphosphino)methane induces unusual cyclometallation of thiophene and phenyl rings (R) at C^2carbon of thiosemicarbazones $\{R\text{-}C^2(H) = N^3\text{-}N^2H\text{-}C(=S)\text{-}N^1H_2\}$in ruthenium(II) complexes', *Organometallics*, *27*, 175.
1961. Lobana, Tarlok S.; Kumari, Poonam; Butcher, Ray J.(2008), 'Cyclopentanone thiosemicarbazone (Hcptsc) induces a new bonding pattern in $(Ph_3P)Cu(\mu\text{-Br})$ $(\mu_3\text{-S, N-Hcptsc})CuBr(PPh_3)$ dimer'. *Inorg. Chem. Comm.*, *11*, 11
1962. Lobana, Tarlok S.; Khanna, Sonia; Butcher, Ray J. (2008), 'Synthesis of a fluorescent gold(I) complex with a thiosemicarbazone, $\{[Au_2(3\text{-}NO_2\text{-Hbtsc})_4]Cl_2\cdot 2CH_3CN\}_{n'}$ *Inorg. Chem. Comm*., *11*, 1433
1963. Lobana, Tarlok S.; Kumari, Poonam; Zeller, Matthias; Butcher, Ray J. (2008), 'The influence of the substituents at N^1 nitrogen on geometry of nickel(II) complexes with heterocyclic thiosemicarbazones'. *Inorg Chem Comm*., *11*, 972
1964. Lobana, Tarlok S.; Khanna, Sonia; Hundal, Geeta; Liaw, Ben-Jie and Liu, Chen W. (2008), 'The Influence of substituents at the C^2 carbon of thiosemicarbazones on bonding and nuclearity of silver(I) complexes', *Polyhedron, 27*, 2251
1965. Lobana, Tarlok S.; Sharma, Renu; Sharma, Rekha; Butcher, Ray J. (2008), 'Metal derivatives of heterocyclic thioamides: synthesis and crystal structures of copper complexes with 1-methyl-1, 3-imidazoline-2-thione and 1, 3-imidazoline-2-thione'. *Z Anorg Allg Chem.*, *634*, 1785
1966. Lobana, Tarlok S.; Kaur, P. J.; Castineiras, A. ; Turner, P.; Failes, T. W. (2008), 'Synthesis, Crystal and Molecular Structures of Isomorphic N, S-Bridged $[Cu_2(\mu_2\text{-I})_2(PPh_3)_2(\mu_2\text{-N,S-pymSH})]$ Dimer and S-bonded $[CuX(\eta^1\text{-S-pymSH})(PPh_3)_2]$ Monomers (X = Cl, Br)'., *Struct. Chem.*, *19,* 727.

1967. Lobana, Tarlok S.; Sharma, Rekha; Bawa, Gagandeep; Khanna, Sonia (2009), 'Bonding and structure trends of thiosemicarbazone derivatives of metals – An overview', *Coord. Chem. Rev*., *253*, 977.
1968. Lobana, Tarlok S.; Bawa, Gagandeep; Butcher, Ray J.; Liu, Chen W. (2009), 'Thiosemicarbazonates of ruthenium(II): Crystal structures of [*bis*(triphenylphosphine)] [*bis*(N-Phenyl-pyridine-2-carbaldehyde thiosemicarbazonato)]ruthenium(II) and [*bis*(diphenylphosphino) butane] [*bis*(salicylaldehyde thiosemicarbazonato)] ruthenium(II)', *Z. Anorg. Allg. Chem*., *635*, 355.
1969. Lobana, Tarlok S.; Kumari, Poonam; Castineiras, A.; Butcher, Ray J. (2013), 'The effect of substituents at C^2 carbon of salicylaldehyde based thiosemicarbazones on synthesis, spectroscopy, structures and fluorescence aspects of nickel(II) complexes', *Eur. J. Inorg Chem*., http://dx.doi.org/10.1002/ejic.201300209. 2013
1970. Lobana, Tarlok S.; Kumari, Poonam; Hundal, Geeta; Butcher, Ray J.; Castineiras, A.; Akits, Takashiro (2013), 'Metal derivatives of N^1-substituted thiosemicarbazones : Synthesis, structures and spectroscopy of nickel(II) and cobalt(III) complexes', *Inorg. Chim. Acta* 394, 605–615
1971. Lobana, Tarlok S.; Sultana, Razia; Castineiras, Alfonso; Butcher, Ray J. (2009), 'Synthesis of Cu^I polymers $\{Cu_8(\mu_3\text{-}SN_2C_3H_6)_4(\mu\text{-}SN_2C_3H_6)_4(\eta^1\text{-}Cl)_8\}_n$ and $\{Cu_6(\mu_3\text{-}SC_3H_6N_2)_2(\mu\text{-}SC_3H_6N_2)_4Cl_2(\mu\text{-}Cl)_4\}_n$ with imidazolidine-2-thione', *Inorg Chim. Acta., 362*, 5265.
1972. Lobana, T. S.; Khanna, Sonia; Hundal, Geeta; Butcher, Ray J.; Castineiras, Alfonso; (2009), 'Mono- and di-nuclear complexes of thiosemicarbazones with copper(I): Synthesis, spectroscopy and structures', *Polyhedron*, *28*, 3899.
1973. Lobana, T. S.; Sultana, Razia; Hundal, Geeta; Castineiras, A. (2009), 'Synthesis and crystal structures of polynuclear complexes of Cu(I) with 1-methyl-1,3-imidazoline-2-thione'., *Polyhedron*, *28*, 1573
1974. Lobana, Tarlok S; Sharma, Rekha (2009), 'The methyl group at C^2 carbon in $\{(2\text{-}C_4H_3S)\text{-}C^2(Me)=N\text{-}NH\text{-}C^1(=S)NH_2\}$ alters iodide-bridging to sulfur-bridging in copper(I) iodide complexes', *Z Anorg Allg Chem*., *635*, 2150.
1975. Lobana, T S; Sharma, Rekha; Castineiras, Alfonso; Hundal, Geeta; Butcher, Ray J. (2009), 'The influence of substituents (R^1, R^2) of thiophene-2-carbaldehyde thiosemicarbazones $\{(C_4H_3S)R^1C^2=N^3\text{-}N(H)\text{-}C^1(=S)N^1HR^2\}$ on bonding, nuclearity and H-bonded networks of copper(I) complexes', *Inorg. Chim. Acta*., *362*, 3547.
1976. Lobana, T S; Khanna, Sonia; Kaur, Pavneet; Thakur, Bandana; Attri, Shaweta; Hundal, Geeta; Butcher, Ray Jay (2009), 'Thiosemicarbazone derivatives of Coinage metals: Synthesis, Variable nuclearity, Bond Isomerism and H-bonded networks', *Polyhedron*., *28*, 1583.
1977. Lobana, Tarlok S; Sharma, Rekha; Butcher, R. J. (2009), 'Synthesis, spectroscopy and structures of halogen and sulfur bridged dinuclear

silver(I) complexes with N^1- substituted thiophene-2-carbaldehyde thiosemicarbazone', *Polyhedron, 28*, 1103.

1978. Lobana, T. S.; Bawa, Gagandeep; Hundal, Geeta; Butcher, R. J.; Castineiras, A.; (2009), 'The influence of substituents at C^2 carbon of thiosemicarbazones on the bonding pattern of bis(diphenylphopshino)alkanes in palladium(II) complexes', *Z Anorg Allg Chem.*, *635*, 1447.
1979. Lobana, Tarlok S.; Kumari, Poonam; Castineiras, Alfonso; Butcher, Ray J.; (2009), 'Metal derivatives of thiosemicarbazones: crystal and molecular structures of mono- and di- nuclear copper(I) complexes with N^1- substituted thiosemicarbazones', *J. Coord. Chem*., *62*, 754.
1980. Lobana, Tarlok S.; Sharma, Rekha; Sharma, Roohi (2009), 'Metal derivatives of thiosemicarbazones: Crystal structure of [chloro bis(triphenylposphine)(thiphene-2-carbaldehyde thiosemicarbazone) copper(I)] complex', *J. Coord. Chem*., *62*, 1468.
1981. Lobana, Tarlok S.; Sultana, Razia; Hundal, Geeta; Butcher, Ray J. (2010), 'Metal mediated C-S rupture of heterocyclic thioamides : in situ generation of 2,2′-thio-di-2-imidazoline, 1,1'-dimethyl-2,2'-di-imidazolylsulfide, SO_4^{2-} and their variable coordination to Cu^{II}', *Dalton Trans.*, *39*, 7870.
1982. Lobana, Tarlok S.; Kumari, Poonam; Hundal, Geeta; Butcher, Ray J. (2010), 'Metal derivatives of N^1-substituted thiosemicarbazones with divalent metal ions (Ni, Cu): synthesis and structures', *Polyhedron, 29*, 1130.
1983. Lobana, T. S.; Khanna, Sonia; Castineiras, Alfonso; Hundal, Geeta (2010), 'Synthesis of an unprecedented Cu^I polymer having alternate $Cu(\mu\text{-}S)_2Cu$ and $Cu(\mu\text{-}Cl)_2Cu$ cores bridged by pyridine-2-carbaldehyde thiosemicarbazone', *Z. Anorg. Allg. Chem*., *636*, 454
1984. Lobana, Tarlok S.; Sharma, Rekha; Castineiras, Alfonso; Butcher, Ray Jay (2010), 'Thiosemicarbazone Derivatives of Copper(I): Influence of substituents (R) at N^1 atom of $[(C_5H_4N)HC^2{=}N^3N^2H\text{-}C^1(=S)N^1HR]$ in the formation of 1D or 2D networks of copper(I) complexes', *Z. Anorg. Allg. Chem.,* 636, 2698.
1985. Lobana, T. S.; Sultana, Razia; Butcher, Ray J. (2011), 'A Sandmeyer type reaction for bromination of 2-mercapto-1-methyl imidazoline($N_2C_4H_6S$) into 2-bromo-1-methyl imidazole ($N_2C_4H_5Br$) in presence of copper(I) bromide', *Dalton Trans*, 40, 11382-84.
1986. Lobana, Tarlok S.; Kumari, Poonam; Sharma, Rekha; Castineiras, A.; Butcher, Ray J.; Akitsu, T.; Aritake, Y. (2011), 'Thiosemicarbazone derivatives of nickel and copper: the unprecedented coordination of furan ring in octahedral nickel(II) and of triphenylphosphine in three-coordinate copper(I) complexes', *Dalton Trans.*, *40*, 3219 –3228
1987. Lobana, Tarlok S; Kumari, Poonam; Butcher, Ray J.; Jasinski, Jerry P.; Golen, James A. (2012), 'Metal derivatives of thiosemicarbazones: crystal and molecular structures of mono- and di-nuclear copper(II)

complexes with N^1-subsitituted salicylal-dehyde thiosemicarbazones', *Z. Anorg Allg Chem.*

1988. Lobana, Tarlok S.; Sharma, Rekha; Hundal, Geeta; Castineiras, A.; Butcher, Ray J. (2012), 'The influence of substituents (R) at N^1 atom of furan-2-carbaldehyde thiosemicarbazones {$(C_4H_3O)HC^2=N^3$-N(H)-$C^1(=S)N^1HR$}on bonding, nuclearity and H-bonded networks of copper(I) complexes', *Polyhedron*, 47, 134-142.
1989. Lobana, Tarlok S.; Kaur, Parminderjit; Hundal, Geeta; Butcher, Ray J. (2012), '1,9-dihydropurine-6-thione derivatives of d^8-d^{10} metal ions (Pd^{II}, Pt^{II} and Cu^{I}) : synthesis, spectroscopy and structures', *Z. Anorg Allg Chem.* 638(14), 2340-2346.
1990. Lobana, Tarlok S.; Kumari, Poonam; Kaur, Ishveen; Kaur, Nirandeep; Garg, Ginni; Butcher, R.J (2012), 'Coinage (Cu, Ag) metal derivatives of salicylaldehyde-N- ethylthiosemicarbazones: Synthesis, spectroscopy and structures', *J Coord. Chem.*, *65*, 1750
1991. Lobana, Tarlok S.; Kumari, Poonam; Bawa, Gagandeep; Hundal, Geeta; Butcher, Ray J.; Fernandez, Francisco J.; Jasinski, Jerry P.; Golen, James A. (2012), 'Pyrrole-2-carbaldehyde thiosemicarbazonates of nickel(II) and palladium(II): Synthesis, structure and spectroscopy', *Z. Anorg Allg Chem.*, 638, 804
1992. Lobana, Tarlok S.; Khanna, Sonia; Butcher, Ray J. (2012), '2-Benzoylpyridine thiosemicarbazone a novel reagent for the single pot synthesis of dinuclear Cu^{I}/Cu^{II} complexes : Formation of stable copper(II) – iodide bonds', *Dalton Trans., 41*, 4845.
1993. Lobana, T.S.; Kumari, Poonam; Butcher, Ray J.; Akitsu, Takashiro; Aritake, Yoshikazu; Fernandez, Francisco; Perles, Josefina; Vega, M. Cristina, 'Thiosemicarbazonates of Palladium(II): The Presence of Methyl/Phenyl Substituents (R2) at C2 carbon atom induces C–H activation of R1 rings of Thiosemicarbazones {R1R2C2 = N3–N2H–C1(=S)–N1HR3}', *J Organomet Chem*., 701, 17.
1994. Lobana, T.S.; Kaur, Parminderjit; Kaur, Amanpreet; Butcher, Ray J. (2012), 'Metal Derivatives of Heterocyclic-2-thiones: Crystal Structures of [bis(diphenylphosphino)propane] [bis(pyrimidine-2-thiolato)]ruthenium(II) and[bis (diphenylphosphino)-methane][bis(pyridine-2-thiolato)] ruthenium(II)' *Z. Anorg Allg Chem.*, 638, 195-200
1995. Lumb, Isha; Hundal, Maninder Singh; Mathur, Pavan; Corbella, Montserrat; Aliaga-Alcalde, Núria; Hundal, Geeta (2012), 'First report on a dinuclear Cu(II) complex based on pyridine dicarboxamido ligand having benzimidazole moieties in the amide side arms: Synthesis, structure and magnetic properties of $[Cu(GBPA)]_2 \cdot 4H_2O$, GBPA = N,N'-bis (2-methyl benzimidazolyl)-pyridine-1,3-dicarboxamide' *Polyhedron,* 36, 85.
1996. Lumb, Isha; Hundal, Maninder Singh; Corbella, Montserrat; Gómez, Verónica; Hundal, Geeta (2013), 'Copper(II) complexes of N, N-

diisopropylpicolinamide -Solvatochromic and Thermochromic phase change of monomeric complex to ferromagnetically coupled dimeric complex', *Euro. J. Inorg. Chem.*, 4799-481.

1997. Luxmi, Vijay; Sharma, Nidhi; Kumar, Subodh; (2008), 'Quaternary ammonium salt-based chromogenic and fluorescent chemosensors for fluoride ions' *Tetrahedron Lett.* ,*49*, 4265.
1998. Luxami, Vijay and Kumar, Subodh; (2008), 'Molecular Half-subtractor based on 3,3`-bis-(1H-benzimidazolyl-2-yl)-[1,1`]binaphthalenyl-2,2`-diol', *New J. Chem* ,*32*, 2074.
1999. Luxami, Vijay; Kumar, Ashwani; Hundal, Maninder Singh; Kumar, Subodh (2010), 'Internal electric field driven chromofluorescent chemodosimeter for fluoride ions' *Sensors and Actuators B; Chemical, 145*, 1.
2000. Luxami, Vijay; Kumar, Subodh (2012), 'ESIPT based dual fluorescent sensor and concentration dependent reconfigurable Boolean operators', *RSC Adv.,* 2, 8734.
2001. Luxami, Vijay; Kumar, Subodh (2012), 'A differential ICT based molecular Probe for multi-ions and multifunction logic circuits', *Dalton Trans*., 41, 4588.
2002. Luxami, Vijay; Verma, Meenakshi; Rani, Richa; Paul, Kamaldeep; Kumar, Subodh (2012), 'FRET-based ratiometric detection of Hg^{2+} and biothiols using naphthalimide–rhodamine dyads', *Org. Biomol. Chem.***,** *10***,** 8076-8081.
2003. Luxami, Vijay; Renukamal; Paul K.; Kumar, Subodh (2013), "A dual-responsive chromo-fluorescent probe for detection of Zn^{2+} and Fe^{3+} via two different approaches", *RSC Advances,* 3, 9189.
2004. Mahajan, Aman; Aulakh, Ramanpreet Kaur; Bedi, R.K.; Kumar, Sandeep; Kumar, Subodh; Aswal, D.K. (2012), 'Synthesis and characterization of excited state intramolecular proton transfer based 2-hydroxyaryl imidazole fluorescent materials', *Synthetic Metals*, 2012, *162*, 58.
2005. Mahajan, R.K.; Vohra, K.K.; Aswal, V.K. (2008), 'Small angle neutron scattering measurements of aggregation behaviour of mixed micelles of conventional surfactants with triblock polymer L64'. *Colloids and Surfaces A: Physicochem. Eng. Aspects, 326*, 48.
2006. Mahajan, R.K.; Vohra, K.K.; Aswal, V.K. (2008), 'Organic additives and electrolytes as cloud point modifiers in octylphenol ethoxylate solutions'. *J. Surfact.& Deterg*., *11*, 243.
2007. Mahajan, R.K.; Kaur, R.; Shinoda, S.; Tsukube, H. (2008), 'Lanthanide metal complex-based membrane electrodes for sensing of biological amino alcohols', *J. Alloys & Compds.,* 451, 578.
2008. Mahajan, R.K.; Kaur, R.; Bhalla, V.; Kumar, M; Hattori, T.; Miyano, S. (2008), 'Mercury(II) sensors based on calix[4]arene derivatives as receptor molecules', *Sensors and Actuators B Chemical, 130*, 290.

2009. Mahajan, R.K.; Kumar, Rajiv; Bawa, Gagandeep; Lobana, T. S. (2008), 'Investigation of silver ion sensing property of ruthenium(II) thiosemicarbazone complex using coated graphite and polymeric membrane electrodes', *Z. Anorg. Allg. Chem*., *634*, 1626
2010. Mahajan, R.K.; Shaheen, Arifa (2008), 'Effect of various additives on the performance of a newly developed PVC based potentiometric sensor for anionic surfactants', *J. Colloid & Interface Science, 326*, 191.
2011. Mahajan, R.K.; Vohra, K.K.; Shaheen, Arifa; Aswal, V. K.; (2008), 'Investigations on mixed micelles of binary mixtures of zwitterionic surfactants and triblock polymers: A cyclic voltammetric study', *J. Colloid and Interface Science*, *326*, 89.
2012. Mahajan, R. K.; Sachar, S.; Shaheen, Arifa (2009), 'Effect of triblock polymer (Pluronic F68) on the mixed systems of oppositely charged hydrocarbon surfactants', *J. Dispersion Science Technology,* 30, 7.
2013. Mahajan, R.K.; Sharma, R. (2011), 'Analysis of interfacial and micellar behavior of sodium dioctyl sulphosuccinate salt (AOT) with zwitterionic surfactants in aqueous media', *Journal of Colloid & Interface Science, 363*, 275.
2014. Mahajan, R.K.; Nandini, D.; Aswal, V.K.; Hasan, P.A. (2011), 'Microstructure and mixing behavior of benzalkonium chloride with triblock polymers in aqueous medium', *Colloids and Surfaces A: Physicochem. and Engineering Aspects, 386,* 1-10
2015. Mahajan, R.K.; Mahajan, S.; Bhadani, A.; Singh, S. (2012), 'Physicochemical Studies of Pyridinium Gemini Surfactants with Promethazine Hydrochloride in Aqueous Solution', *Physical Chemistry Chemical Physics*, 14, 887.
2016. Mahajan, R. K.; Kaur, R; Aswal, V.K. (2013), 'Effect of urea on the aggregation behaviour of Gemini surfactants and their mixed micelles with Pluronic L64', *Colloids and Surfaces A: Physicochemical and Engineering Aspects ,* 419, 61
2017. Mahajan, R. K.; Vohra, K. K.; Aswal, V. K. (2013), 'Structural Behavior of Aggregate Assemblies of Cationic Surfactants and Their Mixtures with Triblock Polymers', *Journal of Dispersion Science and Technology,* 34, 244.
2018. Mahajan, R. K.; Kamal, A.; Kumar, N.; Bhalla, V.; Kumar, M. (2013), 'Selective sensing of mercury(II) using PVC-based membranes incorporatin recently synthesized 1,3-alternate thiacalix[4]crown ionophore', *Environ Sci Pollut Res*, 20, 3086
2019. Mahajan, Rakesh Kumar; Kamal, Ajar; Kumar, Naresh; Bhalla, Vandana; Kumar, Manoj (2013), 'Selective Sensing of Mercury (II) Using PVC Based Membranes Incorporating Recently Synthesized 1, 3-*alternate* Thiacalix[4]crown Ionophore'., *Environmental Science and Pollution Research*, 20, 3067.

2020. Mahajan, S.; Mahajan, R.K. (2012), 'Interactions of phenothiazine drugs with bile salts: Micellization and binding studies', *Journal of Colloid & Interface Science*, 387, 194-204.
2021. Mahajan, S.; Sharma, R.; Mahajan, R.K. (2013), 'Interactions of new 1,8-diazabicyclo [5.4.0]undec-7-ene (DBU) based surface active ionic liquids with amitriptyline hydrochloride: Micellization and interfacial studies' *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 424, 96
2022. Mahajan, Suruchi; Shaheen, Arifa; Banipal, Tarlok Singh; Mahajan, Rakesh Kumar (2010), 'Cloud Point and Surface Tension Studies of Triblock Copolymer−Ionic Surfactant MixedSystems in the Presence of Amino Acids or Dipeptides and Electrolytes', *J. Chem. Eng. Data., 55, 3995.*
2023. Mahapatra, S.C. Sarita Tehlan; Hundal, M.S.; Pavan Mathur (2008), 'Crystal structures and catalytic activity of a copper(II) complex based on tetradentate bis-benzimidazole diamide ligand', *Inorg. Chim. Acta*, *361*, 1897.
2024. Mehra, Vishu; Singh, Pardeep; Kumar, Vipan (2012), 'β-lactam-synthon-interceded diastereoselective synthesis of functionally enriched thioxo-imidazolines, imidazolidine-2-ones, piperazine-5,6-diones and 4,5-dihydroimidazoles', *Tetrahedron*, 68, 8395.
2025. Mehra, Vishu; Kumar, Vipan (2013), 'Facile diastereoselective synthesis of functionally enriched hydantoins via base promoted intramolecular amidolysis of C-3 functionalized azetidin-2-ones', *Tetrahedron Letters*, 54, 6041-6044.
2026. Mehra, Vishu; Neetu, Kumar, Vipan (2013), 'Diastereoselective synthesis of 2,3-disubstituted 1-arylazetidines *via* $NaBH_4$-promoted facile reduction of C-3 functionalized azetidin-2-ones', *, Tetrahedron Letters, 54,* 4763-4766.
2027. Mehra, Vishu; Kumar, Vipan (2013), 'Facile, diastereoselective synthesis of functionally enriched hexahydroisoquinolines, hexahydroisoquinolones and hexahydroisochromones *via* inter-/intramolecular amidolysis of C-3 functionalized 2-azetidinones', *Tetrahedron*, *69*, 3857-3866.
2028. Mittal, S.K.; Kumar, Ashok S.K.; Kumar, Subodh; (2008), 'Potentiometric studies of N, N' –Bis(2-dimethylaminoethyl)-N,N'-dimethyl-9,10 antharacenedimetanamine as chemicalsensing material for Zn(II) ions' . *Material Science and Engineering* ,*7*, 1025
2029. Moss, Kathryn C.; Bourdakos, Konstantinos N.; Bhalla, Vandana; Kamtekar, Kiran T.; Bryce, Martin R.; Fox, Mark A.; Vaughan, Helen L.; Dias, Fernando B.; Monkman, Andrew P. (2010), 'Tuning the Intramolecular Charge-Transfer Emission from Deep Blue to Green in Ambipolar Systems Based on Dibenzothiophene-S,S-Dioxide by Manipulation of Conjugation and Strength of the Electron Donor Units'., *J. Org. Chem*., *75*, 6771.

2030. Mukherjee, Titas; Sen, Buddhadeb; Zangrando, Ennio; Hundal, Geeta; Chattopadhyay, Basab; Chattopadhyay, Pabitra (2013), 'Palladium(II) and platinum(II) complexes of deprotonated N,N'-bis(2-pyridinecarboxamide)- 1,2-benzene: synthesis, structural characterization and binding interactions with DNA and BSA', *Inorg. Chim. Acta.*, 406, 170-183.
2031. Nandini, D.; Vohra, K.K.; Mahajan, R.K. (2012), 'Phase Separation of Triblock Polymers and Tritons in the Presence of Biomolecules', *J Solution Chem*., 41, 702.
2032. Nandni, D.; Mahajan, R. K. (2013), 'Micellar and Interfacial Behavior of Cationic Benzalkonium chloride and Nonionic Polyoxyethylene alkyl ether Based Mixed Surfactant Systems', *Journal of Surfactants and Detergents*, DOI: 10.1007/s11743-012-1427-z
2033. Nisha; Singh, Parvesh; Hendricks, Denver T; Bisetty, Krishna; Kumar, Vipan (2013), '*β*-lactam-synthon-interceded synthesis of isatin-thioxoimidazolidine conjugates with structural validation using molecular dynamic simulations and cytotoxic evaluation', *SYNLETT*, 24, 1865-1869.
2034. Nisha; Mehra, Vishu; Hopper, Malissa; Patel, Neal; Land, Kirkwood M.; Kumar, Vipan (2013), 'Design, synthesis of -amino alcohol based *β*-lactam-isatin chimeras and preliminary analysis of *in vitro* activity against the protozoal pathogen *Trichomonas* vaginalis', *MedChemComm*, 2013,4,1018-1024
2035. Pannu, Ajay Pal Singh; Kapoor, Pratibha; Hundal, Geeta; Kapoor, Ramesh; Ripoll, Martin Martinez; Butcher, Raymond J.; Hundal, Maninder Singh (2011), 'Coordination driven or/and H-bonded Cu(II)-N,N-dialkylisonictotinamide frameworks', *Polyhedron, 30*, 1691-1702.
2036. Pannu, Ajay Pal Singh; Kapoor, Pratibha; Hundal, Geeta; Kapoor, Ramesh; Corbella, Monteserrat; Alcade, Nuria Aliaga; Hundal, Maninder Singh (2011), 'Magneto-structural studies of two new cobalt(II)-N,N-diisobutylisonicotinamide compounds: $[CoLCl_2]_n$ and $[Co(L)_2(H_2O)_4][CoLBr_3]_2.3H_2O$', *Dalton Trans.,* 40, 12560-12569.
2037. Pannu, Ajay Pal Singh; Kapoor, Pratibha; Hundal, Geeta; Kapoor, Ramesh; Martin, Martinez-Ripoll; Hundal, Maninder Singh (2011), 'A self assembled 3D network propogated by coordination polymerization and H-bonding: Synthesis and X-ray structure of $[\{Co(N,N\text{-diisopropylisonictinamide})_2(H_2O)_2\}(ClO_4)_2\ (CH_3COCH_3)_2\ (H_2O)_2]_n$', *J. Coord. Chem.,* 64(9), 1566-1577.
2038. Pramanik, Subhamay; Bhalla, Vandana; Kumar, Manoj (2013), 'Mercury assisted fluorescent supramolecular assembly of hexaphenylbenzene derivative for femtogram detection of picric Acid', *Analytica Chimica Acta*., 793, 99.
2039. Puri, Rajiv Kumar; Vipan Kumar, Mohinder Pal Mahajan, Rakesh Kumar Mahajan (2011), 'Mercury(II) ion recognition by newly synthesized oxadiazaphosphepine based receptors: coated graphite and

polymeric membrane electrodes', *J Incl Phenom Macrocycl Chem*, 69, 263.

2040. Puri, R.K.; Kumar, V.; Mahajan, M.P.; Mahajan, R.K. (2011), 'Mercury (II) ion recognition by newly synthesized oxadiazaphosphine based receptors: coated graphite and polymeric membrane electrodes', *J. Incl. Phenom. and Macrocycl. Chem., 69*, 263.
2041. Raj, Raghu; Mehra, Vishu; Singh, Pardeep; Kumar, Vipan; Mahajan, Mohinder P.; Handa, Sachin; Slaughter, LeGrande M. (2011), '*β*-Lactam-Synthon-Interceded, Facile, One-Pot, Diastereoselective Synthesis of Functionalized Tetra/Octahydroisoquinolone Derivatives', *Eur. J. Org. Chem.,* 2697.
2042. Raj, Raghu; Biot, Christophe; Carrère-Kremer, Séverine; Kremer, Laurent; Guérardel, Yann; Gut, Jiri; Rosenthal, Philip J.; Kumar, Vipan (2013), '4-aminoquinoline-*β*-lactam conjugates: synthesis, antimalarial and anti-tubercular evaluation', *Chemical Biology and Drug Design*, 0000.
2043. Raj, Raghu; Singh, Pardeep; Haberkern, Nathan T.; Faucher, Ryan M.; Land, Kirkwood M.; Kumar, Vipan (2013), 'Synthesis of 1*H*-1,2,3-triazole linked *β*–lactam-Isatin bifunctional hybrids and preliminary analysis of *in vitro* activity against the protozoal parasite *Trichomonas vaginalis', European Journal of Medicinal Chemistry*, 2013, 63, 897-906
2044. Raj, Raghu; Singh, Pardeep; Singh, Parvesh; Gut, Jiri; Rosenthal, Philip J.; Kumar, Vipan (2013), 'Azide-alkyne cycloaddition *en route* to 1*H*-1,2,3-Triazole-tethered 7-chloroquinoline-isatin chimeras: Synthesis and antimalarial evaluation', *European Journal of Medicinal Chemistry*, *62*, 590-596.
2045. Randhawa, B.S.; Kaur, Manpreet (2009), 'Application of Mossbauer spectroscopy to the thermal decomposition of strontium and barium bis(CITRATO)Ferrates(III)', *Hyperfine Interact, 188*, 95
2046. Randhawa, B.S.; Gupta, Manik; Kaur, Manpreet (2009), 'Preparation of cobalt ferrite from the thermolysis of cobalt tris(malonato)ferrate (III) trihydrate precursor', *Ceramics international*, *35*, 3521.
2047. Randhawa, BS; Dosanjh, H.S.; Kaur, Manpreet (2009), 'Preparation of spinel ferrites from citrate precursor route: A comparative study', *Ceramics International*, 35, 1045-1049.
2048. Randhawa, B.S.; Gupta, Manik; Dosanjh, H.S.; Kumar, Nitendar (2011), 'Physico-chemical investigation on mixed alkali metal ferrites prepared by solution combustion method-A comparative study', *Ceramics International*, *37*, 2207
2049. Randhawa, B.S.; Gupta,Manik (2011), 'Synthesis of Nanosized Rubidium ferrite by thermolysis of ferricarboxylate precursor and combustion method-A comparative study', *J. Analytical and Applied Pyrolysis*, 95 (2012), 25-30.

2050. Randhawa, B.S.; Gupta, Manik (2011), 'Mossbauer spectroscopic studies on nanosized rubidium ferrite prepared by thermal decomposition of rubidium ferrioxalate precursor using precursor method', AIP Proceedings, 1393, 103.
2051. Randhawa, B.S.; Gupta, Manik (2012), 'Microstructural, magnetic and electrical properties of mixed Cs-Zn ferrites prepared by solution combustion method', *Solid State Sciences,* 14, 849.
2052. Randhawa, B.S.; Gupta, Manik (2012), 'Synthesis of Nanosized Rubidium ferrite by thermolysis of ferricarboxylate precursor and combustion method', *J. Analytical and Applied Pyrolysis,* 95, 25.
2053. Randhawa, B.S.; Singh, Jashanpreet (2013), 'Physico-chemical studies on synthesis, characterization and magnetic properties of Li-Ca-Zn nanoferrites', *J. Nanoparticle Research* 15, 1350-1361.
2054. Reddy, M V; Thota, N; Sangwan, P L; Malhotra, P; Ali, F; Khan, I A; Chimni, S S; Koul, S (2010), 'Novel bisstyryl derivatives of bakuchiol: Targeting oral cavity pathogens', *Eur. J. Med. Chem, 45*, 3125.
2055. Reza, Shahi Imam; Kumar, Naresh; Sachdeva, Roopali; Kumar, Manoj; Bhalla, Vandana (2013), 'd-PET coupled ESIPT phenomenon for fluorescent turn-on detection of hydrogen sulfide', 3, 17770.
2056. Saini, Rajan; Mahajan, Aman; Bedi, R.K.; Kumar, Subodh (2010), 'Synthesis and characterization of nanostructured 1,3-bis(1-anthracenylazo - methine)benzene films for room temperature NH_3 gas-sensing applications', *Sensors and Actuators B: Chemical*, 146.
2057. Saini, Rajnish; Kumar Subodh (2013), "A fluorescent probe for the selective detection of sulfate ions in water", *RSC Adv.*, 3, pp 21856-21862.
2058. Sanan, R.; Mahajan, R.K. (2011), 'Effect of fatty acid chain of Tweens on the micellar behavior of dodecylbenzyldimethylammonium chloride', *Industrial & Engineering Chemistry Res., 50*, 7319.
2059. Sanan, R.; Mahajan, R.K. (2013), 'Micellar and analytical implications of a new potentiometric PVC sensor based on neutral ion-pair complexes of dodecylmethylimidazolium bromide-sodium dodecylsulfate', *Journal of Colloid & Interface Science*, 394, 346
2060. Seo, You-Kyong; Hundal, Geeta; Jang, In Tae; Hwang, Young Kyu; Jun, Chul-Ho; Chang, Jong-San (2009), 'Microwave synthesis of hybrid inorganic–organic materials including porous $Cu_3(BTC)_2$ from Cu(II)-trimesate mixture' *Micropor. Mesopor. Mater.*, 119, 331
2061. Seo, You-Kyong; Hundal, Geeta; Jeon, Da Hye; Lee, U-Hwang; Hwang, Young Kyu; Chang, Jong-San (2013), 'Phase Selectivity in the Synthesis of Cobalt (II) 4-Cyclohexene-1,2-Dicarboxylates under Microwave Irradiation', *J. Nanoscience and Nanotechnolo*, 13, 2929–2936.
2062. Shaheen, Arifa; Kaur, N.; Mahajan, R.K. (2008), 'Influence of various series of additives on the clouding behavior of aqueous solutions of triblock copolymers', *Colloid Polymer Science*, *286*, 319.

2063. Shankar, Rav; Singh, Atul pratap; Mahon, Merry F.; Malloy, K. C.; Hundal, Geeta; Biesemans, M.; Willem, R. (2008), 'Recipe for new organostannates, $[R_2Sn(OS_9OO_2R_1)_4]_2$, bearing alkanesulphonate groups using dialkylsulfide as reagent'. *Inorg. Chem.*, *47*, 790.
2064. Sharma, Aparna; Obrai, Sangeeta; Kumar, Rakesh; Kaur, Amanpreet; Hundal, Geeta (2013), '5-Methyl-5-aryldipyrromethanes: synthesis, crystal structure and anion binding studies', *Supramolecular Chemistry*, 25, 474-480.
2065. Sharma, R.; Shaheen, A.; Mahajan, R.K. (2011), 'Cyclic voltammetry and viscosity measurements of aggregated assemblies of non-ionic surfactants and triblock copolymers', *Colloid and Polymer Science, 289*, 43
2066. Sharma, R.; Mahajan, R.K. (2012), 'An Investigation of Binding Ability of Ionic Surfactants with Trifluoperazine dihydrochloride: Insights from Surface tension, Electronic absorption and Fluorescence measurements', *RSC Adv.,* 2, 9571-9583.
2067. Sharma, R.; Mahajan, S.; Mahajan, R.K. (2013), 'Surface adsorption and mixed micelle formation of surface active ionic liquid in cationic surfactants: Conductivity, Surface tension. Fluorescence and NMR studies', *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 427, 62
2068. Sharma, Sanyog; Hundal, Maninder Singh; Hundal, Geeta (2013), 'Dual channel chromo/fluorogenic chemosensors for cyanide and fluoride ions – an example of in situ acid catalysis of the Strecker reaction for cyanide ion chemodosimetry', *Org. Biomol. Chem***,** 11 (4), 654 -661.
2069. Sharma, Sanyog; Hundal, Maninder Singh; Singh, Narinder; Hundal, Geeta (2013), 'Nanomolar fluorogenic sensing of Cu (II) in aqueous medium- a highly selective "on-off" probe based on mesitylene derivative', *Sensors & Actuators, B 188,* 590–596.
2070. Sharma, Sanyog; Hundal, Maninder Singh; Hundal, Geeta (2013), 'Selective Recognition of fluoride ions through fluorimetric and colorimetric response of a first dipodal sensor employing thiosemicarbazones', Tet. *Lett*., 54, 2423-2427.
2071. Sharma, Sanyog; Kaur, Amanpreet; Hundal, Maninder Singh; Hundal, Geeta (2013), 'Formation of enantiomorphic crystal from achiral molecules- synthesis and crystal structure determination of two new Schiff bases', *Mol. Cry. Liq. Cry*., 2013, 577, 73-82.
2072. Sharma, Savita K.; Hundal, Geeta; Gupta, Rajeev (2009), 'The Effect of Ligand Architecture on the Structure and Properties of Nickel and Copper Complexes of Amide-Based Macrocycles', *Euro. J. Inorg. Chem*., 621-636.
2073. Singh, Amit P.; Kaushik, Nagendra K; Verma, Akhilesh Kumar; Hundal, Geeta; Gupta, Rajeev (2009), 'Synthesis, structure and

biological activity of copper(II) complexes of 4-(2-pyridylmethyl)-1,7-dimethyl-1,4,7-triazanonane-2,6-dione', *Eur. J. Med. Chem.*, *44*, 1607.
2074. Singh, Jashanpreet; Kaur, Harpreet; Kaur, Manpreet; Randhawa, B.S. (2010), 'Synthesis of copper ferrite from thermolysis of copper ferrimalonate precursor', *J.Appl. Phy.* 107 09A520 (1-3).
2075. Singh, Jyoti; Hundal, Geeta; Gupta, Rajeev (2008), 'Studies on nickel(II) complexes with amide based ligands: syntheses, structures, electrochemistry and oxidation chemistry', *Eur. J. Inorg. Chem,* 2052.
2076. Singh, Kamaljit; Sareen, Divya; Kaur, Paramjit; Miyake, Hiroyuki; Tsukube, Hiroshi (2013), 'Materials based Receptors. Design Principle and Applications', *Chem.-A Eur. J* , 2013, 19, 6914-6936
2077. Singh, Palwinder; Bhardwaj, Atul (2008), 'Mechanism of action of key enzymes associated with cancer propagation and their inhibition by various chemotherapeutic agents'. *Mini Rev. in Med. Chem*., *8*, 388.
2078. Singh, Palwinder; Mittal, Anu (2008), 'Current status of COX-2 inhibitors'. *Mini Reviews in Medicinal Chemistry*, *8*, 73.
2079. Singh, Palwinder; Kaur, Jatinder; Paul, Kamaldeep (2008), 'Design, synthesis and anti-cancer activities of Schiff bases of 5-benzoyl-/5-carbaldehyde-/5-(3-phenyl-acryloyl)-6-hydroxy-1H-pyrimidin-2,4-diones'*, Ind. J. Chem.*, *47B*, 291.
2080. Singh, Palwinder; Mittal, Anu; Kaur, Satwinderjeet; Holzer, Wolfgang and Kumar, Subodh (2008), '2, 3-Diaryl-5-ethylsulfanylmethyltetrahydro-furans as a new class of COX-2 inhibitors and cytotoxic agents', *Org. Biomol. Chem*, *6*, 2706
2081. Singh, Palwinder; Mittal, Anu; Bhardwaj, Atul; Kaur, Satwinderjeet; Kumar, Subodh; (2008), '1-Toluene-sulfonyl-3-[(3-hydroxy-5-substituted)-butyrolactone]indoles: Synthesis, COX-2 inhibition and anti-cancer activities', *Bioorg. Med. Chem. Lett.*, *18*, 85.
2082. Singh, Palwinder; Kaur, Jatinder; Yadav, Bhawna; Komath, Sneha Sudha (2009), 'Design, synthesis and evaluation of acridone derivatives using Candida albicans- Search for MDR modulators led to the identification of an anti-candidiasis agent'., *Bioorg. Med. Chem.,* 17, 3973.
2083. Singh, Palwinder; Kaur, Matinder; Verma, Pooja (2009), 'Design, synthesis and anticancer activities of hybrids of indole and barbituric acids- Identification of highly promising leads', *Bioorg. Med. Chem. Lett.,* 19, 3054.
2084. Singh, Palwinder; Kaur, Jatinder; Kaur, Prabhjit; Kaur, Satwinderjeet (2009), 'Search for MDR modulators: Design, syntheses and evaluations of N-substituted acridones for interactions with p-glycoprotein and Mg^{2+}', *Bioorg. Med. Chem.,* 17, 2423.
2085. Singh, Palwinder; Bhardwaj, Atul; Kaur, Satwinderjeet; Kumar, Subodh (2009), 'Design, synthesis and evaluation of tetrahydropyran based COX-1/-2 inhibitors'. *Eur. J. Med. Chem.,* 44, 1278.

2086. Singh, Palwinder; Kaur, Jatinder; Kaur, Prabhjit; Kaur, Satwinderjeet (2009), 'Search for MDR modulators: Design, syntheses and evaluations of N-substituted acridones for interactions with p-glycoprotein and Mg^{2+}', *Bioorg. Med. Chem.*, *17*, 2423.
2087. Singh, Palwinder; Bhardwaj, Atul; Kaur, Satwinderjeet (2009), 'Design, synthesis and evaluation of tetrahydropyran based COX-1/-2 inhibitors', *Eur. J. Med. Chem*., *44*, 1278
2088. Singh, Palwinder and Bhardwaj, Atul (2010), 'Mono-, di-, and triaryl substituted tetrahydropyrans as cyclooxygenase-2 and tumor growth inhibitors. Synthesis and biological evaluation', *J. Med. Chem.*, *53*, 3707.
2089. Singh, Palwinder; Kaur, Jatinder; Yadav, Bhawna; Komath, Sneha Sudha (2010), 'Targeting efflux pumps - In-vitro investigations with acridone derivatives and identification of a lead molecule for MDR modulation', *Bioorg. Med. Chem.*, *18*, 4212.
2090. Singh, Palwinder; Kaur, Jatinder; Bhardwaj, Atul (2010), 'Synthesis of highly functionalized barbituric acids and study of their interactions with p-glycoprotein and Mg^{2+} - Potential candidates for multi drug resistance modulation', *Eur. J. Med. Chem.*, *45*, 1256.
2091. Singh, Palwinder; Kaur, Jatinder, W. Holzer (2010), 'Acridone based Cu^{2+}– F^{-} / F^{-} – Cu^{2+} responsive ON / OFF key pad'., *Sen. & Act. B: Chemical*, 150, 50.
2092. Singh, Palwinder; Kaur, Matinder; Holzer, Wolfgang (2010), 'Synthesis and evaluation of indole, pyrazole, chromone and pyrimidine based conjugates for tumor growth inhibitory activities - Development of highly efficacious cytotoxic Agents', *Eur. J. Med. Chem*. 45, 4968-4982.
2093. Singh, Palwinder; Kaur, Matinder (2011), 'CN- scavenger: a leap towards development of a CN- antidote', *Chem. Comm.,* 47, 9122.
2094. Singh, Palwinder; Verma, Puja; Yadav, Bhawna; Komath, Sneha S. (2011), 'Synthesis and evaluation of indole-based new scaffolds for antimicrobial activities-Identification of promising candidate', *Bioorg. Med. Chem. Lett.,* 21, 3367
2095. Singh, Palwinder; Kaur, Matinder; Shaveta (2012), 'Mechanism Inspired Development of Rationally Designed Dihydrofolate Reductase Inhibitors as Anticancer Agents', *J. Med. Chem.*, 55, 6381.
2096. Singh, Palwinder; Kaur, Matinder; (2012), 'Using the natural potential of chromone: Development of small molecules as multi-ion detectors', *Med. Chem. Comm*., 3, 369.
2097. Singh, Pardeep; Bhargava, Gaurav; Kumar, Vipan; Mahajan, Mohinder P. (2010), 'Diastereoselective approach to novel octahydroisoquinolones and an extension to its one pot synthesis', *Tetrahedron Letters*, *51*, 272.
2098. Singh, Pardeep; Mehra, Vishu; Anand, Amit; Kumar, Vipan; Mahajan, Mohinder P. (2011), '*β*-Lactam-synthon-interceded diastereoselective

synthesis of novel thioxo-imidazolines: A convenient access to functionally decorated 4,5-dihydro-imidazoles', *Tetrahedron Lett., 52*, 5060.

2099. Singh, Pardeep; Sachdeva, Shaveta; Raj, Raghu; Kumar, Vipan; Mahajan, Mohinder P.; Nasser, Shereen; Vivas, Livia; Gut, Jiri; Rosenthal, Phillip J.; Feng, Tzu-Shean; Chibale, Kelly (2011), 'Antiplasmodial and Cytotoxicity Evaluation of 3-functionalized 2-Azetidinone derivatives', *Bioorg. & Med. Chem. Lett., 21*, 4561.
2100. Singh, Pardeep; Kaur, Sharanjeet; Kumar, Vipan; Bedi, P. M. S.; Mahajan, Mohinder. P.; Sehar, Irum; Pal, Harish Chandra; Saxena, Ajit Kumar (2011), 'Synthesis and in vitro cytotoxic evaluation of N-alkylbromo and N-alkylphthalimido-isatins', *Bioorg. & Med. Chem. Lett.*, *21*, 3017.
2101. Singh, Pardeep; Sharma, Pooja; Anand, Amit; Bedi, P.M.S.; Kaur, Tandeep; Saxena, A.K.; Kumar, Vipan (2012), 'Azide-Alkyne cycloaddition en route to novel 1H-1,2,3-triazole tethered-isatin conjugates with *in vitro* cytotoxic evaluation', *European Journal of Medicinal Chemistry*, *55*, 455.
2102. Singh, Pardeep; Singh, Parvesh; Kumar, Malkeet; Gut, Jiri; Rosenthal, Philip J.; Kumar, Kewal; Kumar, Vipan; Mahajan, Mohinder P.; Bisetty, Krishna (2012), 'Synthesis, docking and in vitro antimalarial evaluation of bifunctional hybrids derived from *β*-lactams and 7-chloroquinoline using click chemistry', *Bioorganic & Medicinal Chemistry Letters*, *22,* 57.
2103. Singh, Pardeep; Raj, Raghu; Kumar, Vipan; Mahajan, Mohinder P.; Bedi, P.M.S.; Kaur, Tandeep; Saxena, A.K. (2012), '1,2,3-Triazole Tethered *β*-lactam-Chalcone Bi-functional Hybrids: Synthesis and Anticancer Evaluation', *European Journal of Medicinal Chemistry*, 47, 594.
2104. Singh, Prabhpreet; Kumar, Rahul; Kumar, Subodh (2013), "9,10-Bis(8-quinolin oxymethyl)anthracene – a fluorescent for nanomolar detection of Cu^{2+} with unusual acid stability of Cu^{2+}-complex", *J. Fluorescence,* DOI 10.1007/s10895-013-1307-6.
2105. Singh, R.; Singh, B.; Singh, Sukhpreet; Kumar, N.; Kumar, Subodh; Arora, Saroj (2010), 'Umbelliferone - An antioxidant isolated from Acacia nilotica (L.) Willd. Ex. Del.', *Food Chemistry*, *120*, 825.
2106. Singh, Rajbir; Singh, Bikram; Singh, Sukhpreet; Kumar, Neeraj; Kumar, Subodh; Arora, Saroj (2009), 'Investigation of ethyl acetate extract / fractions of Acacia nilotica Willd. Ex Del as potent antioxidant', *Records of Natural Products*, *3*, 131.
2107. Singh S.; Chimni, S.S. (2012), 'Chiral Amines Catalyzed Enantio- and Diastereoselective Michael Reaction in Brine', *Tetrahedron: Asymmetry*, 23, 1068
2108. Singh, S.; Chimni, S. S. (2013), 'Pyrrolidine catalyzed diastereoselective direct aldol reaction in water-A green approach'. *Indian J. Chemistry*., *52B*, 1202-1209

2109. Sumanjit; Rani, Seema; Mahajan, Rakesh Kumar (2013), 'Adsorption kinetics for the removal of hazardous dye congo red by biowaste materials as adsorbents', *Journal of Chemistry,* 628582, 1-12.
2110. Singh, Sukhprit; Bhadani, Avinash; Kataria, Hardeep; Kaur, Gurcharan; Kamboj, Raman (2009), 'Synthesis of Glycerol-Based Pyridinium Surfactants and Appraisal of Their Properties', *Ind. Eng. Chem. Res*., *48*, 1673.
2111. Singh, Sukhprit; Kamboj, Raman (2010), 'Synthesis of β-Amino Alcohols from Methyl Epoxy Stearate', *Ind. Eng. Chem. Res*., *49*, 3106.
2112. Singla, M.; Mathur, Pavan; Gupta, Manisha; Hundal, M. S. (2008), 'Oxidation of electron deficient olefins using a copper(II) complex based on benzimidazole diamide ligand', *Transition Met. Chem., 33*, 175.
2113. Sood, A. K.; Singh, K.; Banipal, T. S. (2010), 'Study of micellization behavior of some alkyldimethylbenzyl ammonium chloride surfactants in presence of polymers'. *J. Dispersion Sci. and Tech*., *31*, 62.
2114. Sood, A.K.; Singh, Kultar; Kaur, Jasbir; Banipal, T. S. (2012), 'Mixed Micellization behavior of m-2-m Gemini surfactants with some Conventional surfactants at different temperatures', *J. Surfactant Deterg., 15*, 327.
2115. Sultana, Razia; Lobana, Tarlok S.; Sharma, Renu; Castineiras, Alfonso; Akitsu, Takashiro; Yahagi, Kenichi; Aritake, Yoshikazu (2010), 'Heterocyclic thioamide derivatives of coinage metals (Cu, Ag): synthesis, structures and spectroscopy', *Inorg. Chim. Acta*., *363*, 3432
2116. Sumanjit; Rani, Seema; Mahajan, R.K. (2012), 'Equilibrium, kinetics and thermodynamic parameters for adsorptive removal of dye Basic Blue 9 by ground nut shells and Eichhornia', *Arabian Journal of Chemistry-Elsevier.*
2117. Sumanjit; Rani, Seema; Mahajan, R.K. (2012), 'Kinetic and equilibrium studies of adsorption of dye Congo red from aqueous solutions on bagasse charcoal and banana peels', *Journal of Surface Science and Technology,* 28, 133-147.
2118. Sumanjit; Rani, Seema; Mahajan, Rakesh Kumar (2013), 'Adsorption of dyes Basic blue 9 and Congo red onto thermal power plant waste: Kinetic, equilibrium and thermodynamics parameters', *Research Journal of Chemistry and Environment*, 17(1), 47-58.
2119. Vij, Varun; Bhalla, Vandana; Kumar, Manoj (2013), 'Attogram detection of picric acid by hexa-*peri*-hexabenzocoronene based chemosensors by controlled aggregation induced emission enhancement'. *Appl. Mater. and Interfaces*., published on-line.
2120. Zhang, Jing; Tan, Jiahui; Ma, Zhiying; Xu, Wei; Zhao, Guangyao; Geng, Hua; Di, Chongan; Hu, Wenping; Shuai, Zhigang; Singh, Kamaljit; Zhu, Daoben (2013), 'Fullerene/Sulfur-Bridged Annulene

Co-crystals: Two dimonsional Segregated Heterojunctions with Ambipolar Transport Properties and Photoresponsivity', *J. Amer. Chem. Soc*, 135(2), 558.

Food Science and Technology

2121. Aggarwal, Vani; Singh, Narpinder; Kamboj, Sukhdev Singh (2008), 'Preparation and characterization of acid modified starch from mung and pea cultivars', *Journal of Food Science and Technology*, 45, pp 143-147.
2122. Bakshi, Mandeep Singh; Kaur, Harpreet; Banipal, Tarlok Singh; Singh, Narpinder; Kaur, Gurinder (2010), 'Biomineralization of Gold Nanoparticles by Lysozyme and Cytochrome c and Their Applications in the Protein Film Formation', *Langmuir,* 26, pp 13535-13544.
2123. Bakshi, Mandeep Singh; Kaur, Harpreet; Khullar, Poonam; Banipal, Tarlok Singh; Kaur, Gurinder; Singh, Narpinder (2011), 'Protein Films of Bovine Serum Albumen Conjugated Gold Nanoparticles: A Synthetic Route from Bioconjugated Nanoparticles to Biodegradable Protein Films', *Journal of Physical Chemistry C,* 115, pp 2982-2992.
2124. Bansal, Deepika; Sogi, Dalbir Singh; Oberoi, Davinder Pal Singh; Kumar, Rajesh (2010), 'Antioxidant activities of four mango (*Magnifera indica*) cultivars', *Advances in Food Science,* 32, pp 25-29.
2125. Chandi, Gurpreet Kaur; Sogi, Dalbir Singh (2008), 'Characterization of Traditional (*Basmati 370*) and developed (*Pusa Basmati 1*) Basmati Rice', *International Journal of Food Properties,* 11, pp 910-918.
2126. Chandi, Gurpreet Kaur; Singh, Summet Pal; Gill, Balmeet Singh; Sogi, Dalbir Singh; Singh, Prabhjot (2010), 'Optimization of carotenoids by Rhodotorula glutinis', *Food Science and Biotechnology,* 19, pp 881-887.
2127. Chandi, Gurpreet Kaur; Gill, Balmeet Singh (2011), 'Production and Characterization of microbial carotenoids as an alternative to synthetic colour: A review', *International Journal of Food Properties,* 14, pp 503-514.
2128. Chawla, Chandani; Kaur, Devinder; Oberoi, Davinder Pal Singh; Sogi, Dalbir Singh (2008), 'Drying characteristics, sorption isotherms and lycopene retention of tomato pulp', *Drying Technology,* 26, pp 1257-1264.

2129. Dhillon, Bhavnita; Wiesenborn, Dennis; Wolf-Hall, Charlene; Manthey, Frank (2009), 'Development and evaluation of ozonated water system for antimicrobial treatment of durum wheat', *Journal of Food Science,* 74, pp 396-403.
2130. Dhillon, Bhavnita; Wiesenborn , Dennis; Dhillon, Harvinder; Wolf-Hall, Charlene (2010), 'Development and evaluation of a fluidized bed system for wheat grain disinfection', *Journal of Food Science*, 75, pp 372-378.
2131. Dhillon, Bhavnita; Wiesenborn, Dennis; Sidhu, Harjot; Wolf-Hall, Charlene (2012), 'Improved microbial quality of buckwheat using acetic acid and acidic calcium sulfate solutions in a fluidized bed', *Journal of Food Science*, 77, pp 98-103.
2132. Dutta, Tanima; Kaur, Harsimran; Singh, Sandeep; Mishra, Akanksha; Tripathy, Jayant K; Singh, Narpinder; Pareek, Ashwani; Singh, Prabhjeet (2011), 'Developmental changes in storage proteins and peptidyl prolyl cis-trans isomerase activity in grains of different wheat cultivars', *Food Chemistry*, 128, pp 450-457.
2133. Ezekiel, Rajarathnam and Narpinder Singh (2011), 'Use of potato flour in bread and flat bread', in V. R. Preedy, R. R. Watson, and V. Patel (eds.) *Flour and Breads and their Fortification in Health and Disease* UK: Academic Press, Elsevier, p.247-259, ISBN No. 978-0-12-380886-8 247-259
2134. Gill, Balmeet Singh; Kaur, Supreet; Sogi, Dalbir Singh; Chandi, Gurpreet Kaur (2009), 'Effects of freeze thaw cycles on properties of sweet potato starch', *Advances in Food Science,* 31, pp 89-95.
2135. Gujral, Hardeep Singh; Park, SJ; Baik, Beyung Key (2008), 'Effects of added minerals on pasting of partial waxy wheat flour and starch and on noodle making properties', *Cereal Chemistry*, 85, pp 97-101.
2136. Gujral, Hardeep Singh; Singh, Geetu Surinder; Rosell Cristina Molina (2008), 'Extending shelf life of chapatti by partial baking and frozen storage', *Journal of Food Engineering*, 89, pp 466-471.
2137. Gujral, Hardeep Singh; Angurala, Mamta; Sharma, Paras; Singh, Jaspreet (2011), 'Phenolic Content and antioxidant activity of germinated and cooked pulses', *International Journal of Food Properties,* 14, pp 1366-1374.
2138. Gujral, Hardeep Singh; Sharma, Paras; Rachna (2011), 'Effect of roasting on beta glucan extractability, physiochemical and antioxidant properties of oats', *LWT- Food Science & Technology,* 44, pp 2223-2230.
2139. Gujral, Hardeep Singh; Sharma, Paras; Bajaj, Ritika; Solah, V (2012), 'Effects of incorporating germinated brown rice on the antioxidant properties of wheat flour chapatti', *Food Science and Technology International,* 18, pp 47-54.

2140. Gujral, Hardeep Singh; Sharma, Paras; Kumar, Arvind; Singh, Baljeet (2012), 'Total Phenolic Content and antioxidant activity of extruded brown rice', *International Journal of Food Properties,* 15, pp 301–311.
2141. Gupta, Kalika; Chandi, Gurpreet Kaur; Parmar, Indu; Gill, Balmeet Singh (2010), 'Stevia- a natural sweetener', *Beverage and Food World,* 37, pp 40-41.
2142. Gupta, Mahesh; Gill, Balmeet singh; Bawa, Amarinder Singh (2008), 'Gelatinization and X ray crystallography of buckwheat starch: effect of microwave and annealing treatments', *International Journal of Food Properties,* 11, pp 173-185.
2143. Gupta, Shweta; Chandi, Gurpreet Kaur; Sogi, Dalbir Singh (2008), 'Effect of heat on the functional properties of rice bran protein concentrate', *International Journal of Food Engineering,* 4(2): Article 8.
2144. Kaur, Amandeep; Kaur, Devinder; Oberoi, Davinder Pal Singh; Gill, Balmeet Singh; Sogi, Dalbir Singh (2008), 'Effect of dehydration on physico-chemical properties of mustard, mint and spinach', *Journal of Food Properties and Preservation,* 32, pp 103-116.
2145. Kaur, Amritpal; Singh, Narpinder; Ezekiel, Rajarathnam (2008), 'Quality parameters of potato chips from different potato cultivars: effect of prior storage and frying temperature', *International Journal of Food Properties*, 11, pp 791-803.
2146. Kaur, Amritpal; Singh, Narpinder; Ezekiel, Rajarathnam; Sodhi, Navdeep Singh (2009), 'Properties of starches separated from potatoes stored under different conditions', *Food Chemistry*, 114, pp 1396-1404.
2147. Kaur, Devinder; Wani, Ali Abbas; Oberoi, Davinder Pal Singh; Sogi, Dalbir Singh (2008), 'Effect of extraction conditions on lycopene extractions from tomato processing waste skin using response surface methodology', *Food Chemistry,* 108, pp 711-718.
2148. Kaur, Devinder; Wani, Ali Abbas; Oberoi, Davinder Pal Singh; Sogi, Dalbir Singh (2011), 'Shelf life enhancement of butter, ice-cream and mayonnaise by addition of lycopene', *International Journal of Food Properties,* 14, pp 1217-1231.
2149. Kaur, Maninder; Sandhu, Kawaljit Singh (2010), 'Functional, thermal and pasting characteristics of flours from different lentil (*Lens culinaris*) cultivars', *Journal of Food Science and Technology* , 47, pp 273-278.
2150. Kaur, Maninder; Sandhu, Kawaljit Singh (2010), '*In vitro* digestibility, structural and functional properties of starch from pigeon pea (*Cajanus cajan*) cultivars grown in India', *Food Research International,* 43, pp 263-268.
2151. Kaur, Maninder; Sandhu, Kawaljit Singh; Lim, Seung-Taik (2010), 'Microstructure, physicochemical properties and *in vitro* digestibility

of starches from different Indian lentil (*Lens culinaris*) cultivars', *Carbohydrate Polymers,* 79, pp 349-355.
2152. Kaur, Maninder; Sandhu, Kawaljit Singh; Singh, Narpinder; Lim, Seung-Taite (2011), 'Amylose content, molecular structure, physical properties and in vitro digestibility of starches from different mung bean (*Vigna radiate*. L) cultivars', *Starch/Starke,* 63, pp 709-716.
2153. Kaur, Manmeet; Oberoi, Davinder Pal Singh; Sogi, Dalbir Singh; Gill, Balmeet Singh (2011), 'Physico-chemical, morphological and pasting properties of acid treated starches from different botanical sources', *Journal of Food Science and Technology,* 48, pp 460-465.
2154. Kaur, Satindar; Kaler, Rajsukhwinder Singh (2008), 'Effect of dextran on the flow behavior of molasses and rate of crystallization of sugar', *Journal of Food Engineering,* 86, pp 50-60.
2155. Kaur, Satinder; Kaler, Rajsukhwinder Singh (2008), 'Quantitative estimation of polysaccharides in molasses using Near Infra Red spectroscopy', *Sugar Tech,* 10, pp 265-268.
2156. Kaur, Satindar; Khosla, Ekta; Dave, Pragnesh (2011), 'Removal of basic dye from aqueous solution by biosorption on the sewage sludge' *Indian Journal of Chemical Technology,* 18, pp 1-13.
2157. Kaur, Satindar; Khosla, Ekta; Dave, Pragnesh (2011), 'Removal of Eriochrome Black T by adsorption on to eucalyptus bark using green technology', *Indian Journal of Chemical Technology*, 18, pp 53-60.
2158. Kaur, Satindar; Khosla, Ekta; Dave, Pragnesh (2011), 'Surfactant modified tea waste as a novel adsorbent for the removal of the basic dye', *Der Chemica Sinica,* 2-5, pp 87-102.
2159. Kaur, Satindar; Khosla, Ekta; Dave, Pragnesh (2012), 'A study of adsorption mechanism of Basic Red-12 over eucalyptus bark and its surface derivatives', *Journal of Chemical & Engineering Data,* 57, pp 2004-2011.
2160. Kaur, Seeratpreet; Singh, Narpinder; Sodhi, Navdeep Singh; Rana, Jai Chand (2009), 'Genotypic diversity in physicochemical, hydrating, pasting and textural properties of kidney bean varieties', *Food Chemistry*, 117, pp 282-289.
2161. Kaur, Shubhpreet; Singh, Narpinder; Rana, Jai Chand (2010), '*Amaranthus hypochondriacus* and *Amaranthus caudatus* germplasm: Characteristics of plants, grains and flours', *Food Chemistry,* 123, pp 1227-1234.
2162. Mesa, Normell Jhoe E de; Alavi, Sajid; Singh, Narpinder**;** Shi, Yong-Chen; Dogan, Hulya; Sang, Yijun (2009), 'Effect of soy protein concentrate and extruder screw speed on the physico-chemical, textural and cellular properties of corn starch-based expanded snacks', *Journal of Food Engineering*, 90, pp 262-270.
2163. Narula, Gunjan; Kaur, Devinder; Oberoi, Davinder Pal Singh; Sogi, Dalbir Singh (2009), 'Thermal degradation kinetics of oleoresins

extracted from tomato paste', *Journal of Food Science & Technology,* 46, pp 75-76.
2164. Oomah, D.B., A. Patras, A. Rawson and Narpinder Singh (2011), 'Chemical composition of pulses', in B. Tiwari, A. Gowen and B. McKenna (eds.) *Pulse Foods: Quality, Technology, and Nutraceutical Application,* UK, Elsevier, p 9-56. ISBN No. 978-0-12-382018-1.
2165. Parmar, Indu; Chandi, Gurpreet Kaur; Gupta, Kalika; Gill, Balmeet Singh (2012), 'Effect of Drying on Degradation kinetics of carotenoids and color of tomato pulp', *International Journal of Food Engineering,* 8, pp 1556-3758.
2166. Sandhu, Kawaljit Singh; Kaur, Maninder; Singh, Narpinder; Lim, Seung-Taik (2008), 'A comparison of native and oxidized normal and waxy corn starches: Physicochemical, thermal, morphological and pasting properties', *LWT - Food Science and Technology,* 41, pp 1000-1010.
2167. Sandhu, Kawaljit Singh; Kaur, Maninder; Mukesh (2010), 'Studies on noodle quality of potato and rice starches and their blends in relation to their physicochemical, pasting and gel textural properties', *LWT Food Science and Technology*, 43, pp 1289-1293.
2168. Sharma, Paras; Gujral, Hardeep Singh (2010), 'Antioxidant and polyphenol oxidase activity of germinated barley and its milling fraction', *Food Chemistry,* 120, pp 673-678.
2169. Sharma, Paras; Gujral, Hardeep Singh (2010), 'Milling behavior of hulled barley and its thermal and pasting properties', *Journal of Food Engineering,* 97, pp 329-334.
2170. Sharma, Paras; Gujral, Hardeep Singh; Rosell, Cristina Molina (2011), 'Effects of roasting on barley β-glucan, thermal, textural and pasting properties', *Journal of Cereal Science,* 53, pp 25-30.
2171. Sharma, Paras; Gujral, Hardeep Singh (2011), 'Effect of sand roasting and microwave cooking on antioxidant activity of barley', *Food Research International* 44, pp 235–240.
2172. Sharma, Paras; Gujral, Hardeep Singh; Singh, Baljeet (2012), 'Antioxidant activity of barley as affected by extrusion cooking', *Food Chemistry,* 131, pp 1406-1413.
2173. Sharma, Radhika; Kaur, Devinder; Oberoi, Davinder Pal Singh; Sogi, Dalbir Singh (2008), 'Thermal degradation of pigments and visual colour in watermelon juice', *International Journal of Food Properties,* 11, pp 439-449.
2174. Sharma, Rajiv; Sogi, Dalbir Singh; Saxena, Dharmesh Chandar (2009), 'Dehulling performance and textural characteristics of unshelled and shelled sunflower (*Helianthus annuus* L.) seeds', *Journal of Food Engineering,* 92, pp 1-7.
2175. Sharma, Rajiv; Sogi, Dalbir Singh; Balasubramanian, Swami (2012), 'Aerodynamic Characteristics of Unshelled and Shelled Sunflower

Seeds: Significance of Moisture and Cultivars', *International Journal of Food Properties,* 15, pp 1-10.
2176. Sharma, Ravi; Oberoi, Davinder Pal Singh; Sogi, Dalbir Singh; Gill, Balmeet Singh (2009), 'Effect of sugar and gums on pasting properties of cassava starch', *Journal of Food Processing and Preservation,* 33, pp 401-414.
2177. Sharma, Uttam; Singh, C; Kaur, Gurpreet; Oberoi, Davinder Pal Singh; Sogi, Dalbir Singh (2008), 'Drying characteristics of cauliflower', *Advances in Food Science,* 30, pp 63-69.
2178. Shevkani, Khetan; Singh, Narpinder; Singh, Sandeep; Ahlawat, Arvind Kumar; Singh, Anju Mahendru (2011), 'Relationship between physicochemical and rheological properties of starches from Indian wheat lines', *International Journal of Food Science and Technology,* 46, pp 2584–2590.
2179. Singh, Balwinder; Kaur, Amritpal (2011), 'Comparison of agar and gum karaya as gelling agent for in vitro regeneration of rough lemon (*Citrus jambhiri* Lush.) plantlets from nodal explants', *Journal of Crop Science & Biotechnology*, 14, pp 297-303.
2180. Singh, Balwinder; Kaur, Amritpal; Singh, Jaspreet (2011), 'Evaluation of natural exudates gum from Sterculia urens as gelling agent for in vitro propagation of rough lemon (*Citrus jambhiri* Lush.) from shoot tips', *Journal of Biological Sciences,* 11, pp 374-380.
2181. Singh, Bir Maninder; Oberoi, Davinder Pal Singh; Wani, Idrees Ahmed; Sogi, Dalbir Singh (2009), 'Effect of temperature, salt concentration, pH and time on the thermal degradation of pumpkin puree', *Advances in Food Science,* 31, pp 96-101.
2182. Singh, Gagan Deep; Wani, Ali Abbas; Kaur, Devinder; Sogi, Dalbir Singh (2008), 'Characterisation and functional properties of protein of some chickpeas (*Cicer arietinum*) cultivars', *Journal of the Science of Food and Agriculture,* 88, pp 778-786.
2183. Singh, Gagan Deep; Riar, Charanjit Singh; Saini, Cozy; Bawa, Amrinder Singh; Sogi, Dalbir Singh; Saxena, Dharmesh Chander (2011), 'Indian water chestnut flour- method optimization for preparation, its physicochemical, morphological, pasting properties and its potential in cookies preparation', *LWT- Food Science and Technology,* 44, pp 665-672.
2184. Singh, Harinder; Sodhi, Navdeep Singh; Singh, Narpinder (2009), 'Structure and physicochemical properties of acid thinned sorghum starch', *International Journal of Food Properties,* 12, pp 713-725.
2185. Singh, Harinder; Sodhi, Navdeep Singh; Singh, Narpinder (2010), 'Characterization of starches separated from sorghum cultivars grown in India', *Food Chemistry,* 119, pp 95-100.
2186. Singh, Harinder**;** Chang, Yung Ho; Lin, Jheng-Hua; Singh, Navdeep; Singh, Narpinder (2011), 'Influence of heat-moisture treatment and

annealing on functional properties of sorghum starch', *Food Research International*, 44, pp 2949- 2954.
2187. Singh, Harinder; Chang, Yung-Ho; Sodhi, Navdeep Singh; Singh, Narpinder (2011), 'Influence of prior acid treatment on physicochemical and structural properties of acetylated sorghum starch', *Starch/Starke,* 63, pp 291-301.
2188. Singh, Harinder; Sodhi, Navdeep Singh; Singh, Narpinder (2012), 'Structure and functional properties of acetylated sorghum starch', *International Journal of Food Properties,* 15, pp 312-325.
2189. Singh, Narpinder; Isono, Naoto; Srichuwong, Sathaporn; Noda, Takahiro; Nishinari, Katsuyoshi (2008), 'Structural and viscoelastic properties of potato starches', *Food Hydrocolloids,* 22, pp 979-988.
2190. Singh, Narpinder; Nakaura, Yoshiko; Inouchi, Naoyoshi; Nishinari, Katsuyoshi (2008), 'Structure and viscoelastic properties of starches separated from different legumes', *Starch/Starke,* 60, pp 349-357.
2191. Singh, Narpinder; Bedi, Richa; Garg, Rhythm; Garg, Mukti; Singh, Jaghmohan (2009), 'Physico-chemical, thermal and pasting properties of fractions obtained during three successive reduction milling of different corn types', *Food Chemistry,* 113, pp 71-77.
2192. Singh, Narpinder; Belton, Peter S; Georget, Dominique M R (2009), 'The effects of iodine on kidney bean starch: films and pasting properties', *International Journal of Biological Macromolecules,* 45, pp 116-119.
2193. Singh, Narpinder; Georget, Dominique; Belton, Peter; Barker, Susan (2009), 'Zein-iodine Complex Studied by FTIR Spectroscopy, Dielectric and Dynamic Rheometry in Films and Precipitates', *Journal of Agricultural and Food Chemistry,* 57, pp 4334-4341.
2194. Singh, Narpinder; Singh, Sandeep; Isono, Naoto; Noda, Takahiro; Singh, Anju Mahendru (2009), 'Diversity in amylopectin structure, thermal and pasting properties among Indian wheat varieties', *International Journal of Biological Macromolecules,* 45, pp 298-304.
2195. Singh, Narpinder; Georget, Dominique M R; Belton, Peter S; Barker, Susan A (2010), 'Physical properties of zein films containing salicylic acid and acetyl salicylic acid', *Journal of Cereal Science,* 52, pp 282-287.
2196. Singh, Narpinder; Kaur, Navpreet; Rana, Jai Chand; Sharma, Shyam Kumar (2010), 'Diversity in seed and flour properties in field pea (*Pisum sativum*) germplasm', *Food Chemistry,* 122, pp 518-525.
2197. Singh, Narpinder; Kaur, Shubhpreet; Isono, Naoto; Noda, Takahiro (2010), 'Genotypic diversity in physico-chemical, pasting and gel textural properties of chickpea (*Cicer arietinum* L.)', *Food Chemistry,* 122, pp 65-73.
2198. Singh, Narpinder; Pal, Nisha; Mahajan, Gulshan; Singh, Sandeep; Shevkani, Khetan (2011), 'Rice grain and starch properties: effects of

nitrogen fertilizer application', *Carbohydrate Polymers*, 86, pp 219-225.

2199. Singh, Narpinder (2011), 'Physico-chemical and functional properties of pulse starch', in B. Tiwari, A. Gowen and B. McKenna (Eds.) *Pulse Foods: Quality, Technology, and Nutraceutical Application,* UK, Elsevier, p91-120. ISBN No. 978-0-12-382018-1.
2200. Singh, Narpinder and Prabhjeet Singh (2011), 'Amaranth: potential source for flour enrichment', in V. R. Preedy, R. R. Watson, and V. Patel (eds.) *Flour and Breads and their Fortification in Health and Disease,* UK: Academic Press, Elsevier, p.101-111, ISBN No. 978-0-12-380886-8.
2201. Singh, Narpinder; Sandeep Singh and Khetan Shevkani (2011), 'Maize: composition, bioactive constituents and unleavened bread', in V. R. Preedy, R. R. Watson, and V. Patel (eds.) *Flour and Breads and their Fortification in Health and Disease,* UK: Academic Press, Elsevier, p.89-99, ISBN No. 978-0-12-380886-8.
2202. Singh, Narpinder; Kaur, Seeratpreet; Isono, Naoto; Ichihashi, Yuya; Noda, Takahiro; Kaur, Amritpal; Rana, Jai Chand (2012), 'Diversity in characteristics of starch amongst rice bean (*Vigna umbellate*) germplasm: Amylopectin structure, granules size distribution, thermal and rheology', *Food Research International*, 46, pp 194-200.
2203. Singh, Narpinder; Kaur, Seeratpreet; Rana, Jai Chand; Nakaura, Yoshiko; Inouchi, Naoyoshi (2012), 'Isoamylase debranched fractions and granule size in starches from kidneybean germplasm: Distribution and relationship with functional properties', *Food Research International*, 47, pp 174-181.
2204. Singh, Narpinder; Kaur, Amritpal (2012), 'Tree nuts: composition, phytochemicals and health benefits', in B. Tiwari, C. Brennan & N. Brunton (eds.) *Handbook of Phytochemicals: sources, stability and extraction*, USA: Wiley Blackwell p163-179. ISBN: 978-1-4443-3810-2.
2205. Singh, Narpinder; Singh, Sandeep; Kaur, Amritpal; Bakshi, Mandeep Singh (2012), 'Zein: Structure, production, film properties and applications', in M. John and S. Thomas (eds.) *Natural Polymers-Vol I*, UK: RSC Publishing. p204-219 ISBN No. 9781849734028.
2206. Singh, Sandeep; Singh, Narpinder (2010), 'Effect of debranning on the physico-chemical, cooking, pasting and textural properties of common and durum wheat varieties', *Food Research International,* 43, pp 2277-2283.
2207. Singh, Sandeep; Singh, Narpinder; Isono, Naoto; Noda, Takahiro (2010), 'Relationship of granule size distribution and amylopectin structure with pasting, thermal and retrogradation properties in wheat starch', *Journal of Agricultural and Food Chemistry,* 58, pp 1180-1188.

2208. Singh, Sandeep; Singh, Narpinder; Ezekiel, Rajarathnam; Kaur, Amritpal (2011), 'Effect of gamma-irradiation on the morphological, thermal, pasting, textural and rheological properties of potato starches', *Carbohydrate Polymers*, 83, pp 1521-1528.
2209. Singh, Sandeep; Singh, Narpinder; MacRitchie, Finley (2011), 'Relationship of polymeric proteins with pasting, gel dynamic- and dough empirical- rheology in different Indian wheat varieties', *Food Hydrocolloids* 25, pp 19-24.
2210. Sodhi, Navdeep Singh; Chang, Yung Ho; Kaur, Nimratbir; Kohyama, Kaoru (2009), 'Effect of acid-methanol treatment on the molecular structure and physicochemical properties of lentil *(Lens culinaris* Medik) starch', *Food Hydrocolloids,* 23, pp 2219-2225.
2211. Sodhi, Navdeep Singh; Sasaki, Tomoko; Lu, Zhan, Hui; Kohyama, Kaoru (2010), 'Phenomenological viscoelasticity of some rice starch gels', *Food Hydrocolloids,* 24, pp 512-517.
2212. Sogi, Dalbir Singh; Oberoi, Davinder Pal Singh; Malik, Saurabh (2010), 'Effect of particle size, temperature, and total soluble solids on the rheological properties of watermelon juice: A response surface approach', *International Journal of Food Properties,* 13, pp 1207-1214.
2213. Sogi, Dalbir Singh; Sharma, Shagun; Oberoi, Davinder Pal Singh; Wani Idrees Ahmed (2010), 'Effect of extraction parameters on curcumin yield from turmeric', *Journal of Food Science and Technology,* 47, pp 300-304.
2214. Sogi, Dalbir Singh; Siddiq, Muhamad; Roidoung, Sunisa; Dolan, Kirk D (2012), 'Total phenolics, carotenoids, ascorbic acid and antioxidant properties of fresh-cut mango (*Mangifera indica* L., cv. Tommy Atkin) as affected by infra-red heat treatment', *Journal of Food Science,* 77, pp 1197-1202.
2215. Singh, Sandeep; Singh, Gurpreet; Singh, Prabhjeet; Singh, Narpinder (2008), 'Effect of water stress at different stages of grain development on the characteristics of starch and protein of different wheat varieties', *Food Chemistry*, 108, pp 130-139.
2216. Wani, Ali Abbas; Kaur, Devinder; Ahmed, Idrees; Sogi, Dalbir Singh (2008), 'Extraction optimization of watermelon seed protein using response surface methodology', *LWT- Food Science & Technology,* 41, pp 1514-1520.
2217. Wani, Idrees Ahmed; Sogi, Dalbir Singh; Wani, Ali Abbas; Gill, Balmeet Singh; Shivhare, Uma Shanker (2010), 'Physico-chemical properties of starches from Indian kidney bean (*Phaseolus vulgaris L.*) cultivars', *International Journal of Food Science and Technology,* 45, pp 2176-2185.
2218. Wani, Ali Abbas; Sogi, Dalbir Singh; Singh, Preeti; Wani, Idrees Ahmed; Shivhare, Uma Shanker (2011), 'Characterization and Functional Properties of Watermelon (*Citrullus lanatus*) Seed

Proteins', *Journal of the Science of Food and Agriculture,* 91, pp 113-121.

2219. Wani, Ali Abbas; Sogi, Dalbir Singh; Singh, Preeti; Sharma, Paras; Pangal, Ali (2012), 'Dough-Handling and Cookie-Making Properties of Wheat Flour–Watermelon Protein Isolate Blends', *Food Bioprocess Technology,* 5, pp 1612-1621.
2220. Wani, Idrees Ahmed; Sogi, Dalbir Singh; Gill, Balmeet Singh (2012), 'Physico-chemical properties of acetylated starches from some Indian kidney bean (*Phaseolus vulgaris* L.) cultivars', *International Journal of Food Science and Technology*, 47, pp 1993-1999.

Mathematics

2221. Aslam, Z.; Manchanda, P.; Siddiqi, A.H. (2011), "Temperature and Precipitation variability over euro-near east Asia", *Journal of Food, agriculture & Environment*, 9(3&4):912:922.
2222. Chandok, S.; Narang, T.D. (2009), "On Common fixed points and best approximation on nonconvex sets", *Thai J. Math*., **7**, pp 69-76.
2223. Chandok, S.; Narang, T. D. (2009), "Some fixed point theorems with applications to best simultaneous approximations", *J. Nonlinear Sciences & Applications* (Iran).
2224. Chandok, S.; Narang, T. D. (2011), "Common fixed points and invariant approximation for Gregus type contraction mappings", *Rend. Circ. Mat., Palermo, Springer-Verlag* 60, pp. 203-214.
2225. Chandok, S.; Narang,T. D. (2011), "On suns in linear points and E-simultaneous approximation", *International J. Math. & Mathematical Sciences,* Article ID 57819(1-10).
2226. Chandok, S.; Narang, T. D. (2011), "E-simultaneous approximation and invariant points", *Bull. Belgian. Math. Soc. Simon Stevin* (Belgium) 18.
2227. Chandok, S.; Narang, T. D. (2011), "Common fixed points and invariant approximation or banach operator paris with Ciric type non-expansive mappings". *Hacettepe, J.Math & Stats. (Turkey),* 40.
2228. Chandok, S.; Narang, T.D. (2012), "Common fixed points and invariant approximation for C_q-commuting generalized nonexpansive mappings", *Iranian Journal of Mathematical Sciences and Informatics,* **7**, pp 21-34.
2229. Chandok, S.; Narang, T.D. (2012), "Common fixed points of non-expansive mappings with applications to best and best simultaneous approximation", *J. Appl. Anal.,* 18, pp 33-46.
2230. Chandok, S.; Narang, T.D. (2012), "Common fixed points with applications to best simultaneous approximation" *Analysis Theory and Applications.*

2231. Chandok, S.; Narang, T.D. (2012), "Common fixed points for generalized asymptotically nonexpansive mappings", *Tamkang J. Math.*
2232. Chandok, S.; Narang, T.D. (2012), "Invariant points of best approximation and best simultaneous approximation", *Fasciculi Mathematici.*
2233. Chandok, S.; Narang, T.D. (2012), "Fixed points, common fixed points and invariant approximation", *Thai Journal Math.*
2234. Chandok, Sumit; Narang, T.D. (2013), "Common fixed points for generalised asymptotically non expensive mappings" -*Tamkang J.Math.(P.R.China)* 44(1), 23-29.
2235. Chandok, Sumit; Narang, T.D. (2013), "Fixed points, common fixed points and invariant approximation", *Thai Journal Math (Thailand)* ISSN 1686-0209 (accepted).
2236. Chandok, Sumit; and Narang, T.D. (2013), "Invariant points of best approximation and best simultaneous approximation", *Fasciculi Mathematici(Poland),* 51.
2237. Chandok, Sumit; Narang T. D.; Taoudi, Mohamed Aziz (2013), "Some common fixed point results in partially ordered metric spaces for generalized rational type contraction mappings-Vietnam" *J.Math.(Vietnam)* DOI 10.1007/010013-013-0024-4(2013).
2238. Chandok, Sumit; Narang T. D.; Taoudi, Mohamed Aziz (2013), "Fixed point theorem for generalized contractions satisfying rational type expressions in partially ordered metric spaces", *Gulf J Math (Dubai),* 4 (2013), 1:4.
2239. Furati, K.M., Manchanda, P. and Siddiqi, A.H. (2008), "Wavelet Methods in Oil Industry, Proceeding International Workshop III: Mini Symposium on Applications of Wavelets to real world problems", Istanbul Aydin University, Istanbl, PP 26-36 ISBN 978-975-00652-4-8.
2240. Grover, L.K. (2008), "The Lure of Statistics in Data Mining", *Journal of Statistics Education*, vol. 16(1).
2241. Grover, L.K. (2010), "A correction note on Improvement in Variance estimation using auxillary Information", *Communication in Statistics-theory and Methods*, 39(5), pp753-64.
2242. Grover, L.K.; Kaur,P. (2011), "An improvement estimator of finite population mean in simple random sampling", *Model assisted statistics and applications,* 6(1), pp 47-55.
2243. Grover, L. K.; Kaur, P.; Vishawkarma, G. K. (2012), "Product type exponential estimators of population under linear transformation of auxiliary variable in simple random sampling", *Applied Mathematics and Computation,* 219(4), pp 1937-1946.
2244. Kumar, J.; Manchanda, P. (2009), "*Estimation of Hurst Exponent for Financial Time Series*" in Siddiqi, A.H., Gupta, A.K., Brokate, M.(eds) Modeling of Engineering and Technological Problems, American

Institute of Physics Conference Proceedings, New York, Vol. 1146, pp 272-283.
2245. Manchanda, P.; Meenakshi. (2009). '*New Classes of Wavelets*' in Siddiqi, A.H., Gupta, A.K., Brokate, M. (eds), Modeling of Engineering and Technology Problems, American Institute of Physics Conference Proceedings, New York, Vol. 1146, pp 253-271.
2246. Manchanda, P.; Meenakshi (year) "Some recent developments on mathematical aspects of wavelets".
2247. Manchanda, P.; Meenakshi; Siddiqi, A.H. (2012), "Wavelets associated with Non-uniform Multi-resolution analysis on a positive half line", *International Journal of Wavelet, Multi-resolution and Information processing*, 10(2), pp 1-27
2248. Manchanda, P.; Sharma, V. (2012), "Orthogonal vector valued wavelets on R_+", *International Journal of Pure and Applied Mathematics* 75(4), pp 493-510.
2249. Manchanda, P.; Meenakshi; Siddiqi, A.H. "A special type of Non-Uniform Multi-resolution Analysis". Wavelet theory and Applications, Research India Publications.
2250. Manchanda, P.; Meenakshi. (2012), "Wavelets associated with vector-valued non-uniform multi-resolution analysis, Applicable analysis".
2251. Manchanda, P.; Meenakshi (2011), "Some recent developments on mathematical aspects of wavelets", in Siddiqui, A.H., Singh, R.C. and Manchanda, P. (eds.) Mathematics in Science and Technology. World Scientific Publishers. Pp 373-401.
2252. Manchanda, P. (2012), "Wavelets methods in Data Mining", Conference Proceedings entitled 'Emerging Applications of Wavelets Methods' of American Institute of Physics, Siddiqi, A.H. (Ed.), 1463, pp103-131.
2253. Manchanda, P.; Meenakshi.(2013), "Wavelets associated with vector-valued nonuniform multiresolution analysis", *Applicable Analysis*, (Available Online).
2254. Manchanda, P.; Meenakshi; Siddiqi, A.H. (2013), "Construction of vector-valued Nonuniform wavelets and wavelet packets", *Indian Journal of Industrial and Applied Mathematics* 4(1): 105-125
2255. Narang, T. D.; Tejpal, S. (2008), "On d-suns", de L'Institute mathematique, 83, pp 99-104.
2256. Narang, T.D.; (2008), "Best Approximation in space with convex structure", *Analysis Theory and Applications,* 24, pp 67-74.
2257. Narang, T.D. (2008), "On fixed points of non-expansive mappings", *Anal. Univ. din. Timisoaral*, 46, pp 113-119.
2258. Narang, T.D.; Sangeeta; Tejpal, S. (2008), "On Various generalizations of suns", *Carrib. J. Math Compulse,* 15, pp 1-12.
2259. Narang, T.D.; Chandok, S. (2008), "Fixed points of non-expansive mappings on non-convex sets in metric spaces", *J. Ultra Scientist of Physical Sciences,* 20, pp201-204.

2260. Narang, T.D.; Tejpal, S. (2009), "On metric spaces in which metric segments have unique prolongations", *Bulletin Institute Math Academia Sinica*, 4, pp 1-8.
2261. Narang, T.D.; Chandok, S. (2009), "On ε-approximation and fixed points of nonexpansive mappings in metric spaces", *Mathematicki Vesnik*, 61, pp 165-171.
2262. Narang, T.D. (2009), "Generalisation's of Ky Fan's Theorem on best approximations", *Anal. Theory Appl.*, 25, pp109-116.
2263. Narang, T.D.; Chandok, S. (2009), "Fixed points of quasi-nonexpansive mappings and best approximation", *Selcuk J. Appl. Math*., 10, pp 77-82.
2264. Narang, T.D.; Sangeeta (2009). "A note on the convexity of Chebyshev sets", *Bol. Soc. Paranaese de Mat*. 27, pp 59-63.
2265. Narang, T.D.; Sangeeta (2009), "Best Approximations in metric linear spaces and quasi normed spaces", *J. Scientific Research*, 53, pp 233-238.
2266. Narang, T.D.; Chandok, S. (2009), "Fixed points and best approximation in metric spaces", *Indian J. Math*., 51, pp 293-303.
2267. Narang, T.D. (2009), "Convexity of Chebyshev sets in linear metric spaces", *Bulletin Calcutta Math. Soc*. 101.
2268. Narang, T.D. (2009), "Fixed points and best approximation in metric linear spaces", *Bull. Gauhati Univ. Math. Assoc*. 10, pp 52-58
2269. Narang, T.D.; Sangeeta. (2009), "A note on suns in convex metric spaces", *Publ. Inst. Math.*, (Yugoslavia).
2270. Nanrang, T.D. (2010), "Convexity of Chevyshev sets in linear spaces", *Bulletin Calcutta Soc.*, 102, pp 43-46.
2271. Nanrang, T.D.; Chandok, S. (2010), "Some fixed point theorems with application to the best simultaneous approximations", *J.Nonlinear Sciences & Applications (Iran),* 3, pp 87-95.
2272. Narang, T.D.; Chandok, S. (2010), "Some common fixed points theorems for Banach operator paris with applications in best approximation", *Non-linear Analysis*, 73, pp 105-109.
2273. Narang, T.D.; Chandok, S.(2010), "Common fixed points and invariant approximation of R-subweakly commuting maps in convex metric spaces", *Ukrainian Math. J.(Ukraine)* 62, pp 1367-1377.
2274. Narang, T.D.; Sangeeta (2010), "Some characterizations of sums in terms of fixed points in linear metric spaces", *The Mathematics student*, 79.
2275. Narang, T.D.; Sangeeta (2010), "A note on best approximation", *Bull. Gauhati Univ.*, 11, pp 67-78.
2276. Narang, T.D.; Tejpal, S. (2010), "Some fixed points theorems for kanan Mappings", *Serdica Math. J. Bulgaria*, 36, pp 1-10.
2277. Narang, T.D.; Sangeeta (2011), "On singletonness of remotal and uniquely remotal sets", *Bull. Belgian Math. Soc. (Belgium),* 18, pp 113-120.

2278. Narang, T.D.; Chandok, S. (2011), "Common fixed points and invariant approximation of generalized nonexpansive maps for banach operator paris", *Italian J. Pure Appl. Math (Italy),* 31.
2279. Narang, T.D.; Sangeeta; Tejpal, S. (2011), "On various generalizations of Suns", *Caribb. J. Math. Comp. Sc.*, 15.
2280. Narang, T.D.; Chandok, S. (2011), "On continuity of the best approximation map and fixed point approximation map and fixed point theorems", *J. Indian Math. Soc.*, 79.
2281. Narang, T.D. (2011), "On mappings admitting centres", *Global J.Math.Sciences: Theory & Practical*.
2282. Narang, T.D. (2011), "On Proximinality pairs", *The Mathematics Student*, 80.
2283. Narang, T.D.; Tejpal, S. (2012), "On radial continuity of metric projections", *Analele Universitatii din Timisoara*, 50, pp 31-47.
2284. Narang, T.D. (2012), "On mappings admitting centers", *Global J. Math. Sciences: Theory & Practical*, 4, pp 113-120.
2285. Narang, T.D. (2012), "On approximative compactness", *J. Indian Math Soc.*
2286. Narang, T. D. (2013), "On approximative compactness", *J.Indian Math Soc.* 80, 111-119.
2287. Fridli, S.; Mandhanda, P.; Siddiqui, A.H. (2008), "Haar-Vilenkin wavelet", *The Aligarh Bulletin of Mathematics*, 27(1), pp 59-73.
2288. Parkash, Om; Gandhi, C.P. (2009), "A non-parametric measure of fuzzy R-divergence and its properties", *Reflection des ERA*, 4.1, pp 1-10.
2289. Parkash, Om; Thukral, A.K. (2009), "Statistical measures as measures of diversity*", International Jr. of Biomathematics*.
2290. Parkash, Om; Sharma, P.K.; Mahajan, R. (2009), "Optimization principle for weighted fuzzy entropy using constraints", *Southeast Asian Bulletin of Mathematics*, 34, pp 155-161.
2291. Parkash, Om; Kumar, A.; Kumar, J. (2009), "*New weighted measures of fuzzy entropy, their mutual relationships and monotonic properties". Emerging Trends in Software Engineering,* Nath. P.; Taneja, G.; Deora, S.S.; Rahim, Z.(Ed.) RGN Pub., pp.-1-10.
2292. Parkash, Om (2010), "*The principle of maximum weighted fuzzy entropy-a study information theory and optimization Techniques"*, in Scientific Research (ed Om Parkash), VDM Verlag, pp 40-58.
2293. Parkash, Om; Kakkar, P. (2010), *"Construction of uniquely decipherable code closet to best one-one code"*, in Om Parkash (Ed.), Advances in Information Theory and Operations research, VDM Verlag, 56-66.
2294. Parkash, Om; Gandhi, C.P. (2010), "Some generalized information theoretic measures based upon probability distributions", *ICETC,* 6, pp 1-5.

2295. Parkash, Om; Thukral, A.K. (2010), "Statistical measures as measures of diversity", *International Jr. of Biomathematics*, 3(2), pp 173-185.
2296. Parkash, Om; Sharma, A.K.; Mahajan, R. (2010), "Optimization principle for weighted fuzzy entropy using unequal constrains", *Southeast Asian Bulletin of Mathematics*, 34, pp 155-161.
2297. Queuing Theory", in Om Parkash (Ed.), Advances in Information Theory and Operations Research VDM Verlag, 15-22.
2298. Parkash, Om; Gandhi, C.P. (2010), "Applications of Trigonometric measures of fuzzy entropy to geometry", *International Journal of Mathematical and Computer Sciences*, 6(2), pp 76-79.
2299. Parkash, Om; Mukesh; Thukral, A.K. (2010), *"Measuring randomness of association through coefficient of non-determination"*, in Om Parkash (Ed.) Adavances in information Theory and operations Research, VDM Verlag, 46-55.
2300. Parkash, Om; Gandhi, C.P. (2010), "Variations of uncertainty in steady and non-steady processes of queuing theory", *International Journal of information and Communication enginnering,* 7.
2301. Parkash, Om; Thukral, A.K.; Gandhi, C.P. (2010), "Some new information measures based upon sampling distributions", *Intenrational Journal of Engineering and Applied Sciences*, 7(3).
2302. Parkash, Om; Gandhi, C.P. (2010), "New Generalized measures of fuzzy entropy and their properties", *Journal of Informatics and Mathematical Sciences.*
2303. Parkash, Om; Priyanka (2012), "Generalized entropies via functional equations and determining mean codeword lengths", *American Journal of Mathematics and Sciences,* 1(1), pp 97-105.
2304. Parkash, Om; Mukesh. (2012), "New generalized parametric measures of entropy and cross entropy"**,** *American Journal of Mathematics and Sciences,* 1(1), pp 91-96.
2305. Parkash, Om; Priyanka (2012), "Characterizing inaccuracies through generalized parametric mean, Global and Stochastic Analysis": *An International Journal,* 2(1), pp 13-20.
2306. Parkash, Om; Mukesh (2012), "Development of optimizational principle for minimizing risk in portfolio analysis"**,** *Global and Stochastic Analysis: An International Journal*, 2(1), pp 21-26.
2307. Parkash, Om; Kakkar, P. (2012), "Development of two new mean codeword lengths", *Information Sciences,* 207, pp 90-97.
2308. Parkash, Om; Mukesh (2012), "Relation between information measures and chi-square statistic"**,** *International Journal of Pure and Applied Mathematics.*
2309. Parkash, Om; Mukesh (2013), "Relation between information measures and Chi-square Statistic", *International Journal of Pure and Applied Mathematics, 84(5), 517-524*
2310. Parkash, Om; Kakkar, Priyanka (2013), "Optimum Probability Distribution for Minimum Redundancy of Source Coding"*, Applied*

Mathematics (Accepted).

2311. Parkash, Om; Kakkar, Priyanka (2013), "Entropy bounds using arithmetic-geometric-harmonic mean equality", *International Journal of Pure and Applied Mathematics (accepted).*
2312. Sangeeta; Narang, T.D. (2011), "On suns in linear metric spaces and convex metric spaces", *East J. Approximation*, 17, pp 127-139.
2313. Sangeeta; Narang, T.D. (2012), *"On farthest points in convex metric spaces-Analysis and its Applications"* in Rais Ahmed, Q.H. Ansari and M. Imdad (Ed.), Narosa Publishing House), pp 145-155.
2314. Sangeeta; Narang, T. D. (2013), *"On farthest points in convex metric spaces-Analysis and its Applications"* (Ed. Rais Ahmed, Q.H. Ansari and M. Imdad, Narosa Publishing House, 145-155 ISBN 978-81-8487-215-6.
2315. Sharma, M.; Narang, T.D. (2012), "Best approximation and fixed points for nonconvex sets", *International Journal of Mathematics Research.*
2316. Sharma, Meenu; Narang, T. D. (2013), "Best approximation and fixed points for nonconvex sets", *International Journal of Mathematics Research* ISSN 0976-5840 (accepted).
2317. Sharma, V.; Manchanda, P.(2012), "Wavelet packets associated with non-uniform multi-resolution analysis on positive half line", *Asian European Journal of Mathematics, World Scientific.*
2318. Sharma, V.; Manchanda, P. (2013), "Wavelet packets associated with nonuniform multiresolution analysis on positive half line", *Asian European Journal of Mathematics, World Scientific* 6(1): 1350007(1-16)
2319. Siddiqi, A.H.; Manchanda, P. (2012), "Introduction of Mathematical Models and Methods", Conference Proceedings entitled "Emerging Applications of Wavelets Methods" of American Institute of Physics edited by Siddiqi, A.H., 1463, pp 3-15.
2320. Singh, C.J. (2010), "Priority queuing model with balking and ranging", *Journal of applied and natural science*,2(1), pp 38-41.
2321. Singh, C.J.; Jain, M.; Kumar, B. (2011), "Queuing model with state dependent Bulk arrival and second optional service", *International Journal of mathematics in Operational Research,* 3(3), pp 322-340.
2322. Singh, C.J.; Jain, M. (2011), "Single Server queuing model with N-policy and removable server", *Canadian Applied Mathematics Quarterly,* 19(1), pp 113-123.
2323. Singh, C.J.; Jain, M.; Kumar, B. (2012), "Analysis of *M/G*/1 queuing model with state dependent arrival and vacation", *Journal of Industrial Engineering International*, 8(2), pp 1-8.
2324. Singh, C.J.; Jain, M.; Kumar, B. (2012), "$M^X/G/1$ queuing model with state dependent arrival and second optional vacation", *International Journal Mathematics in Operational Research,* 4(1), pp 78-96.

2325. Singh, C.J.; Jain, M. (2012), "Single server unreliable queuing model with removable service station", *International Journal of Operational Research.*
2326. Singh, J. (2009), "Defining Power sums of n and φ(n) Integers"*, Int. Jour. Num. Th*., 5(1), pp 41-53.
2327. Singh, J.; Bajaj, R. (2009), "Temperature Modulation in Ferro fluid Convection", *Phys. of Fluids (AIP),* 21(6), 0641051-12.
2328. Singh, J.; Bajaj, R. (2011), "Temperature modulated of Rayleigh Benard Convection in a ferrofluid layer with rigid boundaries", *Fluid Dynamics Res.*, 43, pp 0255021-26.
2329. Singh, J.; Bajaj, R. (2010), "Energy relaxation for Transient Convection in Ferro Fluid", *Phys. Rev. E.,* 82(2), pp 0263111-9.
2330. Singh, Jitender (2013), "A nonlinear shooting method and its application to nonlinear Rayleigh-B\'enard convection", *ISRN Mathematical Physics*, pp 6502081-9
2331. Singh, Jitender (2013), "Sums of products of power sums and $\alpha-$Euler numbers", Preprint: http://arxiv.org/abs/1308.1823,(2013), 1-32
2332. Singh, Jitender (2013), "Sums of products involving power sums of $\varphi(n)$ integers", Preprint: http://arxiv.org/abs/1306.5848v1, (2013), 1-10.
2333. Singh, Jitender; Hines, E.; lliescu. D. (2013), "Golbal stability results in temperature modulated convection in ferrofluids", *Appl. Math. Comp*. 219, 6204-6211.
2334. Singh, P. (2008), "Multiple Comparison of several Populations with more than one control", *Journal of applied Statistics.*
2335. Singh, P.; Gill, A.N. (2009), "Distribution of Ratio of Extreme of Isotonic Estimators of Chi- Square Variables with Applications", *Journal of Statistical Planning and Inference,* 139, pp 3262- 3269.
2336. Singh, P.; Gill, A.N.; Kumar, N. (2009), "A Test of Homogeneity of several Variances Against Tree Ordered Alternative". *Statistics and Probability Letter*.
2337. Singh, P.; Goyal, A.; Gill, A.N. (2010), "A note on comparing several variances with a control variance", *Statistics and Probability Letter*, 80, pp 1995-2002.
2338. Singh, P.; Gill, A.N.; Kumar, N. (2012), "A Note on testing homogeneity of several exponential location parameters", *Communication in Statistics-Theory and Methods,* 41**,** pp 474-484.
2339. Singh, S.P.; Rana, I.K. (2012), "The Hale's Theorem on Metric Measure Spaces", *Real Analysis Exchange,* 37(2), pp 477-488.
2340. Singh, S.S.; Singh, Jitender (2013), "Effect of Corrugation on incident qSV-waves in pre-stressed elastic half spaces*:, Int. J. of App. Math. And Mech.* 9(9), pp 92-106.
2341. Tejpal, S.; Narang, T.D. (2009), "Some fixed points theorems for Kanan Mappings", *Serdica Math. J. (Bulgaria).*

Physics

2342. Ahmad, Muneer; Kumar, Praveen; Thangaraj, R (2009), 'Effect of isoelectronic substitution of Bi on the photoelectrical properties in amorphous Sn-Sb-Se films' *Thin Solid Films,* 517 pp 5965–5968 .
2343. Ahmad, Muneer; Kumar, Praveen; Thangaraj, R. (2009), 'Crystallization kinetics and composition dependence of some physical properties in Sn-Sb-Bi-Se chalcogenide glasses', *Physica B*, 404 pp 1553-1557.
2344. Ahmad, Muneer; Kumar, P, Suri, N; Kumar, Jatinder; Thangaraj, R (2009), 'Kinetics of nonisothermal crystallization in $Sn_{10}Sb_{-20-x}Bi_xSe_{70}$ glassy semiconductors', *Applied Physics A* 94 pp 933-937.
2345. Ahmad, Muneer; Thangaraj, R; Sathiaraj, T Stephen; (2009), 'Thermal annealing dependence of some physical properties of Bi substituted Sn-Sb-Se glassy thin films', *Eur. Phys. J. Appl. Phys*. 4 7 3 pp 30501-30505.
2346. Ahmad, Muneer; Kumar, Jatinder; Thangaraj, R. (2009), 'Electrical and optical properties of $Sn_{10}Sb_{20\ x}Bi_xSe_{70}$ ($0 < x < 8$) glassy films', *J. Non-Cryst. Solids*, 355 pp 2345-2348.
2347. Ahmad, Muneer; Thangaraj, R; Sathiaraj, T Stephen (2010), 'Heterogeneous crystallization and composition dependence of optical parameters in Sn-Sb-Bi-Se chalcogenides', *J. Mater. Sc.,* 45 pp 1231-1236.
2348. Anand, Kanika; Singh, Manmeet Pal; Singh, Onkar; Kohli, Nipin; Singh, R. C. (2013), 'Optical and thermal properties of precursor-controlled graphene–zinc nanocomposites', *Material Science in Semiconductor processing*, 16, pp 1706-1712.
2349. Arora, Bindiya; Safronova, M.S.; Clark, Charles (2010), 'State-insensitive bichromatic optical trapping', *Phys. Rev. A,* 82, pp 022509.
2350. Arora, Bindiya, Safronova, M. S.; Clark, Charles W. (2011), 'Tune-out wavelengths of alkali-metal atoms and their applications', *Phys. Rev. A*, 84, pp 043401.
2351. Arora, Bindiya; Sahoo, B. K. (2012), "State-insensitive trapping of Rb atoms: linearly versus circularly polarized lights", *Phys. Rev. A* 86, pp 033416.
2352. Arora, Bindiya, Nandy, D.; Sahoo, B. K. (2012), "Multipolar Black body radiation shifts for the single ion based optical frequency standards", *Phys. Rev. A* 85, pp 012506.
2353. Arora, Monika; Baccaro, S.; Sharma, G.; Singh, D.; Thind, K. S.; Singh, D. P. (2009), 'Radiation effects on $PbO–Al_2O_3–B_2O_3–SiO_2$ glasses by FTIR spectroscopy', *Nuclear Instruments and Methods in Physics Research B,* 267, pp 817-820.
2354. Arora, Vishal; Bajwa, Bikramjit Singh; Singh, Surinder (2011), 'Measurement of radon concentration in groundwater samples of tectonically active areas of Himachal Pradesh, NW Himalayas, India', *Radiation Protection and Environment*, Vol. 34, No.1. pp

2355. Baccaro, Monika S.; Sharma, G.; Thind, Kulwant Singh; Paul, Davinder (2008), 'Variation of optical band gap with radiation dose in PbO–B2O3 glasses', *Nuclear Instruments and Methods in Physics Research B*, 266, pp 594–598.
2356. Badhan, Komal; Mehra, Rohit; Sonkawade, Rajendra G.; Singh, Surinder (2009), "Use of Gamma-Ray Spectrometry for Assessment of Natural Radioactive Dose in Some Samples of Building Materials" *Asian Journal of Chemistry* Vol. 21, No. 10, S207-211
2357. Baek, J.-S; Park, J.-S.; Sekhon, S. S.; Yang, T.-H.; Shul, Y.-G.; Choi, J.-H. (2010), *Fuel Cells*, 10 pp 762-769.
2358. Bagga, Ruchika; Gopal, Venu; Goel, Achanta; Ashutosh; M.F., Jose; Ferreira; Singh, Narinder Pal; Singh, Davinder Paul; Falconieri, Mauro; Sharma, Gopi (2013), 'Dy^{3+}doped nano-glass ceramics comprising $NaAlSiO_4$ and $NaY_9Si_6O_{26}$ nanocrystals for white light generation', *Materials Science and Engineering B*, 178, pp 218– 224.
2359. Bains , A. S.; Misra , A. P.; Saini , N. S.; Gill , T. S. (2010), 'Modulational instability of ion-acoustic wave envelopes in magnetized quantum electron-positron-ion plasmas', *Phys. Plasmas,* 17, pp 012103
2360. Bains, A. S.; Tribeche, Mouloud; Saini, N. S.; Gill, T. S. (2011), 'A nonlinear Zakharov-Kuznetsov equation in magnetized plasma with q-nonextensive electrons velocity distribution', *Phys. Plasmas*, 18, pp 104503
2361. Bains, A. S.; Saini, N. S.; Gill, T. S. (2013), 'Modulational instability of ion-acoustic soliton in electron-positron-ion plasma with dust Particulates', *Astrophys. Space Science*, 343, pp 293.
2362. Bains, A. S.; Saini, N. S.; Gill, T. S. (2013), 'Dust acoustic solitary structures in multidust fluids superthermal plasma', *Can. J. Phys.* 91, pp 582.
2363. Bajaj Anu; Khanna, Atul; Kulkarni, Narendra; Aggarwal, S. K. (2009), 'Effects of doping trivalent ions in bismuth borate glasses', *J. Am. Ceram. Soc*. 92[5] pp 1036-1041.
2364. Bajaj Anu; Khanna, Atul; Chen, Banghao; Longstaffe, James G.; Zwanziger, U-Werner; Zwanziger, J.W.; Gómez, Yolanda; Gonzále, Fernando (2009), 'Structural investigation of bismuth borate glasses and crystalline phases', *J. Non Cryst. Solids* 355 pp 45-54.
2365. Bajaj Anu and Atul Khanna (2009), 'Crystallization of bismuth borate glasses', *J. Phys. Condensed Matter* 21 pp 035112 (8 pages).
2366. Bajaj, Anu; Khanna, Atul (2012), 'Structural Relaxation In Bismuth And Lead Borate Glasses', *AIP Conference Series* 1447 pp 593-594.
2367. Bajaj, Anu; Khanna, Atul; Krishnan, K.; Aggarwal, Suresh K. (2013), 'Devitrification properties of lead borate glasses', *Phase Transitions* 86(6) pp 541-550.
2368. Bajwa, B.S. ; Singh, Harmanjit; Singh, Joga; Singh, S.; Walia, Vivek (2008), 'A combination study of indoor radon and gamma radiation

levels in Tusham ring complex', *Radiation Measurements*, *Vol. 43, No. 1*, *S475-S478.*

2369. Bajwa,B S; Singh, Harmanjit; Singh, Joga; Singh, Surinder; Walia, Vivek (2008), 'A combination study of indoor radon and gamma activity of Tusham ring complex', *Radiation Measurements*; 43(1), S475-S478.
2370. Bajwa, B. S.; Singh, Harmanjit; Singh, Joga; Singh, Surinder (2009), 'A comparative study of indoor radon levels and inhalation dose in some areas of Punjab and Haryana, India', *Indian Journal of Physics,* 83(8), pp 1183-1189.
2371. Bajwa B.S.; Singh, Harmanjit; Singh, Joga; Singh, Surinder (2009), 'A comparative study of indoor radon levels and inhalation dose in some areas of Punjab and Haryana', *Indian Journal of Physics* 83, 81183-1189
2372. Bala, Parveen; Kaur, Sukhdeep (2013), 'Dispersion relation in a plasma consisting of oppositely charged ions with non-Maxwellian electrons', *AIP Conference Proceeding,* 1536, pp 307.
2373. Balouria, V; Singh, A; Kumar, A; Samanta, S; Debnath, A.K.; Mahajan, Aman; Bedi, R.K.; Aswal, D.K.; Gupta, S.K.; Yakhmi, J.V. (2011), 'Temperature dependent H2S and Cl2 sensing selectivity of Cr2O3 thin films', *Sens. & Act. B,* 157(2), pp 466-470.
2374. Balouria, Vishal; Kumar, Arvind; Samanta, S.; Singh, A.; Debnath, A.K.; Mahajan, Aman; Bedi, R. K.; Aswal; D.K.; Gupta, S. K. (2013), 'Chemiresistive gas sensing of nanocrystalline Co_3O_4 thin films', *Sensors and Actuators B: Chemical* 176, pp 38-45.
2375. Balouria, V.; Singh, A.; Ramgir, N.S.; Debnath, A.K.; Mahajan, A.; Bedi, R.K.; Aswal, D.K.; Gupta, S.K. (2013), 'Enhanced H_2S response of Au modified Fe_2O_3 thin films', *AIP Conference Proceedings* 1512, pp. 782-783.
2376. Balouria, Vishal; Kumar, Arvind; Samanta, S.; Singh, A.; Debnath, A. K., Mahajan, Aman; Bedi, R. K.; Aswal, D.K.; Gupta, S. K. (2013), 'Nano-crystalline Fe_2O_3 thin films for ppm level detection of H_2S', *Sensors and Actuators B: Chemical*, 181, pp 471-478.
2377. Baluku, T. K.; Hellberg , M. A.; Kourakis , I.; Saini , N. S. (2010), 'Dust ion acoustic solitons in a plasma with kappa-distributed electrons', *Phys. Plasmas* , 17, pp 053702.
2378. Bara, S. V.; Chinnaesakki, S.; Arora, V.; Sartandel, S.J.; Tripathi, R.M.; Bajwa, B.S.; Puranik, V.D. (2012), 'Radiological assessment of natural and fallout radioactivity in soil of Chamba and Dharamshala areas of Himachal Pradesh,India', *J. of Radioanal. Nucl. Chem*, 291, pp 769-776.
2379. Brar, S.S.; Mahajan, A.; Bedi, R.K. (2011), 'Structural, optical and electrical properties of hot wall grown 2-aminoanthracene films', *Optoelectronics and Advanced Materials – Rapid Communications*, 5(8), pp 815-819

2380. Bedi, R. K; Brar, S. S.; Kaur, N; Kumar, S.; Mahajan, A. (2008), 'Characterization of hot wall grown N-9-anthracenylidene-1-anthramine films', *Zeitschriftfür Kristallographie,* 27, pp 169-173.
2381. Bedi, R.K; Saini, R.; Mahajan, A. (2010), 'Room temperature ppb level chlorine gas sensor based on copper (II) 1, 4, 8, 11, 15, 18, 22, 25-octabutoxy-29 H, 31H-phthalocyanine films', *AIP Conference Proceedings,* 1313, pp 205-208.
2382. Bedi, R.K.; Gupta, H; Saini, R.; Mahajan, A (2010), 'Thermally evaporated copper phthalocyanine films for photovoltaic applications', *Asian Journal of Physics,* 19 pp 187-191.
2383. Chander, Ravi; Thangaraj, R. (2008), 'Study of thermal parameters of $Sn_{10}Sb_{20}Se_{70-x}Te_x$ ($0 \leq x \geq 1$) chalcogenide glasses', *Chalcogenide Lett.* 5 pp 229-237.
2384. Chander, Ravi; Thangaraj, R. (2009), 'Effect of tellurium substitution in $Sn_{10}Sb_{20}Se_{70-X}Te_X$ ($0 < X < 12$) amorphous chalcogenide system', *Eur. Phys. J. Appl. Phys* 48 pp 10302-10306.
2385. Chander, Ravi; Thangaraj, R. (2010), 'Thermal and optical analysis of Te-substituted Sn-Sb-Se chalcogenide semiconductors', *Appl. Phys. A* 99 1 pp 181-187.
2386. Chahal , B. S., Saini, N. S.; Bains, A. S. (2013), 'Small Amplitude Ion-acoustic Solitons in a Plasma containing multi-temperature ions', *Proceedings, 27th PSSI National Symposium on Plasma Science & Technology on Challenges of Power Generation & Lighting 21th Century (Plasma-2012),* New Delhi: Excel India Publishers , 10-13 Dec. 2012 : ISBN: 978-93-82062-82-0 pp 152
2387. Chander, Ravi; Thangaraj, R. (2011), 'Optical and transport properties of as prepared and annealed Te-substituted Sn-Sb-Se thin films', *Materials Science Forum* 663-665 pp 16-24.
2388. Chander, Ravi; Thangaraj, R. (2012), 'Optical and electrical properties of Te-substituted Sn Sb-Se semiconducting thin films', *Thin Solid Films* 520 pp 1757-1761.
2389. Chaudhari, Y.A; Singh, A; Abuassaj, E.M; Chatterjee, R.; Bendre, S.T. (2012), 'Multiferroic properties in BiFe 1-xZn xO 3 (x = 0.1-0.2) ceramics by solution combustion method (SCM)', *Journal of Alloys and Compounds* 518 , pp 51-57
2390. Chinnaesakki, S; Chopra, M.; Tripathi, R.M.; Puranik, V.D.; Arora V.; B. S. Bajwa (2011), 'Assessment of natural radioactivity in soil samples and comparison of direct and indirect measurements of environmental samples', *J. of Radioanal. Nucl. Chem,* 289, pp 885-892.
2391. Cho, E; Park J.-S; Sekhon, S.S; Park G.-G; Yang T.-H; Lee W.-Y;Kim C.-S; Park, S.-B., (2009), *Journal of the Electrochemical Society*, 156, 2, B pp 197-B202.

2392. Chopra, V; Singh, P.; Singh, L. (2012), 'Thermoluminescence study of gamma irradiated BCNO nanophosphor', *Radiation Physics and Chemistry* 81 (7), pp 771-775
2393. Chopra, V; Singh, L.; Lochab, S.P. (2013), 'Thermoluminescence characteristics of gamma irradiated Li2B 4O7:Cu nanophosphor', *Nuclear Instruments and Methods in Physics Research, A*: 717 , pp 63-68
2394. Danehkar, A.; Saini , N. S.; Hellberg , M. A.; Kourakis, I. (2011), 'Electron-acoustic solitary waves in the presence of suprathermal electrons', *Phys. Plasmas,* 18, pp 072902
2395. Danehkar, A.; Saini , N. S.; Hellberg , M. A.; Kourakis, I. (2011), 'Electron beam-plasma interaction in a dusty plasma with excess suprathermal electrons', *AIP Conference Proceedings,* 1397, pp 305
2396. Devgan, K; Singh, L.; Samra, K.S. (2013), 'Structural modifications of swift heavy ion irradiated PEN probed by optical and thermal measurements', *Radiation Physics and Chemistry* 88 , pp 49-55
2397. Dhillon, R K; Singh, S.; Kumar, R. (2009), 'Optical, chemical and structural properties of swift heavy ion irradiated LDPE', *Atti della Fondazione Giorgio Ronchi* ANNO LXIV, N.5, pp 751-757.
2398. Eng-Poh Ng; Sekhon, Satpal Singh; Mintova, Svetlana (2009), *Chemical Communications*, 1661-1663.
2399. Gill, T. S.; Bains , A. S.; Saini, N. S. (2009), 'Ion-acoustic soliton in weakly relativistic magnetized electron-positron-ion plasma', *Can. J. Phys.*, 87, pp 861
2400. Gill, T. S; Bains, A. S.; Saini , N. S. (2010), 'Ion-acoustic envelope excitations in electron-positron-ion plasma with nonthermal electrons', *Phys. Lett. A*, 374, pp 3210
2401. Gill, T. S.; Bedi, Chanchal; Saini , N. S. (2011), 'Higher order nonlinear effects on wave structures in a four-component dusty plasma with nonisothermal electrons', *Phys. Plasmas,* 18, pp 043701
2402. Gupta, H; Mahajan, A.; Bedi, R.K. (2008), 'Synthesis and characterization of silver phthalocyanine nanowires and nanobelts', *The European Physics Journal Applied Physics* 42, pp 81-84.
2403. Gupta, H; Mahajan, A.; Bedi, R.K. (2008), 'Copper phthalocyanine films for photovoltaic applications', *Indian Journal of Pure and Applied Physics*, 46(6), pp 435-438.
2404. Gupta, H; Mahajan, A.; Bedi, R.K. (2009), 'Silver Phthalocyanine films for photovoltaic applications', *Atti Della Fondazione Giorgio Ronchi* , pp 597-601.
2405. Gupta, R.; Malik, S.S.(2010), 'Spontaneous fission in actinides and heavy elements: A semiclassical view', *European Physical Journal A* 45 (2), pp. 239-250.
2406. Gupta, R; Malik, S.S; Jain, A.K.; Jain, S.R. (2010), 'The triaxial particle plus rotor model and wobbling mode: A semiclassical view', AIP Conference Proceedings 1304 , pp 359-363.

2407. Gupta, R.;Malik, S.S. (2011), 'Fission phenomenon in heavy and superheavy nuclei: A semi classical view', *Journal of Physics: Conference Series* 312 (SECTION 9), art. no. 092028 .
2408. Hellberg , M. A.; Mace , R. L.; Baluku ; T. K., Kourakis I.; Saini, N. S. (2009), 'Comments on " Mathematical and physical aspects of Kappa velocity distribution" [Phys. Plasmas 14, 110702 (2007)], *Phys. Plasmas,* 16, pp 094701.
2409. Jiang, Dansha; Arora, Bindiya; Safronova, M. S. (2008), "Electric Quadrupole Moments of Metastable States of Ca^+, Sr^+, and Ba^+", *Phys. Rev. A* 78, September pp 022514
2410. Jiang, Dansha, Arora, Bindiya; Safronova, M. S. (2009), "Blackbody-radiation shift in a $^{88}Sr^+$ ion optical frequency standard", *J. Phys. B: At. Mol. Opt. Phys.* 42, May pp 154020
2411. Kanica, Anand; Kumar, Praveen; Thangaraj, R. (2011), 'Effect of surfactant type on the microstructure and optical properties of In_2O_3 nanoparticles', *J. Optoelectron. Adv. Materials* 13 pp 702-705.
2412. Kaur, Arshpreet; Khanna, Atul; Pesquera, Carmen; González, Fernando; Sathe, Vasant (2010), 'Preparation and characterization of lead and zinc tellurite glasses', *J. Non Crystalline Solids*, 356 pp 864-872.
2413. Kaur, Arshpreet; Khanna, Atul; Pesquera, Carmen; González, Fernando; Sathe, Vasant (2010), 'Preparation and characterization of lead and zinc tellurite glasses', *J. Non Crystalline Solids*, 356 pp 864-872.
2414. Kaur, Arshpreet; Khanna, Atul; Singla, Sapna; Dixit, Anupam; Kothiyal, G. P.; Krishnan, K.; Aggarwal, Suresh K.; Sathe, V.; González, Fernando; González-Barriuso, Marina (2013), 'Structure-property correlations in lead silicate glasses and crystalline phases', *Phase Transitions,* 86(8) pp 759-77
2415. Kaur, Arshpreet; Khanna, Atul; Sathe, Vasant G.; Gonzalez, Fernando; Ortiz, Belen (2013), 'Optical, thermal and structural properties of Nb_2O_5-TeO_2 and WO_3-TeO_2 glasses', *Phase Transitions,* 86 pp 598-619.
2416. Kaur, Barjinde; Saini , N. S. (2013), 'Low frequency dust acoustic solitary waves in pair-ion superthermal plasma', *Proceedings, 27th PSSI National Symposium on Plasma Science & Technology on Challenges of Power Generation & Lighting 21th Century (Plasma-2012),* New Delhi: Excel India Publishers, 10-13 Dec. 2012 : ISBN: 978-93-82062-82-0, pp 148.
2417. Kaur, Dilraj Preet; Yamada; K.; Park, Jin-Soo; Sekhon, S.S. (2009), *Journal of Phys. Chem. B*, 113 pp 5381-5390.
2418. Kaur , H.; Gill , T. S.; Saini , N. S. (2009), 'Characteristics of some nonlinear coherent wave structures in a collisionless weakly relativistic plasma with nonthermal electrons', *Chaos Soliton Fractals*, 42, pp 1638

2419. Kaur, Harmameet; Singh, Surinder; Kaur, Jaskiran; Kumar, Rajesh (2012), 'Study of variation in pore diameter with etching rate and fabrication of copper nano/micro wires using electrodeposion method', *Polymer Plastic Technology and Engineering* 51(12) pp 1193-1197,
2420. Kaur, Harmanmeet; Kaur, Jaskiran; Singh, Surinder; Singh, Lakhwant (2013), 'Synthesis and characterization of copper nanowires using nucleoporepolycarbonate membranes', *International Journal of Advanced Science, Engineering and Technology* 2013 (in press)
2421. Kaur, Harmanmeet; Kaur, Jaskiran; Singh, Lakhwant; Singh, Surinder (2013), 'Electrochemical synthesis and characterization of Cu_2Se nanowires', *Superlattices and Microstructures.*
2422. Kaur, J.; Singh, S.; Chakarvati, SC; Lal, K. (2009), "Modifications induced in chemical response and surface morphology of polycarbonate Makrofol KG polymer by Li (50 MeV) ion irradiation". *Parmana Journal of Physics*, 72(4), pp 759-764.
2423. Kaur, J.; Singh, S.; Chakarvati, SC; Lal, K. (2009), Structural and chemical modifications of polycarbonate makrofol KG polymer by Ni (150 Mev) ion irradiation. "AttidellaFondazione Giorgio Ronchi" ANNO LXIV, N.2, 261-268, 2009.
2424. Kaur, J.; Singh, S.; Kanjial, D.; Kuamr, R.; Chakarvarti, S. K. (2009), "Swift heavy ion induced dewetting of polymeric thin films coated on GaAs substrate"AttidellaFondazione Giorgio Ronchi', ANNO LXIV, N.2, 269-274.
2425. Kaur, J.; Singh, S.; Kanjial, D.; Kuamr, R.; Chakarvarti, S. K. (2011), 'Field emission and IV characteristics of template assisted nickel nano/micro wires on semiconducting substrate', *Journal of Experimental Nanoscience*, 1–10,
2426. Kaur, Jaskiran; Singh, S.; Kanjilal, D.; Chakarvarti, S. K. (2009), 'Nano/Micro Surface Structures By Swift Heavy Ion Irradiation Of Polymeric Thin Films On gaas', *Digest Journal of Nanomaterials and Biostructures* Vol. 4, No. 4, December, p. 729 – 737.
2427. Kaur, Jaskiran; Singh, S.; Kumar, Rajesh; Kanjilal, D.; Chakarvarti, S. K. (2011), 'Nano-/micro metallic wire synthesis on GaAs substrate and their characterization', *Digest Journal of Nanomaterials and Biostructures* Vol. 6, No. 4, pp 1805-1809
2428. Kaur, Jaskiran; Singh, S.; Kumar, Rajesh; Kanjilal, D.; Chakarvarti, S. K. (2011), 'Nano-/micro metallic wire synthesis on Semiconducting substrate and their characterization', *Superlattices and Microstructures*, 50, pp 713-721.
2429. Kaur, Jaskiran; Singh, Surinder; Kanjilal, Dinakar (2013), 'Ion Beam Assisted Template Synthesis of Nanowires on Semiconducting Substrate', *Radiation Effects and Defects in Solids*, 168 (7-8), pp 477-483
2430. Kaur, Jaskiran; Singh, S.; Kanjilal, D.; Chakarvarti, S. K. (2013), 'Template based synthesis of nano-/micro structures on

semiconducting substrate', *International Journal of polymeric research* 62(2), pp 91-94,

2431. Kaur, Jasmeet; Kumar, Praveen; Sathiaraj, T Stephen; Thangaraj, R. (2013), 'Structure optical and fluorescence properties of wet chemically synthesized ZnO:Pd^{2+} nanocrystals', *International Nano Letters* 3 4.
2432. Kaur, N; Singh, M; Singh, A; Awasthi, A.M.; Singh, L. (2012), 'Dielectric relaxation spectroscopy of phlogopite mica', *Physica B: Condensed Matter* 407 (22), pp 4489-4494
2433. Kaur, N; Singh, L; Singh, M and Lochab, S.P. (2012), 'Pre-gamma dose thermoluminescence characteristics of muscovite mica', *Nuclear Instruments and Methods in Physics Research, B* 290 , pp 1-5
2434. Kaur, N; Singh, M; Singh, L.; Lochab, S.P. (2013), 'Investigation of thermoluminescence characteristics of gamma irradiated phlogopite mica', *Radiation Physics and Chemistry* 87 , pp 26-30
2435. Kaur, P; Sekhon, S.S.; Kumar V., (2012), *Physical Review B - Condensed Matter and Materials Physics*, 85, 8, pp 085429.
2436. Kaur, P; Sekhon, S.S.; Kumar, V. (2013*), Journal of Chemical Physics*, 138, 11, pp 114310
2437. Kaur, Parvinder; Singh, Gurinder Pal; Kaur, Simranpreet; Singh, Davinder Paul.(2012), 'Structural and optical investigation of Aluminium-Lithium-Borate glasses', *Journal of Molecular Structure*, 1020, pp 83-87.
2438. Kaur, Parvinder; Singh, Simranpreet; Pal, Gurinder; Singh, Davinder Paul (2013), 'Sm^{3+} Doped Lithium Aluminoborate Glasses for Orange Coloured Visible Laser Host Material', *Solid State Communications*, 171, pp 22–25.
2439. Kaur, Ramandeep; Singh, Surinder; Kumar, Rajesh (2010), '150 MeV Nickel ion beam irradiation effects on polytetrafluoroethylene (PTFE) polymer', *NIMB* 268 (11) pp 2189-2192
2440. Kaur, Ravneet; Singh, Surinder; Pandey, O. P. (2012), 'A comparison of modifications induced by Li^{3+} and Ag^{14+} ion beam in spectroscopic properties of bismuth alumino borosilicate glass thin films', *Journal of Spectroscopy*
2441. Kaur, Ravneet; Singh, Surinder; Pandey, O. P. (2012), 'FTIR structural investigation of gamma irradiated BaO-Na_2O-B_2O_3-SiO_2 glasses', *Physica B* 407 pp 4765-4769
2442. Kaur , Ravneet; Singh, Surinder; Pandey, O.P. (2013), 'Modifications induced in the structural and optical properties of bismuth sodium borosilicate glass thin films by 120 MeV Ag^{7+} ions', *Nuclear Instruments and Methods in Physics Research B* 305 pp 51–54
2443. Kaur, Ravneet; Singh, Surinder; Pandey, O. P. (2013), 'Gamma ray irradiation effects on the optical properties of BaO- Na_2O- B_2O_3-SiO_2 glasses', *Journal of Molecular Structure* 1048 pp 78–82

2444. Kaur, Ravneet; Singh, Surinder; Pandey, O. P. (2013), "Effect of swift heavy ions on structural and optical properties of bismuth based alumino-borosilicate glasses", *Radiation Physics and Chemistry* 2013 (Accepted)
2445. Kaur, S; Singh, S; Singh, L; Lochab, S.P. (2013), 'Oxygen ion-induced modifications of optical properties of natural muscovite mica', *Radiation Effects and Defects in Solids* 168 (7-8), pp 587-593
2446. Kaur, S; Singh, S; Singh, L.; Lochab S. P. (2013), 'Effect of gamma irradiation on opto-structural, dielectric, and thermoluminescence properties of natural phlogopite mica', *J. Appl. Phys.* 114, pp 093503
2447. Kaur, S; Singh, S; Singh, L.; Lochab, S.P. (2013), 'Opto-structural and dielectric properties of 80 MeV oxygen ion irradiated natural phlogopite mica', *Nuclear Instruments and Methods in Physics Research, B* 301, pp 17-22
2448. Kaur, Simranpreet ; Singh, Gurinder Pal; Kaur, Parvinder and Singh, Davinder Paul (2013), 'Cerium luminescence in borate glass and effect of aluminium on blue green emission of cerium ions', *Journal of Luminescence,* 143, pp 31–37.
2449. Kaur, Sukhdeep; Sharma, A. K.; Ryu, C. M. (2008), 'Nonlinear propagation of a short pulse laser in a plasma with density ripple', *Journal of the Korean Physical Society* 53, pp 3768.
2450. Kaur, Sukhdeep; Sharma, A. K.(2008), 'Resonant third harmonic generation in a laser produced thin foil plasmas', *Virtual Journal of Ultrafast Science* 15, pp 102705.
2451. Kaur, Sukhdeep; Sharma, A. K. (2009), 'Self focusing of a laser pulse in plasma with periodic density ripple', *Laser and Particle Beams* 27, pp 193.
2452. Kaur, Sukhdeep; Sharma, A. K.; Salih, Hyder A. (2009), 'Resonant second harmonic generation of a Gaussian electromagnetic beam in a collisional magnetoplasma', *Phys. Plasmas* 16, pp 042509.
2453. Kaur, Sukhdeep; Yadav, Sushila; Sharma, A. K. (2010), 'Effect of self focusing on resonant third harmonic generation of a laser in a rippled density plasma', *Virtual Journal of Ultrafast Science* 17, pp 053101.
2454. Kaur, Sukhdeep; Sharma, A. K. (2011), 'Stimulated Raman back scattering of a laser in a magnetized plasma channel', *Virtual Journal of Ultrafast Science* 18, pp 092105.
2455. Kaur, Sunpreet; Kumar, Praveen; Thangaraj, R. (2013), 'Phase immiscibility induced enhanced fluorescence in spin coated PVP/PPO polyblends', *Polymer Bulletin* Accepted for publication
2456. Khanna, Atul (2008), 'Comment on: *CrN_x and Cr_{1-x} Al_xN as template films for the growth of □-alumina using ac reactive magnetron sputtering'*, A, *J. Vac. Sci. Technol. A* 26(5)pp 1365-7.
2457. Khanna, Atul; Bhat, Deepak G. (2012), 'Effects of substrates on the crystal structure, texturing and optical properties of AlN coatings

deposited by inverted cylindrical magnetron sputtering', *European Physical Journal: Applied Physics*, 9, 30301-p7

2458. Khanna, Atul; Bajaj, Anu (2012), 'Devitfrification Properties Of Bismuth Borate Glasses Doped With Trivalent Ions'*, AIP Conference Series,* 131 pp 406-408.
2459. Khanna, Atul; Saini, Amanpreet; Chen, Banghao; González, Fernando; Pesquera, Carmen (2013), 'Structural study of bismuth borosilicate, aluminoborate and aluminoborosilicate glasses by ^{11}B and ^{27}Al MAS NMR spectroscopy and thermal analysis', *J. Non-Cryst Solids* 373-374, pp 34-41.
2460. Khun Khun, Kamalpreet; Mahajan, Aman; Bedi, R.K. (2009), 'SnO_2 thick films for room temperature gas sensing applications', *Journal of Applied Physics,* 106(6), November, pp 124509-124512.
2461. Khun Khun, K; Mahajan, A.; Bedi, R.K. (2010), 'Nanostructured Sb doped SnO_2 thick films for room temperature NH_3 sensing', *Chemical Physics Letters*, 492(1-3), pp 119-122.
2462. Khun Khun, K; Mahajan, A.; Bedi, R.K. (2011), 'Effect of cationic/anionic organic surfactants on evaporation induced self-assembled tin oxide nanostructured films', *Applied Surface Science,* 257(7), pp 2929-2933.
2463. Khun, K.K.; Mahajan, A.; Bedi, R.K. (2011), 'Surfactant assisted growth of nanostructured tin oxide films for gas sensing applications', *Electronic Materials Letters* 7(4), pp 303-306.
2464. Kohli, Nipin; Singh, Onkar; Singh, R.C. (2011), 'Infuence of pH on particle size and gas sensing response of chemically synthesized chromium oxide nanoparticles to alcohols'*, Sensors and Actuators B*, 158, pp 259
2465. Kohli, Nipin; Singh, Onkar and Singh, R.C. (2012), 'Sensing behavior of tin doped chromium oxide gas sensor', *Applied Physics A*, 109, pp 585-590
2466. Kohli, Nipin; Singh, Onkar; Anand, Kanika; Singh, R.C. (2012), 'Effect of reaction temperature on crystallite size and sensing response of chromium oxide nanoparticles', *Materials Research Bulletin*, 47, pp 2072-2076
2467. Kourakis , I.; Saini , N. S. (2010), ' Low frequency electrostatic defect mode in doped pair-ion plasma', *J. Plasma Phys.*, 76, pp 607
2468. Kumar A; Singh S; Mahajan S; Bajwa B S.; Dhar, S. (2009), "Anomalous behaviour of Radon in soil and groundwater prior to Uttarakashi earthquake in NW Himalayas, India", *Attidella "fondazionegiorgioronchi" ANNO LXIV*, N.2, 173-180, 2009.
2469. Kumar A; Singh, S.; Mahajan, S.; Bajwa, B. S.; Kalia, R.; Dhar, S. (2009), 'Earthquake precursory studies in Kangra Valley of North West Himalayas, India with special emphasis on radon emission', *Applied Radiation and Isototopes* 67, 1904-1911.

2470. Kumar, A; Kumar, A.; Singh, Y.; Singh, K.; Kumar, V.; Singh, S. (2009), "Radioactivity measurements in the environment of the Udhampur area, Jammu and Kashmir Himalaya, India", *Rad. Effects and Deffects in solids* 164 (11) pp 719-725
2471. Kumar, A; Narayanan, U; Sawant, P. D; Tripathi, R. M.; Mishra, S. S.; Rout, M.; Supreeta, S.; Singh, Kumar, J.S.; Kushwaha, H. S. (2011), 'Risk Assessment for Natural Uranium in Subsurface Water of Punjab State, India', *Human and Ecological Risk Assessment: An International Journal*, 179(2), pp 381-393.
2472. Kumar, A.; Rout, S.; Narayanan, U.; Mishra, M. K.; Tripathi, R. M.; Singh, J.; Kumar, S.; Kushwaha, H. S. (2011), 'Geochemical Modelling of Uranium Specification in the Subsurface Aquatic Environment of Punjab State in India, '*Journal of Geology and Mining Research*, 3(5), pp 137-146.
2473. Kumar, A; Joshi, V. M; Mishra, M. K; Karpe, R.; Rout, S.; Narayanan, U.; Tripathi, R. M.; Singh, J.; Kumar, S.; Hegde, A. G.; Kushwaha, H. S (2011), 'Distribution, Enrichment and Principal Component Analysis for Possible Sources of naturally Occuring and Anthropogenic Radionuclides in the Agricultural Soil of Punjab State, India', *Radiation Protection Dosimetry*, September.
2474. Kumar, Ajay; Kumar, Arvind; Singh, Surinder (2012), 'Analysis of radium and radon in the environmental samples and some physico-chemical properties of drinking water samples belonging to some areas of Rajasthan and Delhi, India', *Advances in Applied Science Research.* 3(5), pp 2900-2905
2475. Kumar, Arvind; Singh, Surinder; Mahajan, Sandeep; Bajwa, Bikramjit Singh; Dhar, Sunil (2009), 'Anomalous behavior of radon in soil and groundwater prior to Uttarkashi earthquake in NW Himalayas, India', *Journal of atti della "fondazione giorgio ronchi" anno lxiv N.2, 173-180.*
2476. Kumar, Arvind; Singh, Surinder; Mahajan, Sandeep; Bajwa, Bikramjit Singh; Kalia, Rajiv; Dhar, Sunil (2009), 'Earthquake precursory studies in Kangra Valley of North West Himalayas, India with special emphasis on radon emission', *Applied Radiation and Isotopes, 67,* pp 1904-1911.
2477. Kumar, Arvind; Singh, Surinder; Bajwa, Bikramjit Singh; Mahajan, Sandeep; Kalia, Rajeev; Dhar, Sunil (2010), 'Possible correlation of TDS and Conductivity anomalies in groundwater with seismically events in NW Himalaya, India', *Earthquake Science, 23*, pp 295-299.
2478. Kumar, Arvind; Singh, Surinder; Mahajan, Sandeep; Bajwa, Bikramjit Singh; Dhar, Sunil (2010), 'Radon monitoring in soil-gas and groundwater for earthquake prediction studies in North West Himalayas, India', *Terrestrial, Atmospheric and Oceanic Sciences Journal*, 21(4), pp 685-695.

2479. Kumar, Arvind; Walia, Vivek; Singh, Surinder; Bajwa, B. S.; Mahajan, Sandeep; Dhar, Sunil; Yang, T.F. (2012), 'Earthquake precursory studies at Amritsar Punjab, India using radon measurement techniques', *International journal for physical sciences* 7(42), pp 5669-5677.
2480. Kumar, Gulshan; Kumar, Arvind; Walia,Vivek; Kumar, Jitender; Yang, Tsanyao Frank; Singh, Surinder; Bajwa, Bikramjit Singh (2013), 'Soil gas radon-thoron monitoring in Dharamsala area of North-West Himalayas, India using solid state nuclear track detectors', accepted in *Journal of Earth System Science*.
2481. Kumar, Gulshan; Kumar, Arvind; Walia, Vivek; Kumar, Jitender; Vikash; Yang, Tsanyao Frank; Singh, Surinder; Bajwa, Bikramjit Singh (2013), 'Soil gas radon–thoron monitoring in Dharamsala area of north-west Himalayas, India using solid state nuclear track detectors', *Journal of Earth System Science* 2013 (accepted)
2482. Kumar, Jatinder; Kumar, P; Ahmad, Muneer; Thangaraj, R; Sathiaraj, T Stephen (2008), 'Effect of composition on optical constants of Pb:GeSbTe chalcogenide thin films', *J. Optoelecron. Adv. Materials* 4 2 pp 635-639.
2483. Kumar, Jatinder; Ahmad, Muneer; Chander, Ravi; Thangaraj, R; Sathiaraj, T Stephen (2008), 'Phase transformation in Pb:GeSbTe chalcogenide films', *Eur. Phys. J. Appl. Phys.* 44 pp 117-123.
2484. Kumar, Jatinder; Ahmad, Muneer; Chander, Ravi; Thangaraj, R.; Sathiaraj, T Stephen (2008), 'Phase segregation in Pb:GeSbTe chalcogenide system', *Eur. Phys. J. Appl. Phys*., 41 pp 13-18.
2485. Kumar, Jatinder; Kumar, P.; Thangaraj, R.; Sathiaraj, T Stephen; (2011), 'Effect of Bi substitution on phase transformation studies for $Ge_{22}Sb_{22}Te_{56}$ thin films', *J. Optoelectron. Adv. Materials* 13 pp 1082-1085.
2486. Kumar, Jatinder; Thangaraj, R.; Sathiaraj, T. Stephen (2012), 'Influence of Sn substitution on amorphous to crystalline phase transformation in $Ge_{22}Sb_{22}Te_{56}$ chalcogenide films', *J. Optoelectron. Adv. Materials,* 14 pp 455-459.
2487. Kumar, M; Prasher, S.; Singh, S. (2009), 'Uranium analysis in some food samples collected from Bathinda area of Punjab', *Indian Journal of Physics*,83 (7), 1045-1050
2488. Kumar, P; Kumar, Jatinder; Ahmad, Muneer; Thangaraj, R. (2008), 'Effect of composition and light intensity on the electrical properties of Sn-Sb-Se glassy films', *Appl. Phys. A,* 90 pp 469-473.
2489. Kumar, Pawan; Park, Jin-Soo; Randhawa, Prabhharan; Sharma, Sandeep; Shin, Mun-Sik; Sekhon, Satpal Singh (2011), *Nanoscale Research Letters*, 6 pp 583.
2490. Kumar, Praveen; Thangara, R.; Sathiaraj, T.S. (2008), 'Thermal analysis and annealing temperature dependence of electrical properties in $Sn_{10}Sb_{20}Se_{70}$ glassy semiconductor', *J. Mater. Sc,*. 43 pp 6099-6104.

2491. Kumar, Praveen; Thangaraj, R. (2008), 'Network topoloty and thermal annealing dependence of some physical properties in amorphous Sn-Sb-Se films', *Phys. Scr.*, 77 pp 045601.
2492. Kumar, Praveen; Thangaraj, R. (2008), 'Analysis of bias field influenced recombination processes in narrow gap Sb2Se3 films', *J.Physics: Condensed Matter,* 20 pp 095213.
2493. Kumar, Praveen; Thangaraj, R. (2009), 'Effect of Sn addition on the photoconductivity narrow-gap Sb_2Se_3 films' Phil.Mag. Lett., 89(4), pp 241-249.
2494. Kumar, Praveen; Thangaraj, R. (2009), 'Effect of phase separation on the kinetics of photocurrent relaxation in Sn-Sb-Se glassy films' *J.Physics: Condensed Matter*, 21 pp 375102-375107
2495. Kumar, Praveen; Thangaraj, R; Sathiaraj, T Stephen (2009), 'Effect of phase separation on the optical properties of Sn-Sb-Se films in the weak absorption region', *Physica Status Solidi A*, 206(7) pp 1465-1470.
2496. Kumar, Praveen; Thangaraj, R. (2010), 'Structural phase transitions and optical contrast in amorphous Sb_2Se_3: Sn films', *Chalcogenide Lett.,* 7 pp 509-513.
2497. Kumar, Praveen; Sathiaraj, T Stephen; Thangaraj, R (2010), 'Optical properties of amorphous Sb2Se3:Sn films', *Phil.Mag. Lett.,* 90(3) pp 183–192.
2498. Kumar, Praveen; Sathiaraj, T Stephen; Thangaraj, R. (2010), 'Effect of Sn addition on the optical gap and far-infrared reflectivity spectra of amorphous Sb-Se films', *J. Non-crys. Solids* 356 pp 1611-1613.
2499. Kumar, Praveen; Thangaraj, R; Sathiaraj, T. Stephen; (2011), 'Electrical and optical study of phase transitions in thermally evaporated GeTe films', *Physica Status Solidi A,* 208(4) pp 838-842.
2500. Kumar, Praveen; Thangaraj, R. (2012), 'Study of Crystallization Kinetics and Structural Relaxation Behavior in Phase Separated $Ag_{33}Ge_{17}Se_{50}$ Glassy Alloys', *Materials Chemistry and Physics,* 135 pp 68-72.
2501. Kumar, Rajesh; Khanna, Atul; Sastry, V.S. (2012), 'Interaction of reducing gases with tin oxide films prepared by reactive evaporation techniques', *Vacuum*, 86, pp 1380-1386.
2502. Kumar, S.; Jain, A.K.; Goel, A.; Malik, S.S.; Palit, R.; Jain, H.C.; Mazumdar, I.; Pancholi, S.C. (2010), 'Band structure and shape coexistence in 56135Ba79', *Physical Review C - Nuclear Physics,* 81 (6), art. no. 067304.
2503. Kumar, S; S. Singh, B. S. Bajwa and A. Sabharwal (2011), 'In-situ measurements of radon levels in water and soil and exhalation rate in areas of Malwa belt of Punjab (India)', *Isotopes in Environmental and Health Studies,* 47(4), 1 - 10.
2504. Kumar, S.; Singh, P; Mahajan, Aman; Kumar, S. (2013), 'Aggregation induced emission enhancement in ionic self-assembled aggregates of

benzimidazolium based cyclophane and sodium dodecylbenzenesulfonate', *Organic Letters* 15(13), May pp 3400-3403

2505. Kumar, Sandeep; Singh, Digvijay; Thangaraj, R. (2011), 'Structural transformations of silver photodoped Ge-Sb-Te thin films' *J. Optoelectron. Adv. Materials: Rapid Communications* 5 pp 920 – 923.
2506. Kumar, Sandeep; Singh, Digvijay; Thangaraj, R. (2011), 'Structural study of silver photodoped Ge-Sb-Te films', *Chalcogenide Lett.* 8 pp 355-361.
2507. Kumar, Sandeep; Singh, Digvijay; Thangaraj, R. (2012), 'Chemical States and Optical Properties of Thermally Evaporated Ge-Te and Ge-Sb-Te Amorphous Thin Films', *Applied Surface Science* 258 pp 7406-7411.
2508. Kumar, Sandeep; Singh, Digvijay; Thangaraj, R. (2012), 'Characterization of phase transition in silver photo-diffused thin $Ge_2Sb_2Te_5$ films' *Vacuum* 86 pp 1443-1447.
2509. Kumar, Sandeep; Singh, Digvijay; Sandhu, Sharanjit; Thangaraj, R. (2012), 'Structural electrical and optical properties of thermally evaporated Ge-Te Ge-Sb-Te and Sb-Te thin films', *Physica Status Solidi A* 209 (10) pp 2014-2019
2510. Kumar, Sandeep; Singh, Digvijay; Thangaraj, R. (2013), 'Electronic structure and optical band gap of silver photo-diffused $Ge_2Sb_2Te_5$ thin film', *Applied Surface Science* 273 pp 437-443.
2511. Kumar, Sandeep; Singh, Digvijay; Thangaraj, R. (2013), 'Structural Electrical and Optical Study of Thermally Evaporated $Ge_8Sb_2Te_{11}$ Thin Films', *Thin Solid Films* 531 pp 577-582.
2512. Kumar, Sanjeev; Surinder Singh and B.S. Bajwa, Bhupinder Singh (2011), 'Integrated indoor radon/thoron exposure studies in some areas of South-western Punjab, India, using twin-cup dosimetry', R*adiation Protection Dosimetry.*
2513. Kumar, Sanjeev; Singh, Surinder; Bajwa, B. S.; Singh, Bhupinder; Sabharwal, Arvind; Eappen, K. P. (2011), 'Indoor Inhalation doses estimet due to radon and thoron in the southwestern region of Punjab India', *Radiation protection dosimetery* 151(1), pp 112-116.
2514. Kumar, Sanjeev; Singh, Surinder; Bajwa, B. S.; Sabharwal, Arvind (2011), 'Insitu measurement of radon level in water soil and exahaltion rate in Malwa belt of Punjab', *Isotope in environment and health studies*, 47(4), pp 1-4,
2515. Kumar, Sanjeev; Singh, Surinder; Bajwa, Bikramjit Singh; Singh, Bhupinder; Sabharwal, Arvind D.; Eappen, K. P. (2012), 'Indoor inhalation dose estimates due to radon and thoron in some areas of South-Western Punjab, India'. *Radiation Protection Dosimetry,* 151(1), pp 112.
2516. Kumar, Sunil; Kumar, Ravi; Singh, Davinder Paul (2009), 'Swift Heavy Ion induced modifications in the structure and band gap of thin

films' *Proceedings Of National Conference on Advances in Instrumentation*, July 17-19, Faridkot (Punjab), pp 77-79.
2517. Kumar, Sunil; Kumar, Ravi; Singh, Davinder Paul (2009), 'Swift heavy ion induced modification in cobalt doped ZnO thin films: structural and optical properties', *Surface Applied Science,* 255, pp 8014-8018.
2518. Kumar, Sunil; Kumar, Ravi; Singh, Davinder Paul, (2013), 'SHI Induced modifications in Mn Doped ZnO Thin Films', *AIP Conference Proceeding*, 1536, pp 461.
2519. Kumar, Vinod; Singh, Surinder; Bajwa, Bikram Singh; Mahajan, Sabndeep; Kalia, Rajeev; Dhar, Sunil (2010), 'Monitoring of TDS and conductivity in groundwater in the seismically active region in NW Himalayas, India', *Earth Sci* 23, 2010, pp 295-299
2520. Lamba, V.J.; Engles, D.; Malik, S.S.; Gupta, A. (2009), 'Quantum transport in nano MOSFETs', *Molecular Simulation* 35 (6), pp. 434-439.
2521. Lamba, V.K; Engles, D.; Malik, S.S. (2009), 'Design of multi - Dimensional variable capacitors for RF MEMS', *Nanotechnology 2009: Fabrication, Particles, Characterization, MEMS, Electronics and Photonics - Technical Proceedings of the 2009 NSTI Nanotechnology Conference and Expo, NSTI-Nanotech 2009* 1 , pp 456-459.
2522. Lochab, S. P.; Numan, Salah; Sandhu, Amanpreet Kaur; Singh; Surinder; Pandey, O. P.; Kanjilal, D. (2008), "Thermoluminescence of silica-based materials irradiated by thermal neutrons", *Journal of Physics D: Applied Physics* 41,65103.
2523. Mahajan, A; Singh,V; Kumar, P.; Bedi, R.K. (2010), 'Synthesis and characterization of 1-phenyl-3-(4-phenyl-[1,2,3]triazol-1-yl)-4-styryl-azetidin-2-one films for light emitting applications', *Thin Solid Films,* 519(5), pp 1501-1505.
2524. Mahajan, A.; Brar, S.S.; Bedi, R. K. (2010), 'Characterization of hot wall grown 9, 10-dichloroanthracene films for light emitting applications', AIP Conference Proceedings, 1313, pp 156-158.
2525. Mahajan, A.; Kumar, A.; Singh, M.; Pathak D.; Bedi, R. K. (2013), "Characterization of drop casted cutspc films on ITO substrates", *International Journal of Nanoscience* 12, January, pp 1350001-1350007
2526. Mahajan, Aman; Aulakh, Ramandeep; Bedi, R.K.; Kumar, Subodh (2012), 'Synthesis and characterization of excited state intramolecular proton transfer based 2-hydroxylaryl imidazole fluorescent materials' *Synthetic Metals* 162(1-2), pp 58-63.
2527. Mahajan, A.; Kumar, A.; Singh, M.; Pathak, Dinesh; Bedi, R. K. (2012), 'Structural, optical and electrical characterization of water soluble Copper phthalocyanine based films', *Optoelectronics and*

Advanced Materials–Rapid Communications, 6(7-8), August pp 755-760

2528. Mahajan, Aman; Aulakh, Ramandeep; Bedi, R. K.; Kumar, Subodh (2012), 'Preparation and characterization of oxadizole based electron transporting thin films', *Electronics Material Letters,* 8(4), August, pp 429-434.
2529. Mahajan, S; Kumar, A.; Singh, S.; Rana, A. S.; Dhar, S.; Walia, V.; Bajwa, B.S. (2008), 'Radon estimation in groundwater samples in some tectonically active areas using alpha- Scintillometry', *Proc. Nuclear and radiochemistry Symp*. 631-632.
2530. Mahajan, S; Walia, V.; Bajwa, B.S.; Kumar, A.; Singh, S.; Seth, N.; Dhar, S.; Gill, G.S.; Yang, T.F. (2010), 'Soil-gas radon/helium surveys in some neotectonic areas of NW Himalayas foothills, India', *Nat. Hazards Earth Syst. Sci.* (NHESS) 10, pp 1221-1227.
2531. Mahajan, S.; Walia, V.; Bajwa, B. S.; Kumar, A.; Singh; S.; Seth, N.; Dhar, S.; Gill, G. S.; Yang, T F (2010), 'Soil gas radon/helium survey in some neotechtonic areas of NW Himalayan foothills, India', *Nat. Hazards Earth Syst. Sci*. 10, pp 1221-1227.
2532. Manupriya; Thind, Kulwant Singh; Singh, K.; Kumar, V.;S harma, G.; Singh, Davinder Paul; Singh, D. (2009), 'Compositional dependence of in-vitro bioactivity in sodium calcium borate glasses', *Journal of Physics and Chemistry of Solids,* 70, pp 1137–1141.
2533. Mehra, R; Singh, S.; Kumar, S. (2009), 'Passive integrating radon studies for environmental monitoring in Sirsa district, Haryana, India using solid-state nuclear track detectors', *Indian J. Phys*. 83 (8) pp 1191-1196
2534. Mehra R; Singh, S.; Singh, K. (2009), "Analysis of ^{226}Ra, ^{232}Th and ^{40}K in soil samples for the assessment of the average effective dose", *Indian J. Phys*. 83 (7), pp 1031-1037
2535. Mehra, Rohit; Sonkawade, Rajindra G.; Badhan, Komal; Singh, Surinder (2009), 'Measurement of Natural Radioactivity in Brick Samples Using Gamma-Ray Spectrometry', *Asian Journal of Chemistry* Vol. 21, No. 10.
2536. Mian, Mahmood (2008), 'Multirate Rate Service Analysis in Wideband CDMA system', *The Icfai University Journal of Electrical & Electronics Engineering,* I(1), pp 53-61.
2537. Mian, Mahmood (2008), 'Link and System Level Interface Study for WCDMA Simulation Model', *IEEE Transaction of Wireless Communication*, USA.
2538. Mian, Mahmood (2009), BER Analysis for WCDMA System in Radio Environment, *IEEE International Advance Computing Conference (IACC-2009),* Thapar University, Punjab India.
2539. Mian, Mahmood (2010), "Adaptive signal processing – algorithmic analysis study", *1st all India National Conference on Challenges in*

Emerging Computer Technologies (CECT-10) Mohali, Punjab, pp 56-59.

2540. Mian, Mahmood (2010), "Challenges in Voice Signal Processing in Internet Protocol Domain- critical Analysis", *National level Technical Symposium on Emerging Trends in Technology TECHNOVISION*-GNE Ludhiana, pp148-152.
2541. Mian, Mahmood (2010), 'Simulink based VoIP analysis', *Journal of Telecommunications*, Vol. 2(2), May 2010, pp 126-130.
2542. Mian, Mahmood (2010), 'Analysis of VoIP signal processing for performance enhancement', *International Journal of Computer Science & Emerging Technologies*, 2(1), pp 1-4.
2543. Mian, Mahmood (2011), 'VoIP Signal Processing in Digital Domain', *The IUP Journal of Electrical & Electronics Engineering,* 3(4), pp 38-43.
2544. Mian, Mahmood (2012), 'Speech signal processing', *The Telecommunications Journal,* July 2012 Web issue.
2545. Mian, Mahmood (2013), 'Study and analysis of VoIP parameters under ubiquitous environment - A review', *DAV NCST-2013 National congress on Science & Technology*, DAVIET Jalandhar.
2546. Monika; Thind, Kulwant Singh; Singh, Davinder Paul (2009), 'Lead Borosilicates as Radiation Hard Glasses' *Proceedings Of National Conference on Advances in Instrumentation,* July 17-19, Faridkot , Punjab , pp72-76.
2547. Monika, Falconieri, M.; Baccaro, S; Sharma, G; Thind, Kulwant Singh; Singh, Davinder Paul (2012), 'Role of aluminium oxide in the structure of heavy metal oxide borosilicate glasses', *physica status solidi (a),* 209, pp 1438-44.
2548. Muneer, Ahmad; Thangaraj, R. (2012), 'Bi-composition and light effects on the conductivity of Sn-Sb-Bi-Se amorphous chalcogenide alloys' *Eur. Phys. J. App. Phys* 59 pp 10302-10306.
2549. Nayar, P.; Khanna, A.; Kabiraj, D. (2012), 'Effects of Annealing on the Structure and Optical Properties of Alumina Films Deposited by Electron Beam Evaporation', *AIP Coference Series*, 1451 pp 142-143.
2550. Nayar, Priyanka; Khanna, Atul (2013), 'Formation of crystalline aluminum silicate hydroxide layer during deposition of amorphous alumina coatings by electron beam evaporation', Rapid Communication, *Vacuum* 89, pp 17-20.
2551. Neerja; Singh, S. (2008), 'Oxygen (O^{6+}) ion beam irradiation effects on etching parameters in Lexan polymeric track detector', *Indian Journal of Physics* 83 (7), 101-105.
2552. Ng, Eng-Poh; Lama Itani; Sekhon, Satpal Singh; Mintova, Svetlana (2010), *Chemistry-A European Journal*, 16 pp 12890-12897.
2553. Oinam, A.S.; Singh, L; Sharma, S.; Goswami, P. (2009), 'Improvement of I'mRT MatriXX in terms of spatial resolution and large area

acquisition for patient-specific intensity-modulated radiotherapy verification', *Journal of Medical Physics* 34 (3), pp 153-160
2554. Oinam, A. S.; Singh, L. (2010), 'Verification of IMRT dose calculations using AAA and PBC algorithms in dose buildup regions', *Journal of applied clinical medical physics / American College of Medical Physics* 11 (4), pp 3351
2555. Oinam, A. S.; Singh, L. (2010), 'Verification of IMRT dose calculations using AAA and PBC algorithms in dose buildup regions', *Journal of Applied Clinical Medical Physics* 11 (4), pp 105-121
2556. Oinam, A. S.; Singh, L.; Shukla, A.; Ghoshal, S.; Kapoor, R.; Sharma, S.C. (2011), 'Dose volume histogram analysis and comparison of different radiobiological models using in-house developed software', *Journal of Medical Physics* 36 (4), pp 220-229
2557. Puthucheri, S.; Pandey, P.K.; Gajbhiye, N.S.; Gupta, A.; Singh, A.; Chatterjee, R.; Date, S.K. (2011), 'Microstructural, electrical, and magnetic properties of acceptor-doped nanostructured lead zirconate titanate', *Journal of the American Ceramic Society* 94 (11), pp 3941-3947
2558. Randhawa, P.; Park, J.-S; Sharma, S.; Kumar, P.; Shin, M.-S; Sekhon, S.S. (2012), *Journal of Nanoelectronics and Optoelectronics*, 7, 3, pp 279-286.
2559. Rani, Asha; Singh, Surinder; Duggal, Vikas; Balaram, V. (2013), 'Uranium estimation in drinking water samples from some areas of Punjab and Himachal Pradesh, India using ICP-MS'. *Radiation Protection Dosimetry*, pp 1–6
2560. Sabharwal, Arvind D.; Singh, Surinder; Singh, Bhajan; Sandhu, B. S. (2011), 'Albedo factors of 279, 320, 511 and 662 backscattered gamma photons', *Rad effects and Deffects in solids* iFirst 1-8.
2561. Safronova, M. S; Jiang, Dansha; Arora, Bindiya; Clark, Charles W; Kozloz, M. G; Safronova, U. I. and Johnson,W. R. (2010), 'Blackbody Radiation Shifts and Theoretical Contributions to Atomic Clock Research', *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control* 57, pp 94.2
2562. Saini Amanpreet; Khanna, Atul; Vladimir., K. Michaelis; Scott, Kroeker; Fernando, González; David, Hernández (2009), 'Structure-property correlations in lead borate and borosilicate glasses doped with aluminium oxide,' *J. Non Cryst.* Solids 355 pp 2323-32
2563. Saini, N. S.; Kourakis, I. (2008), 'Dust-acoustic wave modulation in the presence of superthermal ions', *Phys. Plasmas*, 15, pp 123701
2564. Saini, N. S.; Bedi, C.; Gill , T. S. (2008), 'Effect of nonthermal distribution of electrons in a four component dusty plasma', *AIP Conference Proceedings* , 1041, pp 317
2565. Saini, N. S.; Kourakis, I. (2008), 'Modulated Dust-Acoustic Wavepackets in a Kappa-Distributed Nonthermal Plasma Background', *AIP Conference Proceedings*, 1041, pp 263

2566. Saini, N.S.; Kourakis, I.; Hellberg, M.A. (2009), 'Arbitrary amplitude ion-acoustic solitary excitations in presence of excess superthermal electrons', *Phys. Plasmas*, 16, pp 062903
2567. Saini, N. S.; Kourakis, I. (2010), 'Electron beam–plasma interaction and ion-acoustic solitary waves in plasmas with a superthermal electron component', *Plasma Phys. Control. Fusion* , 52, pp 075009
2568. Saini, N. S.; Chahal, B. S.; Bains, A. S.; Gill, T. S. (2011), 'Solitary structures in dusty plasma consisting of negative ions and kappa electrons', *AIP Conference Proceedings* , 1397, pp 331
2569. Saini, N. S.; Sultana, S.; Kourakis, I. (2011), 'Modulational instability of dust electron acoustic waves in superthermal dusty plasmas', *AIP Conference Proceedings* , 1397, pp 335
2570. Saini , N. S.; Danehkar, A.; Hellberg, M. A.; Kourakis, I. (2011), 'Large-amplitude electron-acoustic solitons in a dusty plasma with kappa-distributed electrons', *AIP Conference Proceedings*, 1397, pp 357
2571. Saini, N. S.; Kohli, Ripin (2013), 'Electrostatic envelope excitations under transverse perturbations in a plasma with nonextensive hot electrons', *Astrophys. Space Science*, (In Press)
2572. Saini, N. S.; Kohli, Ripin (2013), 'Dust acoustic solitary waves and double layers with two temperature ions in a nonextensive dusty plasma', *Astrophys. Space Science*, (Published, online available)
2573. Saini, N. S.; Chahal, B. S.; Bains, A. S. (2013), 'Large amplitude dust ion-acoustic solitary waves in a plasma in the presence of positrons', *Astrophys. Space Science*, Published online, May 20.
2574. Saini, N. S.; Shalini (2013), 'Ion acoustic solitons in a nonextensive plasma with multi-temperature electrons', *Astrophys. Space Science*, 346, pp 155
2575. Saini, N. S. (2013), 'Zakharov-Kuznetsov (ZK) Equation for Electron-acoustic Waves', *Proceedings, 27th PSSI National Symposium on Plasma Science & Technology on Challenges of Power Generation & Lighting 21th Century (Plasma-2012),* New Delhi: Excel India Publishers , 10-13 Dec. 2012 : ISBN: 978-93-82062-82-0 pp 493
2576. Saini, R.; Mahajan, A.; Bedi, R.K.; Kumar, S. (2010), ' Synthesis and characterization of nanostructured 1,3-bis (1-anthracenylazomethine) benzene films for room temperature NH_3 gas-sensing applications', *Sensors and Actuators B,* 147(1), pp 122-127.
2577. Saini, R.; Mahajan, Aman; Bedi, R. K.; Aswal, D.K. (2013), 'Improvement of room temperature ppb level Cl_2 sensing characteristics of copper phthalocyanine film', *AIP Conference Proceedings* 1512, January, pp 676-677.
2578. Saini, Rajan; Mahajan, Aman; Bedi, R. K.; Aswal, D. K. (2012), 'Room temperature detection of amines vapours using copper phthalocyanine based thin films', *Physica Status Solidi A* 209(7), pp 1245-1250.

2579. Saini, Rajan; Mahajan, Aman; Bedi, R. K.; Aswal, D.K. (2013), 'Solution processed CuPc based nanowires for room temperature Cl_2 gas sensing applications', *AIP Conference Proceedings* 1536, February, pp 1149-1150.
2580. Samra, K. S.; Thakur, S.; Singh, L. (2011), 'Photoluminescent and thermal behavior of 120 MeV silicon and 84 MeV oxygen ion irradiated PVDC', *Journal of Luminescence* 131 (4), pp 686-694
2581. Samra, K.S; Thakur, S.; Singh, L. (2011), 'Structural, thermal and optical behavior of 84 MeV oxygen and 120 MeV silicon ions irradiated PES', *Nuclear Instruments and Methods in Physics Research, B* 269 (5), pp 550-554
2582. Sandhu, A.K., Singh, S.; Pandey, O.P. (2008), "Gamma ray induced modifications of quaternary silicate glasses", *J. Phys. D; Appl. Phys.* 41, pp
2583. Sandhu, A. K.; Singh, S.; Pandey O. P. (2009), 'Neutron irradiation effects on optical and structural properties of silicate glasses', *Materials Chemistry and Physics*, 115, 783-788, 2009.
2584. Sandhu A. K.; Singh, S.; Pandey, O. P. (2009), 'Effect of neutron-irradiation on optical properties of SiO_2-Na_2O-MgO-Al_2O_3 glasses', *Indian Journal of Physics* 83 7 985-991
2585. Sangeeta P.; Kumar, M.; Singh, S. (2008), 'The Influence of solar radiations to the physical and structural properties of CR-39', *Indian Journal of Physics* 83(6) 821-826
2586. Sekhon, S. S.; Park, Jin-Soo; Cho, Eun Kyung; Yoon, Young-Gi; Kim, Chang-Soo; Lee, Won-Yong (2009), *Macromolecules*, 42 pp 2054-2062.
2587. Sekhon, S.S.; Park, J.-S.; Baek, J.-S; Yim, S.-D; Yang, T.-H; Kim, C.-S. (2010), *Chemistry of Materials*, 22, 3, pp 803-812.
2588. Sekhon, Satpal Singh; Park, Jin-Soo; Choi, Young-Woo (2010), *Physical Chemistry Chemical Physics*, 12 pp 13763-13769.
2589. Sekhon, S.S; D.P. Kaur; J.-S. Park and K. Yamada, (2012), *Electrochimica Acta*, 60 pp 366-374.
2590. Shalini; Saini, N. S. (2013), 'Dust Ion-acoustic Double Layers in Non-Maxwellian Plasmas', *Proceedings, 27th PSSI National Symposium on Plasma Science & Technology on Challenges of Power Generation & Lighting 21th Century (Plasma-2012),* New Delhi: Excel India Publishers , 10-13 Dec. 2012 : ISBN: 978-93-82062-82-0, pp 476
2591. Sharma, J.P.; Yamada, K.; Sekhon, S.S. (2013), *Macromolecular Symposia* 315 (1), pp 188-197.
2592. Sharma, J.P.; Sekhon, S.S. (2013), *Bulletin of Materials Science*, 36(4), pp 629-634.
2593. Sharma, Navdeep; Mahajan, Aman (2013), 'Lakshita - Mining and research hub at L5',*Advances in Space Research*, 52(6), September, pp 1063-1071.

2594. Sharma, R.; Singh, G.; Singh, K. (2011), 'Theoretical investigation of thermophysical properties in two-temperature Ar-He thermal Plasma', *Phys. Plasmas.,* 18(8), 083510
2595. Sharma, R.; Singh, G.; Singh, K. (2011), "Higher-order contributions to transport coefficients in two-temperature hydrogen thermal plasma", *Phys. Plasmas*, 18(6), 063504.
2596. Sharma, R.; Singh, G.; Singh, K. (2011), 'Modelling of the thermophysical properties in Ar-He-H_2 thermal plasmas with electronic excitation', *Journal of the Korean Physical Society*, 58(6), pp 1703-1707.
2597. Sharma, Rita; Kumar, Praveen; Mian, Mahmood; Thangaraj, R. (2012), 'Study of visible luminescence performance in highly transparent PMMA/PVP polyblends', *Optoelectron. Adv. Materials- Rapid Communications* 6 pp 539-542.
2598. Sharma, Saveta; Kumar, Praveen; Thangaraj, R. (2013), 'Effect of Bi additive on structure and optical properties of amorphous $BixIn_{25}$-xSe_{75} chalcogenide films', *Current Appl. Physics* 13 pp 731-735.
2599. Sihotra, S.; Singh, K.; Malik, S.S.; Goswamy, J.; Palit, R.; Naik, Z.; Mehta, D.; Muralithar, S. (2009), 'Band structures in Cs129', *Physical Review C - Nuclear Physics* 79 (4), art. no. 044317 .
2600. Singh, A.; Chatterjee, R. (2008), 'Magnetization induced dielectric anomaly in multiferroic LaFeO3 - PbTiO3 solid solution', *Applied Physics Letters* 93 (18), art. no. 182908
2601. Singh, A.; Gupta, A.; Chatterjee, R. (2008), 'Enhanced magnetoelectric coefficient (α) in the modified BiFeO 3 -PbTi O3 system with large la substitution', *Applied Physics Letters* 93 (2), art. no. 022902
2602. Singh, A.; Choudhary, I.; Mehta, S.; Dahiya, S.; Walia, C.S.; Raina, K.K.; Chatterjee, R. (2010), 'Optimal multiferroic properties and enhanced magnetoelectric coupling in $SmFeO_3$ - $PbTiO_3$ solid solutions', *Journal of Applied Physics* 107 (8), art. no. 084106
2603. Singh, A.; Chatterjee, R; Mishra, S. K; Krishna, P. S. R.; Chaplot, S. L. (2012), 'Origin of large dielectric constant in La modified $BiFeO_3$-$PbTiO_3$ multiferroic', *J. Appl. Phys.* 111, 014113
2604. Singh A.; Chatterjee, R. (2012), 'Multiferroic Properties of La-Rich BiFeO3-PbTiO3 Solid Solutions', *Ferroelectrics* 433, pp 180-189
2605. Singh, B.; Singh, S.; Bajwa, B.S.; Singh, J.; Kumar, A. (2011), 'Soil-gas radon analysis in some areas of Northen Punjab, India', *Environmental monitoring and assessment*,174, 1-4, pp 209 - 217.
2606. Singh, Bhupinder; Singh, Surinder; Bajwa, B.S.; Singh, Joga; Kumar, Arvind (2010), 'Soil gas radon analysis in some areas of Northern Punjab, India', *EMA* (*accepted).*
2607. Singh, Bhupinder; Singh, Surinder; Bajwa, B.S.; Singh, Joga; Kumar, Arvind (2011), "Soil gas radon analysis in some areas of Northern Punjab, India", *Environ Monit Assess* 174:209–217

2608. Singh, D; Singh, K; Bajwa, B. S.; Mudahar, G. S. and Singh, D. P.; Manupriya, Arora, M.; Dangwal, V. K. (2008), 'Optical and structural properties of Li2O–Al2O3–B2O3 glasses before and after Gamma-irradiation effects', *Journal of Applied Physics*, 104, pp 103515.
2609. Singh, Davinder Paul; Singh, Gurinder Pal (2013), 'Conversion of covalent to ionic behavior of Fe_2O_3–CeO_2–PbO–B_2O_3 glasses for ionic and photonic application', *Journal of Alloys and Compounds*, 546, pp 224–228.
2610. Singh, Digvijay; Kumar, Sandeep; Thangaraj, R. (2010), 'Calorimetric studies of $(Se_{80}Te_{20})_{100-x}Ag_x$ bulk samples', *J. Optoelecron. Adv. Materials,* 12, pp 1706-1713.
2611. Singh, Digvijay; Kumar, Sandeep; Thangaraj, R. (2010), 'Experimental and theoretical determination of physical parameters of $(Se_{80}Te_{20})_{100-x}Ag_x$ (0< 4) glassy alloys', *J. Optoelecron. Adv. Materials,*12, pp 1505-1514.
2612. Singh, Digvijay; Kumar, Sandeep; Thangaraj, R. (2010), 'Study of crystallization rate constant of $(Se_{80}Te_{20})_{100-x}Ag_x$ chalcogenide glasses', *Eur. J. App. Phys.* 52 pp 20303-20309.
2613. Singh, Digvijay; Kumar, Sandeep; Thangaraj, R. (2010), 'Structural study of $(Se_{80}Te_{20})_{100-x}Ag_x$ bulk samples using XRD spectra: Applicability of Piloyan-Borchardt method', *J. Optoelecron. Adv. Materials,* 11, pp 2242-2246.
2614. Singh, Digvijay; Kumar, Sandeep; Thangaraj, R. (2011), 'Study of the physical properties with compositional dependence in $(Se_{70}Ge_{30})_{100-x}Bi_x$ (0<x< 8) glassy semiconductors', *Advances in Applied Science Research,* 2, pp 20-29.
2615. Singh, Digvijay; Kumar, Sandeep; Kaur S; Thangaraj, R. (2011), 'Effect of Ag additive on the photoconductive properties of $(Se_{80}Te_{20})_{100-x}Ag_x$ ($1 \leq x \leq 4$) thin films', *Eur. Phys. J. App. Phys.,* 55, pp 30301-30306.
2616. Singh, Digvijay; Kumar, Sandeep; Thangaraj, R. (2011), 'Specific heat and related thermodynamic properties of $(Se_{80}Te_{20})_{100-x}Ag_x$ (1 < x <4) glasses', *Eur. Phys. J. App. Phys.* 53 pp 20302.
2617. Singh, Digvijay; Kumar, Sandeep; Thangaraj, R. (2012), 'Transient photoconductivity in a $(Se_{80}Te_{20})_{100\ x}Ag_x$ ($0 \leq x \leq 4$) thin films', *Progress in Natural Science: Materials International,* 22, pp 386-391.
2618. Singh, Digvijay; Kumar, Sandeep; Thangaraj, R. (2012), 'Optical and electrical properties of as-prepared and annealed $(Se_{80}Te_20)_{100-x}Ag_x$ (0<x<4) ultra-thin films', *J. Non-crys. Solids,* 358, pp 2826-2834.
2619. Singh, Digvijay; Kumar, Sandeep; Anand, Kanica; Thangaraj, R. (2013), 'Effect of different substrate on optical properties of $Se_{92}Te_4Ag_4$ films', *Phase Transitions*, DOI:10.1080/01411594. 2013.765570
2620. Singh, Digvijay; Kumar, Sandeep; Thangaraj, R.; Sathiaraj, T Stephen; (2013), 'Influence of thickness on optical properties of a-

$(Se_{80}Te_{20})_{96}Ag_4$ thin films', *Physica B :Condensed Matter,* 408, pp 119-125.

2621. Singh, G.; Sharma, R.; Singh, K. (2008), "Effect of excited states on higher-order contributions to electron transport in hydrogen thermal plasmas", *J. Phys.D:Appl.Phys.* 41, 225203.
2622. Singh, G.; Sharma, R.; Singh, K. (2009), "Electron transport in hydrogen thermal plasmas", *J. Plasma Fusion Res. SERIES* 8, 1344.
2623. Singh, G.P.; Kaur, P.; Kaur, S.; Kaur, Ravneet; Singh, D. P. (2012), 'Conversion of Ce^{3+} to Ce^{4+} ions after gamma ray irradiation on CeO2-PbO-B2O3 glasses', *Physica B: Condensed Matter* 408 pp 115-118
2624. Singh, Gurinder Pal; Singh, Davinder Paul (2011), 'Effect of WO_3 on structural and optical properties of CeO_2-PbO-B_2O_3 glasses', *Physica B: Condensed Matter,* 406, pp 640-44.
2625. Singh, Gurinder Pal; Kaur, Simranpreet; Kaur, Parvinder; Kumar, Sunil; Singh, Davinder Paul (2011), 'Structural and optical properties of WO_3-ZnO-PbO-B_2O_3 glasses', *Physica B: Condensed Matter*, 406, pp 1890-93.
2626. Singh, Gurinder Pal; Singh, Davinder Paul (2011), 'Spectroscopic study of ZnO doped CeO_2-PbO-B_2O_3 glasses', *Physica B: Condensed Matter,* 406, pp 3402-05.
2627. Singh, Gurinder Pal; Kaur, Parvinder; Kaur, Simranpreet; Singh, Davinder Paul (2011), 'Role of WO3 in structural and optical properties of WO3-Al2O3-PbO-B2O3 glasses', *Physica B: Condensed Matter*, 406, pp 4652-56.
2628. Singh, Gurinder Pal; Singh, Davinder Paul (2011), 'Effect of WO_3 on structural and optical properties of PbO-B_2O_3glasses', *Canadian Journal of Physics,* 89, pp 1281-85.
2629. Singh, Gurinder Pal; Kaur, Parvinder; Kaur, Simranpreet; Singh, Davinder Paul (2011), 'Role of V_2O_5 in structural properties of V_2O_5-MnO_2-PbO-B_2O_3glasses', *Material Physics and Mechanics,* 12, pp 58-63.
2630. Singh, Gurinder Pal; Singh, Davinder Paul (2012), 'Structural and optical properties of WO_3-PbO-B_2O_3 glass-ceramic', *Journal of Physics Chemistry of Solids,* 73, pp 540-44.
2631. Singh, Gurinder Pal; Singh, Davinder Paul(2012), 'Modification in structural and optical properties of CeO_2 doped BaO-B_2O_3 glasses', *Journal of Molecular Structure,* 1012, pp 137-40.
2632. Singh, Gurinder Pal; Kaur, Parvinder; Kaur, Simranpreet; Singh, Davinder Paul (2012), 'Modification in structural and optical properties of ZnO, CeO_2 doped Al_2O_3-PbO-B_2O_3 glasses', *Physica B: Condensed Matter,* 407, pp 1250-55.
2633. Singh, Gurinder Pal; Kaur, Parvinder; Kaur, Simranpreet ; Arora, Deepawali; Singh, Prabhjot; Singh, Davinder Paul (2012), 'Structural and optical investigation of Aluminium-Lithium-Borate glasses', *International Conference on Advancements and Futuristic Trends in*

Mechanical and Materials Engineering (Kapurthala) Proceeding Published in *Journal of Asian Review of Mechanical Engineering ISSN,* pp 2249 – 6289.

2634. Singh, Gurinder Pal; Kaur, Parvinder; Kaur, Simranpreet ; Arora, Deepawali; Singh, Prabhjot; Singh, Davinder Paul (2012), 'Density and FTIR studies of multiple transition metal doped borate glass', *Material Physics and Mechanics,* 14, pp 31-36.
2635. Singh, Gurinder Pal; Kaur, Parvinder; Kaur, Simranpreet; Singh, Davinder Paul (2012), 'Investigation of structural, physical and optical properties of CeO_2-Bi_2O_3-B_2O_3 glasses', *Physica B: CondensedMatter,* 407, pp 4168-72.
2636. Singh, Gurinder Pal; Kaur, Parvinder; Kaur, Simranpreet; Singh, Davinder Paul (2012), 'Conversion of covalent to ionic character of V_2O_5-CeO_2-PbO-B_2O_3 glasses for solid state ionic devices', *Physica B: Condensed Matter*, 407, pp 4269-73.
2637. Singh, Gurinder Pal; Kaur, Parvinder; Kaur, Simranpreet ; Arora, Deepawali; Singh, Prabhjot; Singh, Davinder Paul (2013), 'Effect of aluminium ions on covalent behaviour of Li_2CO_3-B_2O_3 glasses', International Conference on Ceramics, Bikaner, India, *International Journal of Modern Physics: Conference Series,* 22, pp 313–320.
2638. Singh, Gurinder Pal; Kaur, Parvinder; Kaur, Simranpreet ; Kaur, Ravneet; Singh, Davinder Paul (2013), 'Conversion of Ce^{3+} to Ce^{4+} ions after gamma ray irradiation on CeO2–PbO–B2O3 glasses', *Physica B: Condensed Matter*, 408, pp 115–118.
2639. Singh, H; Singh, J.; Singh, S.; Bajwa B. S. (2009), 'Uranium concentration in drinking water samples using SSNTDs', *Indian J. Phys.* 83 (7), pp 1039-1044
2640. Singh, Harmanjit; Singh, Joga; Singh, Surinder; Bajwa, B.S. (2008), 'Regional variations pattern of indoor radon levels in some areas of Punjab and Haryana', *Radiation Protection Dosimetery,* 130(2), 257 – 263.
2641. Singh, Harmanjit; Singh, Joga; Singh, Surinder; Bajwa, B.S. (2008), 'Radon exhalation rate and uranium estimation study of some soil and rock samples from Tusham ring complex, India using SSNTD technique', *Radiation Measurements*, 43(1), S459 - S462.
2642. Singh J.; Singh, H.; Singh, S.; Bajwa, B.S.; Sonkawade, R. G. (2009), 'Comparative study of natural radioactivity levels in soil samples from the upper shivaliks and Punjab, India using gamma ray spectrometry', *Journal of Environmental Radioactivity*, 100, 94-98.
2643. Singh, Joga; Singh, Harmanjit; Singh, Surinder; Bajwa, B.S. (2008), 'Estimation of uranium and radon concentration in some drinking water samples', *Radiation Measurements*, 43(1), S52 3- S526.
2644. Singh, Joga; Singh, Harmanjit; Singh, Surinder; Bajwa B.S. (2009), 'Estimation of uranium and radon concentration in some drinking

water samples of Upper Siwalik , India', *Environmnet Monitoring Assessment,* 154 , pp 15 -22.
2645. Singh, Joga; Singh, Harmanjit; Singh, Surinder; Bajwa, B.S.; Sonkawade, R.G. (2009), "Comparative study of natural radioactivity levels in soil samples from the Upper Siwaliks and Punjab, India using Gamma Ray Spectrometry", *Journal of Environmental Radioactivity,* 100, 94- 98.
2646. Singh, Joga; Singh, Harmanjit; Singh, Surinder; Bajwa B. S. (2009), "Measurement of soil as radon and its correlation with indoor radon around some areas of Upper Siwaliks, India", *J. Radiol. Prot.* 29 pp 1–9.
2647. Singh, Joga; Harmanjit Singh; Singh, Surinder and B.S.Bajwa (2009), "Estimation of uranium and radon concentration in some drinking water samples", Journal of Environmental monitoring and assessment. *Radiation Measurements*, 43(1), S523-S526.
2648. Singh, Joga; Singh, Harmanjit; Singh, Surinder; Bajwa, B.S. (2009), 'Uranium, radium and radon exhalation studies in some soil samples using plastic track detectors', *Indian J. Phys.* 83 (8) 1147-1153
2649. Singh, K.; Singh, G.; Sharma, R. (2009), "Estimation of Higher-order contributions to Viscosity of thermal plasmas: Role of unlike interactions", *Phys. Plasmas* 16, pp 114507.
2650. Singh, K.; Singh, G.; Sharma, R. (2010), 'Role of electronic excitation on thermodynamic and transport properties of argon and argon-hydrogen plasmas', *Phys.Plasmas* 17(7), 072309.
2651. Singh, K.L.; Kumar, A.; Singh, A.P.; Sekhon, S.S. (2009), *Ceramic Engineering and Science Proceedings*, 29, 9, pp 95-108.
2652. Singh, L.; Samra, K.S.; Singh, R.; Kumar, R. (2008), 'Carbon (70 MeV) and copper (120 MeV) ions irradiation effects in Makrofol-N', *Radiation Effects and Defects in Solids* 163 (8), pp 703-711
2653. Singh, L.; Samra, K. Singh (2008), 'Opto-structural characterization of proton (3 MeV) irradiated polycarbonate and polystyrene', *Radiation Physics and Chemistry* 77 (3), pp 252-258
2654. Singh, L.; Samra, K.S.; Singh, R.; Solania, I.; Avasthi, D.K. (2008), 'Degradation of nickel (86 MeV) ion irradiated polystyrene', *Journal of Non-Crystalline Solids* 354 (1), pp 41-48
2655. Singh, L.; Singh, M.; Singh, B.; Kaur, N. (2009), 'Stopping power contribution due to target and projectile excitation/ionization: A comparative study', *Indian Journal of Physics* 83 (8), pp 1109-1115
2656. Singh, L.; Chopra, V.; Lochab, S.P. (2011), 'Synthesis and characterization of thermoluminescent Li 2B 4O 7 nanophosphor', *Journal of Luminescence,* 131 (6), pp 1177-1183
2657. Singh, L.; Kaur, S.; Singh, M.; Kaur, N. (2011), 'Electrical and dielectric characteristics of annealed muscovite ruby mica', *Materials Physics and Mechanics,* 11 (1), pp 60-67

2658. Singh, L.; Kaur, N.; Singh, M. (2012), 'Thermoluminescence characteristics of high gamma dose irradiated muscovite mica', *Indian Journal of Pure and Applied Physics,* 50 (1), pp 14-18
2659. Singh, L.; Devgan, K.; Samra, K.S. (2012), 'Effect of swift heavy ion irradiation on ethylene-chlorotrifluoroethylene copolymer', *Radiation Physics and Chemistry,* 81 (11), pp 1741-1746
2660. Singh, L.; Kumar, R.; Kumar, S.; Bajwa, B.S.; Singh, S. (2013), 'Health risk assessments due to uranium contamination of drinking water in Bathinda region, Punjab state, India', *Radioprotection* 48 (2), pp 191-202
2661. Singh, L.; Kumar, R.; Kumar, Sanjeev; Bajwa, B. S.; Singh, Surinder (2013), 'Health risk assessment due to uranium contamination of drinking water in Bathinda region, Punjab state, India', *Journal of Radioprotection*
2662. Singh, M.; Singh, L. (2008), 'Stopping power of polymers for heavy ions: A comparative study', *Radiation Effects and Defects in Solids,* 163(7), pp. 605-623
2663. Singh M.; Singh, S.; Singh, K. Z Papp. (2008), 'Variation of indoor radon progeny concentration and its role in dose assessment', *J. Environmental Radioactivity,* 99, pp 539-545.
2664. Singh, M.; Singh, L.; Singh, B. (2009), 'Different shapes of tracks in Phlogopite, Biotite and soda lime glass', *Indian Journal of Physics,* 83(7), pp 977-983
2665. Singh, M; .Singh, B.; Kaur, N.; Singh, L. (2009), 'Reliability of stopping power tables and codes for heavy ions ($8 \leq Z \leq 92$) in gases', *Indian Journal of Physics,* 83(8), pp 1099-1107
2666. Singh, M.; Kaur, N.; Singh, L. (2010), 'Morphology of heavy ions irradiated mica', *Radiation Physics and Chemistry* 79 (12), pp 1180-1188
2667. Singh, M.; Kaur, N.; Singh, L. (2010), 'Heavy ion range anisotropy in muscovite mica', *Nuclear Instruments and Methods in Physics Research, B* 268 (17-18), pp 2617-2625
2668. Singh, M.; Singh, L. (2011), 'Electronic stopping power of various organic compounds for proton (0.05-10 MeV): A comparative study', *Materials Physics and Mechanics*, 12(1), pp. 43-57
2669. Singh, M.; Singh, L; Kaur, N. (2011), 'Statistical analysis of stopping power of polymers for heavy ions', *Materials Physics and Mechanics,* 11(2), pp 95-104.
2670. Singh, M.; Kaur, N.; Singh, L. (2012), 'Thermoluminescence characteristics of high gamma dose irradiated natural quartz', *Nuclear Instruments and Methods in Physics Research, B* 276 , pp 19-24
2671. Singh, Mandeep; Mahajan, Aman; R. K., Bedi (2013), 'Dielectric spectroscopic studies of Boron Subphthalocyanine chloride thin films,' *Electronic Materials Letters*, 9(1), January, pp 101-106.

2672. Singh, Manmeet Pal; Singh, Paramdeep Chandi; Singh, R.C. (2009), 'Fabrication and characterization of "Self binding" nanocrystalline SnO_2 powder based thick film ethanol sensor', *J. Non.-Crystall Solids*, 355, pp 1908-1911.
2673. Singh, Manmeet Pal; Singh, Harpreet; Singh, Onkar; Kohli, Nipin; Singh, R.C. (2012), 'Preparation and Characterization of nanocrystalline WO_3 powder based highly sensitive acetone sensor', *Indian journal of physics*, 86, pp 357-361.
2674. Singh, Onkar; Singh, R.C.(2012), 'Enhancement in ethanol Sensing response by surface activation of ZnO with SnO_2', *Materials Research Bulletin*, 47, pp 557-561.
2675. Singh, Onkar; Singh, Manmeet Pal; Kohli, Nipin; Singh R.C. (2012), 'Effect of pH on themorphology and gas sensing properties of ZnO nanostructures', *Sensors and Actuators B*, 166-167, pp 438-443
2676. Singh, Onkar; Kohli, Nipin; Singh, R.C. (2013), ' Precursor controlled morphology of Zinc Oxide and its sensing behavior', *Sensors and Actuators B*, 178, pp 149-154.
2677. Singh, R.; Singh, Samra, K.; Kumar, R.; Singh, L. (2008), 'Microstructural modifications in swift ion irradiated PET', *Radiation Physics and Chemistry* 77(5), pp 575-580.
2678. Singh, R.; Samra, K.S.; Kumar, R.; Singh, L. (2008), 'Proton (3 MeV) and copper (120 MeV) ion irradiation effects in low-density polyethylene (LDPE)', *Radiation Physics and Chemistry* 77 (1), pp 53-57
2679. Singh, R.; Samra, K.S.; Kumar, R.; Singh, L. 2009 'Spectroscopic studies of copper and carbon ion irradiated polypropylene', *Indian Journal of Physics* 83 (7), pp 955-961
2680. Singh, R.C.; Singh, Manvinder; Virk, H.S. (2009), 'Electrochemical etching technique for neutron dosimetry', *Indian J. Phys*., 83 , pp 827-832
2681. Singh, R. C.; Singh, Onkar; Singh, Manmeet Pal; Singh, Paramdeep Chandi. (2008), 'Synthesis of ZnO nanorods and nanoparticles by chemical route and their comparative study as ethanol sensors', *Sensors and Actuators B* , pp 226-232
2682. Singh, R.C.; Kohli, Nipin; Singh, Manmeet Pal; Singh, Onkar (2010), 'Ethanol and LPG characteristics SnO_2 activated Cr_2O_3 thick film sensor', *Bulletin of Materials Science*, 33, pp 1-5
2683. Singh, R.C.; Singh, Manmeet Pal; Singh, Onkar; Singh, Paramdeep Chandi (2010), 'Effect of 100 MeV 10^{7+} irradiation on the ethanol sensing response of nanostructures of ZnO and SnO_2', *Applied Physics A*, 98, pp 161-166
2684. Singh, R.C.; Singh, Onkar; Singh Manmeet Pal; Singh, Paramdeep Chandi (2010), 'Sensing behavior of nanosized zinc-tin composites oxide toward liquefied petroleum gas snd ethanol', *Materials Research Bulletins*,45, pp 1162-1164

2685. Singh, R.C.; Singh, Manmeet Pal; Singh, Onkar; Singh, Paramdeep Chandi (2009), 'Influence of synthesis and calcination temperature on the particle size and ethanol sensing behavior of chemically synthesized SnO_2 Nanostructures', *Sensors and Actuators B*, 143, pp 226-232
2686. Singh, Ravi Chand; Singh, Onkar; Singh, Manmeet Pal; Singh, Paramdeep Chandi; Thangaraj, R. (2010), 'Sensing behaviour of nanosized zinc–tin composite oxide towards liquefied petroleum gas and ethanol', *Materials Research Bulletin,* 45, pp 1162–1164.
2687. Singh, S.; Singh, B.; Bajwa, B.S.; Kumar, A.; Kumar, V.; Kumar, S. (2010), '*U*ranium analysis in drinking water samples for health risk assessments', *Atti della "fondazione giorgio ronch"* ANNO LXV, N.2, 173-180.
2688. Singh, Simrjit; Jahan, Noor; Khanna, Atul; Lotey, Gurmeet Singh; Verma, N.K. (2012), 'Room temperature ferromagnetic behavior of indium doped SnO_2 dilute magnetic semiconductor nanocrystalline thin films', *Chalcogenide Letters*, 9, pp 73-78
2689. Singh, Surinder; Singh, Bhupinder; Bajwa, B.S.; Singh, Joga; Singh, Kawaljit; Kumar, Arvind (2009), "Measurement of radon concentration in ground water from some areas along the foothills of NW Himalayas in Punjab" "*AttidellaFondazione Giorgio Ronchi*" Anno LXIV, n-4-Luglio-Agosto.
2690. Singh, Surinder; Singh, Baldev; Singh, Kawaljit; Kumar, Arvind; Kumar, Sanjeev; Kumar, Vinod; Singh, Bhupinder; Kumar, Ajay (2010), 'Uranium analysis in drinking water samples for health risk assessments', *AttidellaFondazione Giorgio Ronchi*" ANNO LXV, N.2, pp 173-180
2691. Singh, Surinder; Kumar, Arvind; Bajwa, Bikram Singh; Mahajan, Sandeep; Dhar, Sunil (2010), 'Radon Monitering in soil gas and ground water for earthquake prediction studies in North West Himalaya's, India', *Terr. Atmos. Ocean. Sci.* Vol 21. No 4. pp 685-695
2692. Sultana , S.; Danehkar , A.; Saini, N. S.; Hellberg , M. A.; Kourakis , I. (2010), 'Effect of superthermality on nonlinear electrostatic modes in plasmas', *EPS Conference Proceedings,* 34A, P2.410
2693. Sultana, S.; Kourakis , I.; Saini , N. S.; Hellberg , M. A. (2010), 'Oblique electrostatic excitations in magnetized plasma in the presence of superthermal electrons', *Phys. Plasmas* , 17, pp 032310
2694. Suri, Nikhil; Bindra, K Singh; Ahmad, Muneer; Kumar, Jatinder; Thangaraj, R (2008), 'Optical and electrical properties of as-prepared and annealed Se-Te-Bi thin films', *Appl. Phys. A* 90 pp 149-151.
2695. Suri, Nikhil; Khanna, P.K; Thangaraj, R. (2009), 'Optical studies of Se-Te-Bi chalcogenide thin films', *J. Optoelecron. Adv. Materials* 11 6 pp 794-796.

2696. Verheest, F.; Hellberg , M. A.; Saini , N. S.; Kourakis, I. (2011), 'Electron-acoustic solitary waves in the presence of suprathermal electrons', *Phys. Plasmas*, 18, pp 042309.
2697. Walia, Vivek; Mahajan, Sandeep; Kumar, Arvind; Singh, Surinder; Bajwa, Bikramjit Singh; Dhar, Sunil; Yang, Tsanyao Frank (2008), 'Fault delineation study using soil–gas method in the Dharamsala area, NW Himalayas, India', *Radiation Measurements*, 43(1), S337 - S342.
2698. Yadav, Sushila; Kaur, Sukhdeep; Tripathi, V. K. (2008), 'Stimulated Brillouin scattering at the second harmonic of a laser in two-ion-species plasma,' *Physica Scripta,* 78, pp 65501.

FACULTY OF SPORTS MEDICINE & PHYSIOTHERAPY

Department of Sports Medicine & Physiotherapy

2699. Aggarwal, Ashish; Shenoy, Shweta; Sandhu J.S. (2008), 'Comparison of Lumbar and Abdominal Muscle Activation during two Types of Golf Swings: An EMG Analysis', *International Journal of Sports Science,* 4 (12), pp 9-71.
2700. Aggarwal, Asish; Shenoy, Shweta; Sandhu, Jaspal (2008), 'Comparison of Lumbar and Abdominal Muscle Activation Patterns in Two different Skill level Golf players: An EMG analysis', *Medicina Sportiva (Poland)* (2008), Med Sport, 12 (4), pp 109-114.
2701. Agnihotri, H.; Paul, M.; Sandhu J.S. (2008), 'The Comparative Efficacy of Two Feedback Techniques in Treatment of Generalised Anxiety Disorder', *Pakistan Journal of Social and Clinical Psychology,* 6, pp 35-46.
2702. Agnitori, Hitanshu; Paul, Maman; Sandhu, Jaspal (2008), 'Heart Rate changes associated with Biofeedback Training', *Calicut Medical Journal,* 6(3): e3.
2703. Arora, Ekta; Shenoy, Shweta; Sandhu, J.S. (2009), 'Effects of resistance training on metabolic profile of adults with type 2 diabetes', *Indian J Med Res*, 129, pp 515-519.
2704. Bansal, A.; Shenoy, Shweta; Sandhu, J.S (2008), 'Altered activation pattern in patients with chronic neck pain', *Ind. J. of Physio. and Occu*, 2 (1), pp 5-14.
2705. Beotra, A.; Madhusudhana RI, Sandeep, G.; Jain, S.; Sandhu, J.S. (2008), 'Delectability of Glucocorticoids Formulations Available in Indian Market Following Different Routes of Administration Recent Advances In Doping Analysis (16)/ W Schanzer.. (ed) Proceedings of 26th Cologne Workshop on Dope Analysis'.
2706. Bhavna, Madan; Sarika; Sandhu, J. S. (2010), 'Effects of Concentric Vs Eccentric Loading on Cardiovascular Variables and ECG', *African Journal of Health Sciences African Journal of Health Sciences*. Vol. 17 (3-4), pp 47-51

2707. Cook, C.; Nguyen, L.; Hegedus, E.; Sandago, A.; Peitrobon, R.; Constantinou, D.; Chuckpaiwong, B.; Sandhu, J.; Moorman, III CT (2008), 'Continental variations in preoperative and postoperative management of patients with anterior cruciate ligament repair', *Eur.J.Phys Rehabh Med,* 44, pp 253-61.
2708. Dhillon, Mandeep; Dhatt, Sarvdeep; Sandhu, Jaspal (2013), 'A Brief history of Sports Medicine in India: *Journal of Post Graduate Medicine', Education and Research: Editorial*
2709. Gandhi, Meenal; Koley, Shyamal; Sandhu, Jaspal (2010), 'Association between Anthropometric Characteristics and Physical Strength in School going Children of Amritsar', *Anthropologist*, 12(1), pp 35-39.
2710. Goyal, Sandeep; Sandhu, J.S.; Shenoy, Shweta (2008), 'Effect of Short term use of Glucocorticoids on Skeletal Muscle Strength and Endurance', *Journal of Institute of Medicine,* 30 (1), pp 18-20.
2711. Graak, V.; Chaudhary, S.; Bal, BS.; Sandhu, J S (2009), 'Evaluation of the efficacy of pulsed electromagnetic field in the management of patients with diabetic polyneuropathy', *International Journal of Diabetes in Developing Countries,* 29(2), pp 56-61.
2712. Gupta, Shuchi; Paul, Maman; Sandhu, Jaspal S. (2008), 'The Relationship between Forefoot, Mid foot and Rear foot Static Alignment in Pain free and Painful Heel in Athletes', *Serb. J. Sports Sci*., 2(3), pp 67-74.
2713. Jain, Neha; Koley, Shyamal; Sandhu, J.S. (2009), 'A Study of Correlation between Intra-abdominal fat and Lipid Profiles and Some Anthropometric Parameters in Vegetarian and Non-vegetarian Middle Aged Women of Jabalpur, Madhya Pradesh', *The Anthropologist*, 11(2), pp 77-81.
2714. Janakiraman, K.; Shenoy, Shweta; Sandhu, J.S. (2012), 'Hemodynamics during Cycling and Long Distance Running: A Clue to Foot Strike Hemolysis in Indian Athletes', *Comparative Exercise Physiology,* 7(4), pp 209–214
2715. Janakiraman, K.; Shenoy, Shweta; Sandhu, JS (2011), 'Firm Insoles effectively reduce Hemolysis in Runners during Long Distance Running – A Comparative Study', *Sports Medicine. Arthroscopy, Rehabilitation Therapy & Technology (SMARTT),* 8(12), pp 1-6
2716. Janakiraman, K.; Shenoy, Shweta; Sandhu, JS (2011), 'Intravascular haemolysis during Prolonged Running on Asphalt and Natural Grass in Long and Middle Distance Runners', *Journal of Sports Sciences,* 29(12), pp 1287–1292.
2717. Janakiraman, Kamal; Shenoy, Shweta; Sandhu, Jaspal Singh (2012), 'Role of Shoes and Surfaces on Foot Strike Hemolysis During Running', *A review Indian Journal of Physiotherapy and Occupational Therapy,* 6(1), pp 48-50.

2718. Kapoor, S.; Paul, M.; Chauhan, S.; Sandhu, J.S. (2008), 'Clinical effect of combination of Pranayama and Kriya on the performance of shooters', *Ind. J. of Physio. and Occu.* 2 (2), pp 34-37.
2719. Kaur, K.; Yadav, V.S.; Sandhu, J.S. (2008), 'A survey of injuries in field hockey players in relation to playing surfaces', *Ind. J. of Physio. and Occu*., 2(3), pp 20-23.
2720. Kaur, Navdeep; Koley, Shyamal (2010), 'An association of nutritional status and hand grip strength in female laborers and sedentary women of Jalandhar, Punjab, India', *The Anthropologist,* 12(4), pp 237-243.
2721. Kaur, Perivinkel; Sarika, Sandhu, J.S. (2008), 'Effect of Pre-cooling and Pre-warming on Endurance Performance and Blood Lactate Concentration', *Sports Medicine Journal,* 16, pp 1006-1012.
2722. Kaur, Rajpreet; Kumar, Rajinder; Sandhu. J.S. (2008), 'Effect of Various Warm Up Protocols on Blood Lactate Concentration and Endurance Performance', *Serb J Sports Sci*., 2(4), pp 101-109.
2723. Khanna, A.; Koley, Shyamal (2012), 'A study on handgrip strength with selected anthropometric variables in school going children of Amritsar', *Journal of Health and Fitness*, 4(1), pp 106-112.
2724. Khatri, S.; Sandhu, J.S.; Kishor, V.H. (2008), 'Effectiveness of therapeutic ultrasound in identification of tibial stress fractures', *Ind. J. of Physio. and Occu*., 2(1), pp 51-53.
2725. Koley, S.; Kaur, N.; Sandhu, J.S. (2009), 'Relationship of Obesity with Lumbar Range of Motion in School Going Children of Amritsar, Punjab, India', *The Internet Journal of Biological Anthropology* 3(1), pp 25 – 36
2726. Koley Shyamal, Gurpreet Singh and Rupali Sandhu (2008), 'Severity of disability in elderly patients with low back pain in Amritsar, Punjab', *The Anthropologist,* 10(4), pp 265-268.
2727. Koley, Shyamal (2008), 'The Anti - LH Lectin - Leucocyte reactions in patients with diabetes mellitus: Further Observations'. *Internet Journal of Biological Anthropology,* 1(2), pp 1-4
2728. Koley, Shyamal; Singh, Amitoj (2008), 'Trends of active range of motion at three important joints in school going boys of Amritsar, Punjab', *The Anthropologist,* 10(3), pp 225-227.
2729. Koley, Shyamal; Gandhi, Meenal; Singh, Arvinder Pal (2008), 'An association of hand grip strength with height, weight and BMI in boys and girls aged 6-25 years of Amritsar, Punjab, India', *Internet J Biol Anthropol*, 2(1), pp 1-12.
2730. Koley, Shyamal (2008), 'The distribution of the ABO blood types in patients with diabetes mellitus', *The Anthropologist*, 10(2), pp 129-132.
2731. Koley, S.; Yadav, M.K.; Sandhu, J.S. (2009), 'Estimation of Hand Grip Strength and its Association with some Anthropmetric Traits in Cricketers of Amritsar, Punjab, India', *The Internet Journal of Biological Anthropology*, 3(1), 9 – 17

2732. Koley, S.; Santhosh. K.B. (2011), 'Correlations of handgrip strength with selected hand-anthropometric variables in university softball players', *Biomedical human Kinetics,* 3, pp 91-95.
2733. Koley, S.; Jha, Santosh; Sandhu, J.S. (2012), 'Estimation of Back Strength and Its Association with Selected Anthropometric and Physical Fitness Variables in Indian Inter-university Field Hockey Players', *The Anthropologist,* 14(4), pp 359-363
2734. Koley, Shyamal; Kaur, Navdeep; Sandhu, J. S. (2009), 'Association of Hand grip strength and some anthropometric traits in female labourers of Jalandhar, Punjab, India', *Journal of Life Sciences*, 1(1), pp 57-62
2735. Koley, Shyamal; Singh, Jarnail; Sandhu, Jaspal Singh (2010), 'Anthropometric and physiological characteristics on Indian inter-university volleyball players', *Journal of Human Sport & Exercise,* 5(3), pp 389-399
2736. Koley, Shyamal; Chawla, Jasmine Kaur; Sandhu, Jaspal Singh (2010), 'Hand Grip Strength: An Assessment Criteria of Upper Extremity Musculoskeletal Disorders in Indian Collegiate Computer Users', *Ibnosina J Med BS* 2(5), pp 198-204
2737. Koley, Shyamal; Sharma, Deepali (2010), 'An association of percent body fat with some anthropometric variables in patients with low back pain', *South Asian Anthropologist,* 10(1), pp 29-33
2738. Koley, Shyamal; Arora, Anterpreet Kaur (2010), 'Forensic application of the anti-LH lectin, *Erythrina lithosperma*: Observation II', *Indian Journal of Multidisciplinary Research*, 6(2), pp 231-236
2739. Koley, Shyamal; Singh, Jarnail (2010), 'Anthropometric and Physiological characteristics on Indian inter-university basketball players', *Journal of Physical Education and Sports*, *The University of Pitesti*, 28 (3), pp 70-76.
2740. Koley, Shyamal; Kashyap, Kanupriya (2010), 'An evaluation of anthropometric characteristics in Indian inter-university female cricketers', *Sport Science Review*, XIX(5-6), pp 121- 130.
2741. Koley, Shyamal; Kaur, Navneet (2010), 'An association of backpack weight and postural habits in school going children of Amritsar, Punjab, India', *The Anthropologist,* 12(2), pp 107-111.
2742. Koley, Shyamal; Melton, Sheri (2010), 'Age-related changes in handgrip strength among healthy Indian males and females aged 6-25 years', *Journal of Life Sciences,* 2(2), pp 73-80.
2743. Koley, Shyamal; Khajuria, Aseem; Melton, Sheri (2010), 'The correlation between back strength and leg strength among Indian inter-university male cricketers', *FACTA UNIVERSITATIS Series Physical Education and Sport,* 8(2), pp 125-132.
2744. Koley, Shyamal; Kaur, Jaswinder; Sandhu, J.S. (2010), 'Biological risk indicators for non-specific low back pain in young adults of Amritsar, Punjab, India', *J. Life Sci.*, 2(1), pp 43-48.

2745. Koley, Shyamal; Sharma, Lalit; Kaur, Sukhpal (2010), 'Effects of occupational exposure to whole body vibration in tractor drivers with low back pain in Punjab', *The Anthropologist*, 12(3), pp 183-187.
2746. Koley, Shyamal; Kaur, Navdeep; Kaur, Jaswinder; Yadav, Mahendra Kumar (2010), 'Anthropometry and body composition in sports. In Anthropology Today: Trends and Scope of Human Biology', *Anthropologist,* 6, pp 69-81.
2747. Koley, Shyamal; Ali, Zafar; Sharma, Y.P. (2010), 'A Study of Frequency of Injuries in Footballers of Himachal Pradesh, India', *The Physiotherapy Post*. 2(1), pp 17-20.
2748. Koley, Shyamal (2010), 'Association of subcutaneous fat with some anthropometric characteristics and lipid profile in vegetarian and non-vegetarian middle aged menopausal women of central India', *Webmedcentral*. pp 37 – 43
2749. Koley, Shyamal (2010), 'Kinanthropometric research and its applications: A new scientific approach. In Anthropology Today: Trends and Scope of Human Biology', *Anthropologist Special,* 6, pp 59-67.
2750. Koley, Shyamal; Singh, A.P. (2010), 'Effect of hand dominance in grip strength in collegiate population of Amritsar, Punjab, India', *The Anthropologist,* 12 (1), pp 13-16.
2751. Koley, Shyamal; Kashyap, Kanupriya (2011), 'Anthropometric profile of Indian inter-university female basketball players', *Journal of Sports, Physical Education, Allied and Alternative Sciences*, 1(2), pp 15-21.
2752. Koley, Shyamal; Singh, Jarnail; Kaur, Satinder Pal (2011), 'A study of arm-anthropometric profile and handgrip strength in Indian inter-university basketball players', *Serbian Journal of Sports Sciences*, 5(1), pp 35-40.
2753. Koley, Shyamal; Kaur, Satinder Pal; Sandhu, J.S. (2011), 'Correlations of handgrip strength and some anthropometric variables in Indian inter-university female handball players', *Sports Science Review,* XX 3(4), pp 57-68.
2754. Koley, Shyamal (2011), 'A study of anthropometric profile of Indian inter-university male cricketers', *Journal of Human Sport and Exercise*. 6(2), pp 427-435.
2755. Koley, Shyamal; Likhi, Neha (2011), 'No relationship between low back pain and hamstring flexibility', *The Anthropologist*, 13(2), pp 117-120.
2756. Koley, Shyamal; Kaur, Satinder Pal (2011), 'Correlations of handgrip strength with selected hand-arm-anthropometric variables in Indian inter-university female volleyball players', *Asian Journal of Sports Medicine*, 2(4), pp 220-226.
2757. Koley, Shyamal; Khanna, Archana (2012), 'Effects of Pubertal age on handgrip strength in school going children of north India', *International Journal of Health Sciences and Research,* 1(2), pp 22-29.

2758. Koley, Shyamal; Gupta, Bharat (2012), 'Correlations of Static Balance and Anthropometric characteristics in Indian Elite Male Shooters', *International Journal of Applied Sports Sciences,* 24(2), 65-72.
2759. Koley, Shyamal; Arora, Harneet (2012), 'Association of Anthropometric Indices with duration of Low Back Pain', *The Anthropologist*, 14(5), pp 453-458.
2760. Koley, Shyamal; Arora, Harneet (2012), 'Impact of Anthropometric Indices on the Incidence of Low Back Pain', *Ibnosina Journal of Medicine and Biomedical Sciences*, 4(4), pp 115-121.
2761. Koley, Shyamal; Singh, Jarnail (2012), 'Correlations of dominant handgrip strength with some anthropometric and physiological characteristics in Indian inter-university volleyball players', *Human Biology Review,* 1(1), pp 41-50.
2762. Koley, Shyamal; Yadav, Mahendra Kumar (2012), 'Correlations of dominant handgrip strength with selected arm-anthropometric characteristics in Indian elite male cricket players', *Journal of Health and Fitness*, 4(1), pp 85-95.
2763. Koley, Shyamal; Kumar, Santhosh (2012), 'Association of handgrip strength with selected hand-anthropometric variables in Indian inter-university softball players', *FACTA UNIVERSITATIS Series Physical Education and Sport,* 10 (1), pp 13-21.
2764. Koley, Shyamal; Kalsi, Rajni; Sandhu, J.S. (2012), 'Estimation of Back Strength and Its Association with Selected Anthropometric Variables in School Going Children of Amritsar, Punjab', *The Anthropologist,* 14(4), pp 339-346.
2765. Koley, Shyamal; Santhosh, Kumaar B; Sadagopan, SP (2012), 'Anthropometric, Physical Strength, Body Composition and Performance Test Profiles of Inter-District level Male Cricketers of Punjab, India', *The Anthropologist*, 14(5), pp 445-451.
2766. Koley, Shyamal; Yadav, Anupkumar B. (2013), 'Assessment of nutritional status by anthropometric indices of Indian elite male soccer players', *Human Biology Review,* 2(3), pp 243-253.
2767. Koley, Shyamal; Khanna, Archana (2013), 'Association of Dominant Handgrip Strength with Selected Hand-anthropometric Variables in Young-Adults of Amritsar', *BIO JOURNAL,* 8(1), pp 26-31.
2768. Koley, Shyamal; Sharma, Mehak (2013), 'Assessment of Nutritional Practices of Indian Elite Female Athletes', *The Anthropologist*, 15(3), pp 323-327.
2769. Koley, Shyamal; Jain, Vipul Kumar (2013), 'Correlations of maximal oxygen consumption with selected anthropometric and physical characteristics in elite Indian cyclists', *Annals of Biological Research*, 4(4), pp 134-138.
2770. Koley, Shyamal; Bijwe, Vrushali (2013), 'Correlations of Back Strength with Selected Anthropometric Traits and Performance Tests

in Elite Indian Volleyball Players', *European Journal of Sports and Exercise Science*, 2(2), pp 1-5.

2771. Kumar, D.; Sandhu, J.S.; Broota, A. (2011), 'Efficacy of Mulligan Concept (NAGs) on Pain at available end range in Cervical Spine: A Randomized Controlled Trail', *Indian Journal of Physiotherapy and Occupational Therapy.* 5(1), pp 154-162
2772. Kumar, D.; Sandhu, J.S.; Broota, A. (2011), 'Efficacy of Mulligan Concept (NAGs) on activity of daily living in cervical spine and stiffness: A Randomized Controlled Trail', *Physiotherapy, Journal of Indian Association of Physiotherapists*, pp 4-8
2773. Kumar, D.; Sandhu, J.S.; Broota, A. (2011), 'Mulligan Concept (NAGs) in pain, Activities of Daily Living and associated anxiety in Patients suffering from Mechanical Neck Pain: A Randomized Controlled Trail', *Journal of Research and Applications in Clinical Psychology (JORAAICP),* 97, pp 624 – 641
2774. Kumar, D.; Sandhu, J.S.; Broota, A. (2011), 'The Efficacy of Nags on Activities of Daily Living in Cervical Spine Pain and Stiffness', *Physiotherapy* Volume 97 Supplement es 641, 624
2775. Kumar, Neeraj; Paul, Maman; Sandhu, J. S. (2011), 'Why Players Engage in Drug Abuse Substances? A Survey Study', *Doping Journal* 8, 1
2776. Kumar, Praveen; Sandhu, Jaspal Singh; Shenoy, Shweta (2013), 'Evaluation of Behaviour to Pain Measures in Athletes - A Correlative Analysis', *Monten. J., Sports Sci. Med.,* 2(1), pp 17–22.
2777. Kumar, R.; Thakral, G.; Sandhu, J.S. (2008), 'Comparison of the Acute Effect of single session of submaximal exercise in hot and cold ambient temperatures on lipid profile', *Ind. J. of Physio. and Occu*. 2 (1), pp 33-40.
2778. Laishram, Delhila; Kumar, Rejender; Sandhu, Jaspal (2008), 'Effect of Strength Training and Jatamansi on reducing Hand Tremors amongst Archers', *Journal Archivos Venezolanos de Farnacologia y, Terapeutica*, 2, pp 105-109.
2779. Lamba, Shikha; Paul, Maman; Sandhu, Jaspal (2008), 'Comparing the Reaction Time and Agility in Alcohol and Non Alcohol Consuming Volleyball Players', *Medicina Sportiva* 15, pp 945-950.
2780. Miglani, Vikrant Mohan; Shenoy, Shweta; Sandhu, Jaspal Singh (2008), 'Isotonic Evaluation of Peak Force in Overhead Athletes with Shoulder Impingement Syndrome'*, Sports Medicine Journal* 13 {Online Journal of Romanian Society for Sports Medicine} (16), pp 1023 – 1028
2781. Mittal, P.; Shenoy, S.; Sandhu, J.S. (2008), 'Effect of different cuff widths on the motor nerve conduction of the median nerve: an experimental study', *Journal of Orthopaedic Surgery and Research* 3(1), pp 1 – 6

2782. Nanda, T.; Koley, Shyamal (2013), 'Correlations of back strength with selected anthropometric variables in adolescents of Jalandhar, Punjab', *Journal of Health and Fitness*, 4(2), pp 7-14.
2783. Nanda, T., Koley, Shyamal (2013), 'Correlations of back strength with some anthropometric variables in volleyball players', *Journal of Health and Fitness*, 4(2), pp 65-72.
2784. Pardasan. A.; Shenoy, S.; Sandhu, J.S. (2010), 'Efficacy of Tai Chi Chaun and Hatha yoga in type 2 diabetes mellitus patients: parameters of glucose control and lipid profile', *IJPOT*. 4(3), pp 11-16
2785. Paul, Maman; Kumar, Neeraj; Saini, Gopal K.; Sandhu, Jaspal S. (2010), 'Efficacy of Sudarshan Kriya and deep breathing in reducing of the precompetitive anxiety among young athletes', *MEDICINA SPORTIVA', - Journal of Romanian Sports Medicine Society*, 6 (3), pp 1416-1421
2786. Paul, Maman; Biswas, Sandeep; Shukla, Gaurang; Sandhu, Jaspal (2011), 'Effect of agility Training on tennis performance', *Journal of Medicine & Science in Tennis.,* 16(1), pp 21-25.
2787. Paul, Maman; Biswas, Sandep Kumar; Sandhu, Jaspal Singh (2011), 'Role of Sports Vision and Eye Hand Coordination Training in Performance of Table Tennis Players', *Brazilian Journal of Biomotricity,* 5(2), pp 106-116.
2788. Paul, Maman; Khanna, Neha; Sandhu, Jaspal Singh (2011), 'Psychomotor Performance as an Indicator of Training Distress Among Athletes', *Brazilian Journal of Biomotricity,* 5(3), pp 175-185
2789. Paul, Maman; Garg, Kanupriya; Sandhu, Jaspal Singh (2012), 'Role of Biofeedback in optimizing psychomotor performance in Sports', *Asian Journal of Sports Medicine,* 3(1), pp 29-40.
2790. Paul, Maman; Ganesan, Sathiyaseelan; Sandhu, Jaspal Singh (2012), 'Effect of Sensory Motor Rhythm Neurofeedback on Psycho-Physiological, Electro-encephalographic Measures and Performance of Archery Players', *Ibnosina J Med BS,* 4(2), pp 32-39.
2791. Ramprasad, M.; Shenoy, Shweta; Sandhu, Jaspal Singh; Sankara, N., Mahanto, Sukdeb (2010), 'Evaluation of postural stability during quiet standing, step-up and step-up with lateral perturbation in subjects with and without low back pain', *SA Journal of Physiotherapy,* 67(1), pp 1-8
2792. Ramprasad, M.; Shenoy, Shweta; Sandhu, J.S. (2010), 'The magnitude of pre-programmed reaction dysfunction in back pain patients – Experimental pilot electromyography study', *Journal of Back and Musculoskeletal Rehabilitation,* 23(2), pp 77-86
2793. Ramprasad, M.; Shenoy, Shweta; Sandhu, J.S.; Sankara. S.; Fernandes, S. (2010), 'The Differential Effects of Core Stabilization Exercise Regime and Conventional Physiotherapy Regime on Postural Control Parameter during Perturbation in Patients with Movemenmt and Control Impairment Chronic Low Back Pain', *Sports Medicine.*

Arthroscopy, Rehabilitation Therapy & Technology (SMARTT), 2(13), pp 1-13

2794. Ramprasad, M. D.; Shenoy, Shweta; Sandhu, Jaspal Singh; Sankara, N. (2011), 'The influence of kinesiophobia on trunk muscle voluntary responses with pre-programmed reactions during perturbation in patients with chronic low back pain e Experimental electromyography study(possible implications for chronic back pain rehabilitation)', *Journal of Bodywork & Movement Therapies* (2010), xx,1e11
2795. Randhawa, H.S.; Shenoy, Shweta; Chawla, J.K.; Singh, A.; Dhawan, M. (2012), 'Assessment of Anthropometric, Agility, Strength and Physiological Profile of 14Football Players, Punjab Armed Police', *Conference Proceedings*: Futuristic Trends in Physical Education. 1(16), pp 83-87.
2796. Rani, Deepty; Shenoy, Shweta; Sandhu, Jaspal (2008), 'Effect of short duration electrical stimulation on aerobic efficiency of the muscle', *Ind. J. of Physio. and Occu,* 2(2), pp 6-8.
2797. Roopsi, Rohini; Koley, Shyamal (2008), 'Trends of Active range of Motion at three important joints in School going Girls of Jammu (J&K)', *South Asian Anthropologist,* 8(1), pp 61-63.
2798. Sandhu, J.S.; Bhardwaj, Dheera; Shenoy, Shweta (2010), 'Efficacy of Spirulina Supplementation on Isometric Strength and Isometric Endurance of Quadriceps in Trained and Untrained Individuals', *Ibnosina Journal of Medicine and Biomedical Sciences,* 2(2), pp 79-86
2799. Sandhu, J.S.; Gupta, Giniya; Shenoy, Shweta (2010), 'Prediction Equation for Calculating Fat Mass in Young Indian Adults', *Asian Journal of Sports Medicine* 1(2), pp 99-106
2800. Sandhu, J.S.; Kaur, Dhandeep; Sarika (2008), 'Current Practice Variations in The Management of Anterior Cruciate Ligament Injuries among Orthopedic Surgeons of India', *J. Orthopaedics* 5(2), 12
2801. Sandhu, J.S.; Trivedi, S.; Shenoy, Shweta (2010), 'A correlation study between plasma myostatin and peak torque strength gains of bilateral knee extensors and flexors after resistance training in healthy Asian Indians', *Journal of Musculoskeletal Research,* 13(3), pp 109-117
2802. Sandhu, Jaspal Singh; Mahajan, Shruti; Shenoy, Shweta (2008), 'An Electromygraphic Analysis of Shoulder Muscle Activation during Push Up variations on Stable and Unstable Surface', *Int. J. Shoulder Surg*. 2, pp 30-5.
2803. Sandhu, Jaspal Singh; Sarika; Jyoti, Shekhar (2010), 'Heart rate and blood pressure responses in adolescent distance runners with personal or familial history of cardiac problem and hypertension and their significance as prognostic indicators for underlying cardiovascular problems', *Medicină Sportivă,* 21, pp 1-5
2804. Sandhu, Jaspal Singh; Shah, Biren; Shenoy, Shweta; Chauhan, Suresh; Lavekar, G. S.; Padhi, M. M. (2010), 'Effects of Withania somnifera (Ashwagandha) and Terminalia arjuna(Arjuna) on physical

performance and cardiorespiratory endurance in healthy young adults', *International Journal of Ayurveda Research*, 1(3), pp 141-146

2805. Sandhu, Jaspal Singh; Yadav, Abhinav; Shenoy, Shweta (2010), 'Shoulder rotator muscle normative values in Indian overhead athletes with and without impingement syndrome', *Medicine Sportiva,* VI (4), pp 1473-1478.
2806. Sandhu, Jaspal Singh; Aggarwal, Sumit; Shenoy, Shweta; Sharma, Parul (2010), 'Influence of Physical Activity on the Changes in Personality Traits and Motor Skills with Age', *IJSSPE*, 1(1), pp 8-14
2807. Sandhu, Jaspal Singh (2010), **'**Low back pain and concept of segmental stabilization', *Br J Sports Med;* 44*:i2*
2808. Sandhu, Jaspal Singh; Gupta, Giniya; Shenoy, S. (2010), 'Estimation of Body Composition in Indian Population using Skin Fold Thickness and Body Mass Index based Prediction Equations: Comparison and validation using Under Water Weighing Machine', *International Journal of Body Composition Research,* 8(2), pp 51-56.
2809. Sandhu, Jaspal Singh; Thakur, Kunal; Shenoy, Shweta; Saini, Ravi (2012), 'Concentric Hip Muscle Function and Quadriceps-Hamstring Ratio in Athletes with and without Patellofemoral Pain Syndrome', *Ibnosina J Med BS* 4(1), pp 20 -27
2810. Sandhu, Jaspal S.; Shenoy, Shweta; Dutt, I. (2012), 'Time Dose relation of Caffeine Ingestion on Muscular Strength and Endurance Performance', *Journal of Postgraduate Medicine, Education and Research,* Jan- March, 46(1), pp 19-23.
2811. Sandhu, Jaspal Singh; Virdi, Hardeep Singh; Shenoy, Shweta (2012), 'The Impact of Upper Limb Resistance Training Intervention on the Arterial Stiffness Among Patients with Type 2 Diabetes Mellitus', *Ibnosina J Med BS,* 5(5), pp 183-191.
2812. Sandhu, Jaspal Singh; Kaur, Simrat; Shenoy, Shweta (2012), 'A Correlative study between Aerobic, Anaerobic Dry land performances and swimming performance in professional Indian Swimmers', *Brazilian Journal of Biomotricity,* 6(3), pp 185-192.
2813. Sandhu, Jaspal Singh; Isht, Vandana; Shenoy, Shweta (2012), 'Cardiovascular risk factors in middle age obese Indians: a cross-sectional study on association of per cent body fat and intra-abdominal fat mass', *Heartasia,* 4, pp 150-154
2814. Sandhu, Jaspal Singh (2012), 'Nutrition and fitness, Cultural, genetic and metabolic aspects', *Indian J. Med. Res*., 136, pp 313-314
2815. Sandhu, Jaspal Singh (2012), 'The elite young athlete', *Indian J. Med. Res.,*135, pp 443-447
2816. Sandhu, Jaspal S.; Kishor, Sai; Shenoy, Shweta; Randhawa, Harwinder (2013), 'Muscle Dysmorphia & Personality Trait: A significant link in Bodybuilders', *Journal of Post Graduate Medicine, Education and Research*, 47(2), pp 77-82

2817. Sandhu, Jaspal Singh; Shenoy, Shweta; Guglani, Ruchika; Chawla, Jasmine Kaur, (2013), 'Sports Related Foot and Ankle Problems: Etiology and Diagnosis', *J of Foot and Ankle Surgery,* XXVI(2), pp 14-21
2818. Sandhu, H.S.; Koley, Shyamal; Sandhu, Karanjeet Singh (2008), 'A study on lipid profile and body mass index in patients with diabetes mellitus', *J. Hum. Ecol*., 24(3), pp 227-229.
2819. Sandhu, H.S., Koley, Shyamal; Sandhu, Karanjit Singh (2008), 'A study of correlation between lipid profile and waist to hip ratios in patients with diabetes mellitus', *The Anthropologist*, 10(3), pp 215-218.
2820. Sarika, Kang Manpreet; Sandhu Jaspal (2010), 'The Effects of Aerobic Versus Resistance Training on Cardiovascular Fitness in Obese Sedentary Females', *Asian Journal of Sports Medicine,* 1(4), pp 177-184
2821. Sethi, Jasobanta; Sandhu, Jaspal S.; Imbanathan, Vijay (2011), 'Effect of Body Mass Index on work related musculoskeletal discomfort and occupational stress of computer workers in a developed ergonomic setup', *Sports Medicine, Arthroscopy, Rehabilitation, Therapy & Technology*, (3) pp 22
2822. Sharma, A.; Sheth, M.; Koley, Shyamal (2012), 'Profile of injuries in Indian elite male field hockey players in relation to playing positions', *Medicina Sportiva,* 30.
2823. Sharma, A.; Tripathi, Varishtha; Koley, Shyamal (2012), 'Correlations of Anthropometric Characteristics and Physical Fitness Tests in Indian Elite Field Hockey Players', *Journal of Human Sport and Exercise,* 7(3), pp 698-705.
2824. Sharma, A.; Geovinson, S.G.; Sandhu Jaspal Singh (2012), 'Effects of a nine-week core strengthening exercise program on vertical jump performances and static balance in volleyball players with trunk instability', *The Journal of Sports Medicine and Physical Fitness*, 52(6), pp 606-15
2825. Sharma, A.; Arora, M.; Koley, Shyamal (2013), 'Effects of dynamic neuromuscular analysis training on static and dynamic balance in Indian female basketball players', *Human Biology Review*, 2(2), pp 193-203.
2826. Sharma, Archana; Sandhu, Jaspal Singh (2008), 'The Effect of Different Dosages of Caffeine on Isometric Strength and Isometric Endurance', *Journal of Exercise Physiologyonline,* 11(6), pp 34-43.
2827. Sharma, Archna; Kumar, Jitendra; Sandhu, J.S. (2010), 'A study of finding relationship between anaerobic fitness and physical performance variables among athletes', *Medicină Sportivă,* 22, pp 1340-1346.

2828. Sharma, Deepshikha; Shenoy, Shweta; Sandhu, Jaspal Singh (2008), 'Role of Exercises in Diabetes Patients: A systematic review', *Journal of National Integrated Medical Association*, *JNIMA*, 50, pp 5-10.
2829. Sharma, Deepshikha; Shenoy, Shweta; Singh, Jaspal (2010), 'Effect of electrical stimulation on blood glucose level and lipid profile of sedentary type 2 diabetic patients', *International Journal of Diabetes in Developing Countries*, 30(4), pp 194-200.
2830. Sharma, G.; Koley, Shyamal; Sandhu, J.S.; Kajal, N.C.; Singh, Jorawar (2008), 'A study of changes in the body composition components in the patients with pulmonary tuberculosis', *Med. J. Malaysia*, 63(2), pp 118-121.
2831. Sharma, Nidhi; Sharma, Archna; Sandhu, Jaspal Singh (2011), 'Functional Performance Testing in Athletes with Functional Ankle Instability', *Asian Journal of Sports Medicine*, 2(4), pp 249-258
2832. Sharma, Parul; Sandhu, J.S.; Shenoy, Shweta (2011), 'Variation in the Response to Pain Between Athletes and Non-Athletes', *Ibnosina J Med BS*, 3(5), pp 165-171.
2833. Shenoy, Shweta; Mahajan, S.; Sandhu J. S. (2008), 'An Electromyographic analysis of shoulder muscle activation during push up variations', *Medicina Sportiva*, 15, pp 921-926.
2834. Shenoy, Shweta; Miglani, Vikrant Mohan; Sandhu, Jaspal Singh (2008), 'Scapular Muscle Fatigue In Athletes With Shoulder Impingement Syndrome. An EMG Analysis', *Medicina Sportiva*, 16, pp 1023-1028.
2835. Shenoy, Shweta; Guglani, R.; Sandhu, J.S. (2009), 'Effectiveness of walking with pedometer and heart rate monitor on the quality of life and wellbeing in Asian Indians with type 2 diabetes', *Ibnosina Journal of Medicine and Biomedical Sciences*, 1(2), pp 46-57.
2836. Shenoy, Shweta; Arora, E.; Sandhu, J. S. (2009), 'Effects of progressive resistance training and aerobic exercise on type 2 diabetics in Indian population', *International Journal of Diabetes and Metabolism* 17, pp 27-30.
2837. Shenoy, Shweta; Sodhi, J.; Sandhu J. S. (2010), 'Active Treatment of Forward head posture in Indian Visual Display Terminal Workers: An EMG Analysis', *IJPOT* 4 (3), pp 37-41
2838. Shenoy, Shweta (2010), 'EMG in sports rehabilitation', *British Journal of Sports Medicine*, *44* (Suppl 1), i10-i10
2839. Shenoy, Shweta (2010), 'Exercise in osteoporosis', *British Journal of Sports Medicine*, *44* (Suppl 1), i3-i3.
2840. Shenoy, Shweta; Tandon, Suparna; Sandhu, Jaspal (2010), 'Association of Angiotensin Converting Enzyme gene Polymorphism and Indian Army Triathletes Performance', *Asian Journal of Sports Medicine*, 1(3), pp 147-154.
2841. Shenoy, Shweta; Guglani, Ruchika; Sandhu, Jaspal (2010), 'Effectiveness of an aerobic walking program using heart rate monitor

and pedometer on the parameters of diabetes control in Asian Indians with type2 diabetes', *Primary Care Diabetes,* 4(1), pp 41-45.
2842. Shenoy, Shweta; Mishra, Priyaranjan; Sandhu, Jaspal Singh (2011), 'Comparison of the IEMG Activity Elicited During an Isometric Contraction Using Manual Resistance and Mechanical Resistance', *Ibnosina J Med BS,* 3(1), pp 9-14.
2843. Shenoy, Shweta; Mishra, Priyaranjan; Sandhu, Jaspal Singh (2011), 'Peak Torque and IEMG activity of Quardiceps femoris muscle activity at three different knee angles in a collegiate population', *J Exerc Sci Fit,* 9(1), pp 40–45.
2844. Shenoy, Shweta; Tyagi, Bhupinder, S.; Sandhu, Jaspal Singh (2012), 'Concurrent validity of the non-exercise based Vo_2 max prediction equation using % body fat as a variable in Asian Indian adults', *Sports Medicine, Arthroscopy, Rehabilitation, Therapy & Technology,* 4, 34
2845. Shenoy, Shweta; Tyagi, Bhupinder S.; Sandhu, Jaspal Singh (2012), 'Development of the non-exercise based VO_2 max prediction in college- aged participants in India', *J Sports Med Phys Fitness,* 52 (2), pp 1-2.
2846. Shenoy, Shweta; Chaskar, Udesh; Sandhu, Jaspal Singh; Padhi, M. M. (2012), 'Effects of 8 week Supplementation of Ashwagandha on Cardiorespiratory endurance (VO2 max) in Elite Indian Cyclists', *International Journal of Ayurveda Research* (IJAR), 3(4), pp 209-214.
2847. Shenoy, Shweta; Chaskar, Udesh; Sandhu, Jaspal Singh; Padhi, M. M. (2012), 'Effect of Ashwagandha (Withania Somnifera)on Anaerobic performance of Elite Indian Cyclists', *MEDICINA SPORTIVA - Journal of Romanian Sports Medicine Society*, VIII(3), pp 1909 – 1914.
2848. Shenoy, Shweta; Balachandaran; Sandhu J. S. (2013), 'Long Latency Reflex response of Superficial Trunk Musculature in Athletes with Chronic Low Back Pain', *Journal of Back and Musculoskeletal Rehabilitation,* 26, pp 445-450
2849. Shukla, Mayank; Shenoy, Shweta; Sandhu, Jaspal Singh (2012), 'Low Ultraviolet index in Winter with concomitant Hypovitaminosis D in Northern Indian region (Amritsar)- A Pilot Study', *International Jour Life Sciences,* 1(3), pp 64-67.
2850. Shukla, Neeraj; Mittal, Parul; Sandhu, Jaspal (2008), 'Effect of Carbohydrate Drink Intake Patterns on Exercise in Heat', *Pak.J. Nutrition,* 7(3), pp 465-469.
2851. Shenoy, Shweta; Arora, E.; Sandhu, J. S. (2009), 'Changes in Cardiovascular Risk Factors with Progressive Resistance Training in Type-2 Diabetics in Asian Indians', *Journal of Romanian Sports Medicine Society*. 17, pp 1064-1067
2852. Shenoy, Shweta; Dhawan, Neha; Sandhu, Jaspal Singh (2012), 'Effect of Exercise Program and Calcium supplements on Low Bone Mass

among Young Indian Women- A Comparative Study', *Asian Journal of Sports Medicine,* 3(3), pp 193-199.

2853. Shenoy, Shweta; Sharma, Priyanka; Sandhu J. S. (2010), 'Does Gluteal Muscle Activity Contribute to ACL Injury after Quadriceps Fatigue? An Electromyographic Study', *Asian Journal of Exercise & Sports Science,* 7 (1), pp 71-79
2854. Shenoy, Shweta; Bedi, Reecha; Sandhu, Jaspal Singh (2012), 'Effect of soy isolate protein and resistance exercises on muscle performance and bone health of osteopenic/osteoporotic post menopausal women', *Journal of Women and Aging,* 25 (2), pp 183- 198
2855. Shenoy, Shweta; Shadagopan, S. P.; Sandhu, Jaspal Singh (2012), 'Radial and tibial bone ultrasound densiometry in weight bearing and non-weight bearing activity: A comparative analysis', *Serb J Sports Sci.,* 6(1), pp 29-35
2856. Shenoy, Shweta; Wagle, Surbhi Suresh; Sandhu, Jaspal Singh; Singh, H. P. (2012), 'Relationship of maximal aerobic capacity with predictors of cardiovascular diseases in North Indian cardiac patients', *Heart Asia,* 4, pp 62-66.
2857. Shenoy, Shweta; Parasanthy, Sadagopan; Sandhu, Jaspal Singh (2013), 'Quantitative Ultrasound dentistometry in University level cricket fast bowlers and non athletes', *Journal of Post Graduate Medicine, Education and Research,* 47 (2), pp 83-89
2858. Shenoy, Shweta; Wagle, Surabhi; Sandhu, Jaspal Singh (2012), 'Validation of a non- exercise prediction equation for cardiorespiratory fitness in the Asian Indian population', *Comparative Exercise Physiology*.
2859. Shukla, Gaurang; Paul, Maman; Jaspal, Sandhu (2011), 'The effects of vision training on performance in tennis players', *Serb. J Sports Sci.,* 5(1), pp 11-16.
2860. Singh, A.P.; Koley, Shyamal; Sandhu, J.S. (2009), 'Association of hand grip strength with some anthropometric traits in collegiate population of Amritsar', *The Oriental Anthropologist,* 9(1), pp 99-110
2861. Singh, Amrinder; Sarika; Sandhu, J. S. (2011), 'Efficacy of Pre Exercise Carbohydrate Drink (Gatorade) on the Recovery Heart Rate and Blood Lactate Levels in Short Term Intensive Exercise', *Serb. J Sports Sci.,* 5(1), pp 29-34
2862. Singh, Amrinder; Singh, Deepinder; Sandhu, Jaspal Singh (2012), 'Effect of proprioceptive exercises on balance and center of pressure in athletes with functional ankle instability', *MEDICINA SPORTIVA - Journal of Romanian Sports Medicine Society,* VIII (3), pp 1927 – 1933.
2863. Singh, Amrinder; Kulkarni, Kartik; Sandhu, Jaspal (2013), 'Physical and Physiological Characteristics of Elite Indian National Football Players', *International Journal of Physical Education Fitness and Sports,*2(3), pp 12-21

2864. Singh, Anu; Sarika, Sandhu, J. S. (2009), 'Combined Effects of Yogkriyas and Pranayama on Hearth Rate Variability and Resting Heart Rate', *J. Res. Educ. Indian Med. April-June Issue,* pp 1-6
2865. Tate, Balasahib; Paul, Maman; Sandhu, J. S. (2008), 'The Impact of Visual Skills Training Program on Batting Performance in Cricketers', *Serb. J. Sports Sci*., 2(1), pp 17-23.
2866. Trivedi, S.; Kumar, Jitender; Singh, Jarnail; Sandhu, J.S.; Shenoy, Shweta (2011), 'Physiological profiles of volleyball players of Punjab Police', *Indian Journal of Physiotherapy & Occupational Therapy,* 5(2), pp 167-68.

FACULTY OF VISUAL AND PERFORMING ARTS

Music

2867. Kaur, Gurpreet (2011), "Music Therapy for anxiety Disorder", *Ayurveda*, Vol. 1, No. 18. Pp. 24-25
2868. Kaur, Gurpreet (2011), "Cure Insomnia with Music & Ayurveda", *Ayurveda*, Vol. 1, No. 20. Pp. 10-11
2869. Kaur, Gurpreet (2012), "Music Therapy for Mind, Body & Soul", *Ayurveda*, Vol. 1, No. 21. Pp. 26-27.

GURU NANAK DEV UIVERSITY REGIONAL CAMPUS, GURDASPUR

Business Management

2870. Aggarwal, Monika and Sharma , Rishi Raj(2005), "Indian Banking Present and Future", *The Indian Journal of Commerce*, Vol. 58, No. 3, pp 111-127.
2871. Ahluwalia, Amardeep Kaur (2012), "Understanding of TV ads amongst Urban Children", *Indian Journal of Marketing*, March Vol:42, No.3, pp 51-59.
2872. Ahluwalia, Amardeep Kaur (2011), "TV Viewing Habits amongst Urban Children", *The IUP Journal of Marketing Management*, February Vol:10, No.1, pp 45-62.
2873. Ahluwalia, Amardeep Kaur (2011), "The Effects of TV Advertising on Children's Buying Behaviour and Parent- Child Conflict: a Review of Research", *Journal of Management Outlook,* July-Dec Vol:1, No.2, pp 78-84.
2874. Ahluwalia, Amardeep Kaur (2013), "Pilgrimage as Tourist Industry"(co-author: Ms. Preeti Sanan) and Opportunities & Challenges faced by Tourism Industry of India" (co-author: Ms. Kamal Preet) in *Incredible India: Issues, Perspectives & Innovations in Tourism Industry*. edited by Jatinder Kaur & Pooja Malhotra. pp 171-

77 & 310-16, Twenty first Century Publications, Patiala, ISBN 978-93-80144-80-1.
2875. Ahluwalia, Amardeep Kaur (2013), "Stress amongst Teaching employees in Higher Education" (co-author: Ms. KamalPreet), and "Choice of Mobile Phones among Students" (co-author: Ms. Preeti Sanan) in *Trends & Issues in Product & Brand Management*" edited by Dr. Manish Bansal & Babita Singla, Chapter-31 & 56; pp 130-34 & 256- 62, respectively, ISBN 978-93-80144-80-1.
2876. Arora, A; H.S Chahal (2013), 'Factors Affecting the Work Environment in Professional Educational Institutes : A study of Teachers in Punjab', *Official Journal of Haryana Chapter of Indian Commerce Association*, Vol. I No. 1
2877. Chahal, H.S; Pooja Mehta (2013), 'Investigating the Relationship between Demographics & use of Green Products: A study of Urban Punjab', *PIMT Journal of Research*, Vol. VI No. 1
2878. Chahal, H.S; B.S. Hundal (2011), 'Factors Responsible for brand Liking, Brand Loyalty and Brand Switching Among Farmers of Punjab : A Study of Pesticides', *Indian Journal of Agricultural Marketing*, Vol. 24, No. 1
2879. Chahal, H.S; Pooja Mehta (2010), 'Environmentalism as Consumer Behavioural Approach towards Green Products', *Wisdom Voyage* (Bangalore School of Business), Vol. 1, No. 1
2880. Chahal, H.S; B.S.Hundal (2007), 'Impact of Income on the Time of Purchase of Pesticides: A Study of Farmers of Punjab', *Haryana Economic Journal*, NDRI, Karnal , Vol. XXVI No. 1 & 2
2881. Chahal, H.S; B.S.Hundal (2007), 'Impact of Education on the Choice of Media of Rural Consumer: A Study of Pesticides', *Haryana Economic Journal*, NDRI, Karnal, Vol. XXVI No. 1 & 2
2882. Chahal, H.S (2003), 'Managing Unemployment in Rural Punjab', *Economic Analyst*, PSE, GNDU, Amritsar, Vol. XXII No. 1 & 2
2883. Chahal, H.S; (2002), 'Production and Export Potential of Basmati Rice in Indian Punjab', *Haryana Economic Journal*, NDRI, Karnal, Vol. XXIV No. 1 & 2
2884. Chahal, H.S (2013), "*Economic Impacts of Tourism in India*", in *Incredible India: Challenges and Opportunities in Indian Tourism Industry*, edited by Jatinder Kaur and Pooja Malhotra, Twentyfirst Century Publications (2013), Patiala.
2885. Chander, Subash and Sharma, Rishi Raj(2006), "A Perceptual Study of Surrogate Advertising", *The ICFAI Journal of Marketing Management*, ICFAI University Press, Hyderabad, Vol. V , No. 3,pp 26-40.
2886. Kaur Balpreet and Sharma, Rishi Raj(2013), "Modeling the Antecedents and Outcomes of Viral Marketing Video", *Business Analyst*, A Refereed Journal of Shri Ram College of Commerce, New Delhi Vol. 34, No 2, October 2013 - March 2014, pp 167-180

2887. Kumar, Satinder and Sharma, Rishi Raj(2012), "Consumers' Perceptions towards E-Marketing in Punjab", *GNA Journal of Management & Technology*, Vol. VII , No. 1, pp 109-122.
2888. Kumar, Satinder and Sharma, Rishi Raj(2010), "Perceptual Study of Spamming An unethical Practices in E-Marketing", *International Journal of Marketing and Management Research*, Vol. III , No. 1, pp 1-25.
2889. Kumar, Satinder and Sharma, Rishi Raj(2010), "Privacy in Electronic Marketing: A Theoretical Framework", *International Journal of Information Sciences and Application*, IRPH, Delhi, Vol. II , No. 4, pp 693-698.
2890. Sapna (2013), "*Medical Tourism in India: A Booming Industry*", in *Incredible India: Challenges and Opportunities in Indian Tourism Industry,* edited by Jatinder Kaur and Pooja Malhotra, Twentyfirst Century Publications, Patiala.
2891. Sharma, Rishi Raj and Balpreet Kaur(2013), "An Empirical Investigation of Effective Viral Video Advertisements", *Business Analyst*, A Refereed Journal of Shri Ram College of Commerce, New Delhi Vol. 34, No1, pp 35-50
2892. Sharma, Rishi Raj and Chander, Subash(2011), "Whats Wrong with Misleading Advertising? – An Empirical Investigation", *Asia Pacific Business Review*, An International Journal of Asia-Pacific Institute of Management, New Delhi Vol. VII, No1, pp 191-205
2893. Sharma, Rishi Raj and Chander, Subash(2007), "Consumer Psychographics and Surrogate Advertising: An Application of Multiple Discriminant Analysis", *The ICFAI Journal of Consumer Behaviour*, ICFAI University Press, Hyderabad, Vol. II , No. 4, pp 25-47.
2894. Kumar, Satinder and Sharma, Rishi Raj(2012), "Consumers' Perceptions towards Mobile Advertisement in Punjab", *CGC - Management Review*, Vol. II , No. 1, pp 46-55.
2895. Sharma, Rishi Raj and Sahi Anu(2007), "Futures & Options: A rendezvous World of Derivatives", *The Indian Journal of Commerce,* Vol. 60, No. 3, pp 104-113.
2896. Sharma, Rishi Raj(2005), "Impact of Advertising on Consumer Purchase Pattern: A study of Consumer Durables", *Commerce Spectrum, A Journal of Commerce and Business Studies*, Vol. 1, No. 1 ,pp 56-66.
2897. Sharma, Rishi Raj and Taggar, SS(2005), "Changing Face of Retailing in India", *Commerce Spectrum, A Journal of Commerce and Business Studies*, Vol. 1, No. 1, pp 24-37.
2898. Singh, Arwinder (2013), "Brokers' Adoption of Net Stock Trading: A Study", *American International Journal of Research in Humanities*, Arts and Social Sciences Issue 3, Vol. 1 & 2, September-November.
2899. Singh, Arwinder (2013), "Medical Tourism in India: A Booming Industry", in *Incredible India: Challenges and Opportunities in Indian*

Tourism Industry, edited by Jatinder Kaur and Pooja Malhotra, Twentyfirst Century Publications, Patiala.

2900. Singh, Arwinder (2010), "Investors' Adoption of Internet Stock Trading: A Study", *Journal of Internet Banking and Commerce*, April, Vol. 15, No 1, Canada.
2901. Singh, Arwinder (2010), "An Empirical Investigation of Motivating factors for Investing in Yellow Metal", *International Journal of Management Prudence*, Vol. 1, No. 1, Summer Internship Society, M.P.
2902. Singh, Arwinder (2009), "Exploring Demographic and Attitude Dimensions to Discriminate Between Net Brokers and Non-Net Brokers" in *Contemporary Researchers in Business Management*, edited by S.C. Kundu, Vinod Kumar and Karam Pal, Vayu Education of India New Delhi.

Computer Science & Engineering

2903. Ahuja, Mini; Ahuja, Parambir (2007), 'BLUETOOTH–Connect without Cables' *International Conference on IT'07* March pp 391-395.
2904. Ahuja, Mini; Ahuja, Parambir (2009), 'Security- A Concern in a Biometric System' *IEEE International Advance Computing Conference,* Patiala, India, pp 2727-2730.
2905. Ahuja, Mini; Chhabra, Sumit (2011), 'A Brief Review of various MAC protocols for Adhoc Wireless networks' *International Conference on Advances in Computing and Communication,* pp 31-36.
2906. Ahuja, Mini; Chhabra, Sumit (2011), 'Biometric Encryption: Combining Fingerprints and Cryptography' *International Conference on High Performance Architecture and Grid Computing),* In Association with University of Applied Sciences Osnabrueck, Germany and supported by SPRINGER, Germany, pp 505-514.
2907. Ahuja, Mini; Chhabra, Sumit (2011), 'Effect of Distance Measures in PCA Based Face Recognition', *International Journal of Enterprise Computing and Business Systems,* 1(2), pp. 1-15.
2908. Ahuja, Mini; Chhabra, Sumit (2011), 'Survey of Multimodal Biometrics', *International Journal of Computer Science and its Applications,* 1(1), pp 157-160.
2909. Ahuja, Mini; Chhabra, Sumit (2012), 'A Review of Algebraic Link Analysis Algorithms' *International Journal of Computer Applications and Information Technology,* 1(2), pp 20-23.
2910. Athavale, A., Y.; Sood, Sandeep; Singh, Kuldeep (2009), 'Design of a Private Credentials Scheme based on Elliptic Curve Cryptography', *1st International Conference Computational Intelligence, Communication Systems and Networks,* IEEE Explore, India, pp 332-335.

2911. Chhabra, Sumit; Ahuja, Mini (2012), 'Five Dimensional Web Quality Evaluation Model', *International Conference on Information Management in the Knowledge Economy -2012*, Punjab, India, pp 106-113.
2912. Chhabra, Sumit; Ahuja, Mini; Pritika, Mehra (2012), 'A Survey of Metrics for Assessing the Navigational Quality of a website based on the structure of Website', *International Journal of Computer Science and its Applications,* 1(1), pp167-173.
2913. Kalra Sheetal; Sood, Sandeep (2011), 'Elliptic Curve Cryptography: Current Status and Research Challenges' in *Communications in Computer and Information Science:* Springer-Verlag, *LNCS*, 169, pp 455-460.
2914. Kalra, Sheetal; Sood, Sandeep (2011), 'Elliptic Curve Cryptography: Survey and its Security Applications', *International Conference on Advances in Computing and Artificial Intelligence,* ACM Digital Library, pp 113-117.
2915. Kalra, Sheetal; Sood, Sandeep (2013), 'Efficient Password - Authenticated Key Agreement Protocol for Smart Cards Based on ECC', *International Journal of Multimedia Intelligence and Security*, 3(1), pp 80-92.
2916. Kalra, Sheetal; Sood, Sandeep (2013), 'ECC based anti-phishing protocol for Cloud Computing Services', Accepted in *International Journal of Security and Networks, Inderscience.*
2917. Kalra, Sheetal; Sood, Sandeep (2013), 'Advanced remote user authentication protocol for multi-server architecture based on ECC', Accepted *in Information Security Technical Report, Elsevier Ltd.*
2918. Kaur, Sandeep; Singh, Sukhjit (2010), 'Gene Expression-Implementation of gene expression both for Prokaryotes and Eukaryotes', *International Conference on Latest Computer Trends (CUT-2010),* pp 51-60.
2919. Kaur, Sandeep; Singh, Preet Kanwal (2011), 'Computational Model for Prokaryotic and Eukaryotic Gene Prediction'*, International Conference on High Performance Architecture and Grid Computing (HPAGC-2011), Chitkara University, Punjab, India,* July 19-20, pp 342-348.
2920. Kaur, Sandeep; Sohpal, Vipan; Singh, Preet Kanwal (2011), 'Clustering algorithm approach for Prokaryotic and Eukaryotic Gene Prediction', *Journal of Computational Intelligence in Bioinformatics*, 4(3), pp 273-282.
2921. Khalique, Aqeel; Singh, Kuldeep; Sood, Sandeep (2010), 'A Password-Authenticated Key Agreement Scheme based on ECC Using Smart Cards', *International Journal of Computer Applications*, 2(3), pp 26-30.

2922. Khalique, Aqeel; Singh, Kuldeep; Sood, Sandeep (2010), 'Implementation of Elliptic Curve Digital Signature Algorithm', *International Journal of Computer Applications*, 2(2), pp 21-27.
2923. Kiran, Lata; Sood, Sandeep; Singh, Kuldeep (2009), 'A Single Sign-On Model for Web Services based on Password Scheme', *1st International Conference Computational Intelligence, Communication Systems and Networks,* IEEE Explore, India, pp 308-313.
2924. Ritika (2012), 'A Novel Approach for Local Contrast Enhancement of Medical Images using Mathematical Morphology', *International Journal of Computer Science and Information Technology & Security (IJCSITS),* 2(2), pp 392-397.
2925. Sharma, Pardeep; Sood, Sandeep; Kaur, Sumeet (2011), 'Cloud Implementation Issues and What to Compute on Cloud', *International Journal of Advances in Computer Networks and its Security*, 1(1), pp 130-135.
2926. Sharma Pardeep; Sood, Sandeep; Kaur, Sumeet (2011), 'Security Issues in Cloud Computing' in *Communications in Computer and Information Science:* Springer-Verlag, LNCS, vol. 169, pp 36-45.
2927. Sharma, Pardeep; Sood, Sandeep; Kaur, Sumeet (2012), 'Cloud Cost Model', *RAISE 2012.*
2928. Sood, Sandeep; Sarje, Anil; Singh, Kuldeep (2009), 'Secure Single Password Anti-phishing Protocol', Accepted in *3rd IEEE International Conference on Internet Multimedia Systems Architecture and Application (IMSAA-09),* IIIT, Bangalore.
2929. Sood, Sandeep; Sarje, Anil; Singh, Kuldeep (2010), 'An Improvement of Liou et al.'s Authentication Scheme using Smart Cards', *International Journal of Computer Applications*, 1(8), pp 16-23.
2930. Sood, Sandeep; Sarje, Anil; Singh, Kuldeep (2010), 'Secure Dynamic Identity based Remote User Authentication Scheme' in *Springer-Verlag, LNCS,* vol. 5966, p 224-235.
2931. Sood, Sandeep; Sarje, Anil; Singh, Kuldeep (2010), 'An Improvement of Xu et al.'s Authentication Scheme using Smart Cards', *3rd ACM Compute 2010,* vol. *15,* ACM Digital Library, IISc Bangalore, India, pp 1-5.
2932. Sood, Sandeep; Sarje, Anil; Singh, Kuldeep (2010), 'An Improvement of Hsiang-Shih's Authentication Scheme using Smart Cards', *ICWET 2010 Conference of ACM,* ACM Digital Library, India, pp 19–25.
2933. Sood, Sandeep; Sarje, Anil; Singh, Kuldeep (2010), 'An Improvement of Wang et al.'s Authentication Scheme using Smart Cards', *16th IEEE NCC,* IEEE Explore, I.I.T, Chennai, India, pp 1-5.
2934. Sood, Sandeep (2011), 'Cryptanalysis of Liao-Wang's Multi-server Authentication Protocol', *ICCCT-2011*, pp 27-29.
2935. Sood, Sandeep (2011), 'Cryptanalysis of Liu et al.'s Smart Card based Authentication Protocol', *ICCCT-2011*, pp 24-26.

2936. Sood, Sandeep; Sarje, Anil; Singh, Kuldeep (2011), 'A Secure Dynamic Identity based Authentication Protocol for Multi-Server Architecture', *Journal of Network and Computer Applications,* Elsevier Ltd, 34(2), pp 609-618.
2937. Sood, Sandeep; Sarje, Anil; Singh, Kuldeep (2011), 'Dynamic Identity based Single Password Anti-Phishing Protocol', *Security and Communication Networks,* John Wiley and Sons (Interscience), 4(4), pp 418-427.
2938. Sood, Sandeep (2011), 'Secure Dynamic Identity based Authentication Scheme Using Smart Cards', *Information Security Journal: A Global Perspective, Taylor & Francis*, 20(2), pp 67-77.
2939. Sood, Sandeep (2011), 'Cookie based Virtual Password Authentication Protocol', *Information Security Journal: A Global Perspective, Taylor & Francis*, 20(2), pp 100-111.
2940. Sood, Sandeep (2011), 'An Improved and Secure Smart Card based Authentication Scheme', *International Journal of Multimedia Intelligence and Security, Inderscience*, 2(1), pp 75-89.
2941. Sood, Sandeep; Sarje, Anil; Singh, Kuldeep (2011), 'Inverse Cookies based Virtual Password Authentication Protocol', *International Journal of Network Security*, 13(2), pp 98-108.
2942. Sood, Sandeep (2011), 'Secure Password based Authentication Protocol to Thwart Online Dictionary Attacks', *MIS Review: An International Journal*, 16(2), pp 93-110.
2943. Sood, Sandeep (2012), 'Intelligent Social Networks' in *Exploratory Analysis in Dynamic Social Networks – Theoretical and Practical Applications*: iconcept Press, pp 1-10.
2944. Sood, Sandeep (2012), 'Phishing Attacks: A Challenge Ahead', *Depth eLearning papers*, 28, pp 1-9.
2945. Sood, Sandeep (2012), 'Dynamic Identity based Authentication Protocol for Two-Server Architecture', *Journal of Information Security*, 3(4), pp 326-334.
2946. Sood, Sandeep (2012), 'A Combined Approach to Ensure Data Security in Cloud Computing', *Journal of Network and Computer Applications, Elsevier Ltd.*, 35(6), pp 1831–1838.
2947. Sood, Sandeep; Sarje, Anil; Singh, Kuldeep (2012), 'SSO Password based Multi-Server Authentication Protocol', *International Journal of Communication Networks and Distributed Systems (IJCNDS) (Special Issue on Trust, Reputation and Security), Inderscience*, 9(1), pp 161-180.
2948. Sood, Sandeep (2012), 'An Improved and Secure Smart Card based Dynamic Identity Authentication Protocol', *International Journal of Network Security*, 14(1), pp 39-46.
2949. Sood, Sandeep (2013), 'A Value based Model for dynamic Resource Provisioning in Cloud Enviournment', *International Journal of Cloud Applications and Computing, IGI Global*, 3(1), pp 1-12.

2950. Sood, Sandeep (2013), 'Hybrid Data Security Model for Cloud', *International Journal of Cloud Applications and Computing, IGI Global*, 3(3), pp 50-59.
2951. Sood, Sandeep (2013), 'Advanced Dynamic Identity Based Authentication Protocol using Smart Card', Submitted in *Information Security Technical Report, Elsevier Ltd., Special Issue on Smart Card and RFID Security.*
2952. Thapa Manjit; Sood, Sandeep (2011), 'On Secure Digital Image Watermarking Technique', *Journal of Information Security*, 2(4), pp 169-184.
2953. Thapa Manjit; Sood, Sandeep; Sharma, Meenakshi (2011), 'Digital Image Watermarking Technique based on Different Attacks', *International Journal of Advanced Computer Science and Applications*, 2(4), pp 14-19.
2954. Thapa Manjit; Sood, Sandeep; Sharma, Meenakshi (2011), 'Digital Watermarking: Current Status and Key Issues', *International Journal of Advances in Computer Networks and its Security*, 1(1), pp 327-332.

Department of Electronics & Communication Engineering

2955. Anu Sheetal et. al. (2009), "Impact of extinction ratio of single arm $\sin^2$ $LiNbO_3$ Mach–Zehnder modulator on the performance of 10 and 20 Gb/s NRZ optical communication system in the Optik", *International Journal for Light and Electron Optics*, Elsevier Science, Germany, 120(14), pp 704-709
2956. Anu Sheetal et. al. (2009), "Simulative analysis of Free Space Optical Transmission System under Different Environmental Conditions in the CIIT", *International Journal of Programmable Device Circuits and Systems*, DOI: PDCS092009004, September
2957. Anu Sheetal et. al. (2009), "Simulative Analysis of 40 Gb/s Dispersion Compensated Optical Communication System with NRZ Modulation using Linearly Chirped Fiber Bragg Grating in the CIIT" *International Journal of Programmable Device Circuits and Systems*, DOI: PDCS112009003, November
2958. Shashi B. Rana et al. (2009), "Significance of Nanotechnology in Construction Engineering", *International Journal of Recent trend in Engineering*, Finland, 1(4), May, pp 46-48
2959. Satbir Singh, Amarpal Singh (2009), "Simulative analysis of BER and Q-factor for sub-carrier multiplexing (SCM) based bi-directional radio over fiber (RoF) communication system", *International Journal of Applied Engineering Research*, 4(8), pp 1479-1487
2960. Shashi B. Rana , Dinesh Pathak (2009), "Comparative study of logic circuit using CMOS and BiCMOS Technology for VLSI Applications", *Atti Della Fondazione Giorgio Ronchi*, Italy, Anno LXIV, pp. 919-927

2961. Anu Sheetal et. al. (2010), "Impact of Optical Modulation Formats on SPM- Limited Fiber Transmission in 10Gb/s and 40Gb/s Optimum Dispersion-Managed Lightwave Systems in the Optik", *International Journal for Light and Electron Optics*, Elsevier Science, Germany, 121(3), pp 246-252
2962. Anu Sheetal et. al. (2010), "Minimization of Self Steepening Of Ultra Short Higher Order Soliton Pulse at 40 Gb/s by the Optimization of Initial Frequency Chirp in the Optik", *International Journal for Light and Electron Optics*, Elsevier Science, Germany, 121(5), pp 471-477
2963. Anu Sheetal et. al. (2010), "Simulation of High Capacity 40 Gb/s Long Haul DWDM System Using Different Modulation Formats and Dispersion Compensation Schemes in the Presence of Kerr's Effect in the Optik", *International Journal for Light and Electron Optics*, Elsevier Science, Germany, 121(8), pp 739-749
2964. Anu Sheetal et. al. (2010), "Comparative Analysis of High Data Rate Free Space Optical Transmission System under Various Environmental Conditions", *International Journal of Information Sciences and Applications*, *2(3)*, pp 465-469.
2965. Shashi B. Rana et al. (2010), "Synthesis and characterization of pure and doped ZnO nanoparticles", *Journal of optoelectronics and advanced material*, *12(2)*, pp 257-261.
2966. Satbir Singh, Amarpal Singh (2010), "Simulative Analysis of influence of RF Sub-Carriers on performance of 10GHz-band Bi-directional Radio over Fiber (RoF) system", *Journal of Scientific & Industrial Research, 69*, January, pp 21-26.
2967. Satbir Singh, Amarpal Singh (2010), "Simulative analysis of different single mode fibers for Bi-directional Radio over Fiber (RoF) system", *International Journal of Computing & Information Technology***,** *2(2)*, pp 251-258**.**
2968. Anu Sheetal et. al. (2011), "Comparision of RZ and NRZ data formats for 2.5Gb/s Bidirectional WDM/TDM-PON using narrowband AWG", *International Journal of VLSI and Signal Processing Applications*, *1(2)*, pp 95-101.
2969. Anu Sheetal et. al. (2011), "Comparison of 32 × 2.5 Gb/S DWDM Metro Network with Metrocor Fibre using DML-1 and DML-2 Sources in the ISP", *Journal of Electronics Engineering, 1(1)*, pp. 10-15.
2970. Anu Sheetal et. al. (2011), "Performance Analysis of 32× 2.5 Gb/s DWDM Metropoliton Area Network using SMF-28 and Metrocor Optical Fibers", *Research Cell: An International Journal of Engineering Sciences, 4(2)*, September, pp 11-18.
2971. Anu Sheetal et. al. (2011), "Comparison of CSRZ, DRZ and MDRZ Modulation Formats for High Bit Rate WDM-PON System using AWG", *International Journal of Emerging Technology and Advanced Engineering, 2(6)*, June, pp. 83-87.

2972. Anu Sheetal, Harjit Singh (2011), "Performance Improvement of Coherent 100Gb/s Dual-Polarization QPSK System with Digital Signal Processing and In-Line Dispersion Compensation", *International Journal of VLSI and Signal Processing Applications, 1(2)*, pp. 89-94.
2973. Anu Sheetal, Harjit Singh (2011), "Power Effects on the Simulation of 16 × 40Gb/s DWDM Transmission System using Advanced Modulation Formats and Different Dispersion Compensation Schemes", *International Journal of VLSI and Signal Processing Applications, 1(3)*, pp. 27-36.
2974. Anu Sheetal, Harjit Singh (2011), "Performance Analysis of 2.5Gb/s Bidirectional WDM/TDM-PON with Narrowband AWG for Varying Extinction Ratio using ANFIS", *Research Cell: An International Journal of Engineering Sciences, 4(2)*, pp. 150-158.
2975. Anu Sheetal, Harjit Singh (2011), 'Performance Analysis of OFDM for DVB systems over Rayleigh Fading Channel using Jakes Model', *International Journal of Electronics & Communication Technology, 2(2)*, June, pp. 31-34.
2976. Harjit Singh et. al. (2011), "16×10 Gbps System by Employing Feed Forward SOA Linearization", *International Review of Applied Engineering Research, 1(3)*, pp. 249-256.
2977. Satbir Singh, Shashi B. Rana, (2011), "Simulative analysis of fiber dispersions on optical frequency multiplication based 30 GHz duplex radio over fiber communication system", *International Journal of VLSI and Signal processing Application,1(2)*, May, pp 25-31.
2978. Satbir Singh, Amarpal Singh, Shashi B. Rana (2012), "Simulative analysis of the influence of continuous wave laser power on different data formats for a bi-directional radio over fiber communication system", *Journal of Optics (Springer), 41(1)*, pp 25-32.
2979. Shashi B.Rana, Satbir Singh et al. (2012), "Influence of surface modification by 2-aminothiophenol on optoelectronics properties of ZnO nanoparticles", *Journal of experimental Nanoscience* (Taylor and Francis), pp. 1-12.
2980. Anu Sheetal et. al. (2012), "Bit Error Rate Analysis of WIMAX based OFDM System using different constraint lengths of convolution encoder", *International Journal of Research & Innovation in Computer Engineering , 2(2)*, pp. 223-230.
2981. Anu Sheetal et. al. (2012), "Performance Analysis of WIMAX based OFDM System using Various Modulation Techniques", *International Journal of VLSI and Signal Processing Applications, 2(2)*, April, pp. 181-188.
2982. Harjit Singh, Sheetal, Anu (2012), "Impact of PMD induced penalties on 40 Gb/s duobinary optical communication system for fixed and variable scattering section dispersion in the Optik", *International Journal for Light and Electron Optics, 123(17)*, September, pp. 1520-1524.

2983. Anu Sheetal, Sharanjeet Singh, Harjit Singh (2012), "Performance Analysis of Wavelength Converter based on Cross-Gain Modulation for Varying SOA Active Length using ANFIS", *International Journal of Computer Applications (IJCA)*, 1, April, pp. 29-32.
2984. Harjit Singh et. al. (2012), "Four-channel 80 Gbps light wave link by employing linearized semiconductor optical amplifier using feed-forward linearization approach", *Australian Journal of Electrical & Electronics Engineering (AJEEE), 9(2)* June, pp.165-169.
2985. Anu Sheetal et. al. (2013), "Performance Analysis of 10G/2.5G Asymmetric XGPON Transmission using RZ and NRZ Data Formats", *International Journal of Computer Applications , 70(15)* May, pp. 24-27.
2986. Shashi B. Rana, V.K Bharadwaj, Satbir Singh, Amarpal Singh, Navneet Kaur (2013), 'Synthesis and optical characterization of ZnO nanoparticles capped with 2-aminothiols', *Journal of Materials Science: Materials in Electronics (Springer), 24(1)*, pp. 20-26.
2987. Shashi B.Rana, Amarpal Singh, Navneet Kaur (2013), "Structural and optoelectronic characterization of prepared and Sb doped ZnO nanoparticles", *Journal of Materials Science: Materials in Electronics (Springer), 24(1)*, pp. 44-52.
2988. Shashi B. Rana et al. (2013), "Characterization and optical study of pure and antimony (Sb) doped ZnO nanoparticles", *International journal of Nanoelectronics and Material, 6(45)*.
2989. Shashi B. Rana, Simanpreet Kaur, Satbir Singh, Amarpal Singh, Narinder Singh, Navneet Kaur (2013), "Synthesis and Characterization of Semiconductor Zinc Oxide (ZnO) Nanoparticles: Selective Extraction and Transport of Zn(II) with Organic Receptor", *World applied science journal* (article in press)
2990. Shashi B. Rana et al. (2014), "Study and investigation of long period grating as a refractive index sensor in the Optik", *International Journal for Light and Electron Optics (Elsevier Germany), 125(7)*, pp.1860–1863.
2991. Harjit Singh, Anu Sheetal (2014), "Impact of interferometer delay time on the performance of ODSB-SC RoF system with wavelength interleaving in the Optik", *International Journal for Light and Electron Optics* (Elsevier Germany) (Article in Press).

Laws

2992. Kahlon, Neena Rosey and Parminder Kaur (2010), 'Status of NRI Women in Family: Continuity and Change in Patriarchy', in Dr. H.S Bedi and Dr. Neena Rosey Kahlon (eds.), *Problematics of Indian Immigrants*, New Delhi: Rajat Publications pp.124-139 ISBN No 978-81-7880-502-3.

2993. Kaur, Parminder, (2008), 'Dowry Problem: A Socio-Legal Prespective From 1961' in Dr. Rattan Singh and Varinder Singh, *Socio- Economic Offences in India*, Allahabad Law Agency, Faridabad pp.103-117.
2994. Kaur, Parminder (2008), 'The Hindu Succession Act and the Status of Females- An Overview', *Nyayadeep*, IX(4), pp 99-114.
2995. Kaur, Parminder (2008), 'Property Rights of Women under the Hindu Succession Act', *Law Herald*., 15, pp JS 1-6.
2996. Kaur, Parminder (2010), 'The Changing Dimensions of Divorce- A Discussion in the light of Irretrievable Breakdown Theory of Divorce', *Journal of University Institute of Legal Studies*, 4, pp.66-72.
2997. Kaur, Parminder (2011), 'Live-in Relationships- A New Paradigm in Indian Matrimony', Army Institute of Law Journal, 4, pp 153-159.
2998. Kaur, Parminder (2011), 'Right of Girl Child- Whether a Myth or Reality? in Dr. Daljit Singh (ed.) *Human Rights - Contemporary Concerns*, Amritsar, Printwell Publishers pp.249-259.
2999. Kaur, Parminder (2011), 'Human Rights of Women and Right to Life of Girl Child', in Dr. Daljit Singh (ed) *Human Rights - Contemporary Concerns*, Amritsar, Printwell Publishers pp.240-248.
3000. Kaur, Parminder (2012), 'Proprietry position of Females: A Comparative Study under Hindu Succeession Act and Muslim Law of Succession', *All India Reporter*, pp 26-30.
3001. Kaur, Parminder (2012), 'Female Foeticide- Legal Measures and its Implications', *International Journal of Devlopement Research and Social Action*.
3002. Kaur, Parminder (2012), 'Muslim Female's Right of Maintenance- A Critical Comparison of the Provisions', *International Journal of Millenium Devlopement Studies,* 7 (1). *pp. 182-189.*
3003. Kumar Pawan and Parminder Kaur (2011), 'Working of Family Courts in India', *Amritsar Law Journal,* ISSN No. 0972-382X.
3004. Singh, Ranjit (2008), 'Food Adulteration- A Threat to the Health of Human Beings', in Rattan Singh and Varinder Singh, *Socio- Economic Offences in India*, Allahabad Law Agency, Faridabad pp. 304-316.
3005. Singh, Ranjit (2008), 'Sex Detection and Law', *Amritsar Law Journal,* ISSN No. 0972-382X pp.73-80.
3006. Singh, Ranjit (2009), 'State Terrorism and its Delterious Effects on Human Rights', *Nyayadeep. X (2), pp 30-37.*
3007. Kaur, Amandeep (2008), "Criminalisation of Politics vis-a-vis Election Reforms", *Amritsar Law Journal.* pp. 89-101.

MAHRAJA RANJIT SINGH, REGIONAL CAMPUS, JALANDHAR

Department of Computer Science and Engineering

3008. Mandeep Kaur, J. Singh (2013), "A novel approach to cluster based Biological Biogeography Optimization Algorithm: An Overview", *International Conference AFTMME*.

3009. Mandeep Kaur, J. Singh (2013), "Hierarchical Biological Biogeography Optimization: A new algorithm for multi-objective optimization", *Australian Journal of Information Technology and Communication*, vol I, no I.
3010. Pankajdeep Kaur, I. Chana (2013), "Cloud based intelligent system for delivering health care as a service", *Comput. Methods Programs Biomed*, Volume 113, Issue 1, January 2014, Pp. 346-359.http://dx.doi.org/10.1016/j.cmpb.2013.09.013. Elsevier.
3011. Sheetal Kalra, Sandeep Sood (2013), "Advanced Remote User Authentication Protocol for multi-server architecture based on ECC", *Journal of Information Security and Applications, JISA Elsevier.* Vol 18/ pp. 98-107.
3012. Sheetal Kalra, Sandeep Sood (2013), "Efficient password-authenticated key agreement protocol for smart cards based on ECC", *International Journal of Multimedia Security and Intelligence. IJMIS, Inderscience.*Vol 3/ No.1/ pp.80-92.
3013. Sheetal Kalra, Sandeep Sood (2013), "ECC- based anti-phishing protocol for cloud computing services", *International Journal of Security and Networks. IJSN, Inderscience.* Vol. 8/ No. 3/pp 130-138.
3014. Sheetal Kalra, Sandeep Sood (2013), "Efficient password-authenticated key agreement protocol for smart cards based on ECC", *International Journal of Multimedia Security and Intelligence*. *IJMIS Inderscience* 3(1) pp.80-92
3015. Sheetal Kalra, Sandeep Sood (2013), "ECC- based anti-phishing protocol for cloud computing services", *International Journal of Security and Networks*. IJSN Inderscience 8 (3) pp 130-138
3016. Pankajdeep Kaur, Inderveer Chana (2014), "A resource elasticity framework for QoS-aware execution of cloud applications", *Future Generation Computer Systems* 37 pp 14-25

Department of Electronics and Communication Engineering

3017. Malhotra Jyoteesh, Sharma Ajay K. and Kaler R. S. (2009), 'On the Performance Analysis of Wireless Receiver using Generalized-Gamma Fading Model', *annals of telecommunications-annales des télécommunications,* 64(1-2), January – February, pp 147-153.
3018. Malhotra Jyoteesh, Sharma Ajay K. and Kaler R. S. (2008), 'On the Performance Analysis of Wireless Receiver in Cascaded Fading Channel', *African Journal of Information & Communication Technology,* 4(3), September, pp 65 – 72.
3019. Malhotra Jyoteesh, Sharma Ajay K. and Kaler R. S. (2008), 'On the Performance of Rake Receivers for the UWB System in a Realistic Exponential-Lognormal Model', *International Journal of Applied Engineering Research,* 3(10), October, pp 1287-1302.

3020. Malhotra Jyoteesh, Sharma Ajay K. and Kaler R. S. (2009), 'A Novel Approach for Performance Analysis of Wireless Receiver with Selection Combining in Weibull Fading Channel', *International Journal of Applied Engineering Research*, 4(5), June, pp 819-831.
3021. Malhotra Jyoteesh (2010), 'Performance Evaluation and Simulation of Multichannel Wireless Receiver with EGC and SC in Mixed Fading Channels', *International Journal of Information and Telecommunication Technology,* 2(1), November, pp 86-95.
3022. Malhotra Jyoteesh (2010), 'Simulative Investigations on Low Data Rate IEEE 802.15.4a UWB Channel for Wireless Personal Area Networks', *International Journal of Information and Telecommunication Technology,* 2(1), November, pp 57-65.
3023. Malhotra Jyoteesh (2010), 'Error Rate Performance in High Data Rate UWB Channels for Wireless Personal Area Networks'*, International Journal of Computer Applications,* 10(6), November, pp 31–37.
3024. Sharma R. and Malhotra Jyoteesh (2010), 'A Survey of Emerging Trends in Vehicular Ad-hoc Networks', *International Journal of Information Science and Application*, 2(2), November, pp 311–316.
3025. Malhotra Jyoteesh (2011), 'Performance Evaluation and Simulation of Binary Signalling with EGC in Generalized Flat-Fading Channels', *International Journal of Advancement in Technology,*2(1), January, pp 57–70.
3026. Malhotra Jyoteesh (2011), **'**Performance Analysis of Diversity Combining Multichannel Receivers in Generic-Gamma Fading Channels', *Journal of Applied Science And Engineering,* 14(4), January, pp 333–340.
3027. Kaushal S. and Malhotra Jyoteesh (2011), 'Energy efficient control strategies in heterogeneous Wireless Sensor Networks', *International Journal of Computer Applications,*14(6), February, pp 31–37.
3028. Malhotra Jyoteesh (2011), 'Investigating the Performance of Single and Multichannel Wireless Receivers in Generic-K Fading Channels', *Maejo International Journal of Science and Technology,*5(1), March, pp 96–107.
3029. Malhotra Jyoteesh (2011), **'**Performance of Multi-Hop Communication with Fixed-Gain Relays over Weibull Fading Channels'*, International Journal of Advances in Science and Technology,* 2(4), April, pp 24–35.
3030. Kaur Veerpal and Malhotra Jyoteesh (2011), 'Performance Evaluation of Binary Modulations through Wireless Body Area Network Channel', *International Journal of Computer Applications,* 18(3), March, pp 01–05.
3031. Kaur Veerpal and Malhotra Jyoteesh (2011), 'Performance Evaluation of M-ary Modulations through Wireless Body Area Network Channel', *International Magazine on Advances in Computer Science and Telecommunications -IMACST,* 2(1), May, pp 21–25.

3032. Malhotra, Jyoteesh (2013), *Wireless Communication through Fading Dispersive Channels*. Germany: Lambert Academic Publication. ISBN No. 978-3-8443-3185-1.
3033. Mahajan S. and Malhotra Jyoteesh (2011), **'**Enhanced Chain Based Data Collection sensor network Technique*', International Journal of Computer Science Issues*, 8(3), May, pp 394–399.
3034. Malhotra Jyoteesh (2011), 'Investigation of MQAM and MPSK with EGC in Generalized Flat-Fading Channels', *Journal of Advances in Information Technology,* 2(4), November, pp 250–256.
3035. Malhotra Jyoteesh (2011), 'Investigating the Weibull Fading Effects on the Performance of Single Channel Wireless Receiver using Padé Method', *International Journal Electronics, Electrical and Communication Engineering*, 3(2), December, pp 109–114.
3036. Mahajan S. and Malhotra Jyoteesh (2011), 'Energy Efficient Path Determination in Wireless Sensor Network Using BFS Approach', *Wireless Sensor Network*, 3(11), November, pp 351–356.
3037. Mahajan S. and Malhotra Jyoteesh (2011), 'A Novel Chain Based Wireless Data Sensor Network (ECBSN) Technique', *International Journal of Computer Science and Telecommunications,* 2(8), November, pp 83–87.
3038. Singh M., Sarangal H. and Malhotra Jyoteesh (2012), 'Simulative Analysis of the Impact of Non-linearity in terms of BER, Q-factor and Jitter in Optical Soliton transmission at 40Gb/s', *International Journal of Computer Applications*,48(8), June, pp 09–12.
3039. Singh, Butta and Singh, Dilbag (2012), 'Ectopic beats in approximate entropy and sample entropy based HRV assessment', *International Journal of Systems Science*, 43 (5), pp 884-893.
3040. Singh, Butta and Singh, Dilbag (2012), 'Effect of threshold value r on multiscale entropy based HRV', *Cardiovascular Engineering and Technology*, 3 (2), pp 211-216.
3041. Singh, Butta and Singh, Dilbag (2011), 'Ectopic beats and editing methods for Poincaré plot based HRV', *International Journal of Biomedical Engineering and Technology*, 7(4), pp 353-364.
3042. Singh, Butta and Singh, Dilbag (2012), 'Modified multiscale entropy in HRV for automatic selection of threshold value r', *International Journal of Medical Engineering and Informatics*, 4(1), pp 55-65.
3043. Singh, Butta and Singh, Dilbag (2011), 'Effect of missing RR intervals on approximate and sample entropy based HRV', *Indian Journal of Physiology and Pharmacology*, 55 (5) (Suppl)
3044. Singh, Butta; Saini, Barjinder and Singh, Dilbag (2010), 'Signal processing for heart rate variability: Part-II', *MR International Journal of Engineering and Technology*, 2(1), pp 79-91.
3045. Singh, Butta; Saini, Barjinder and Singh, Dilbag (2009), 'Signal processing for heart rate variability: Part-I', *MR International Journal of Engineering and Technology*, 1(2), pp 63-73.

3046. Randhawa D.K.R (2012), 'Review on Molecular Components for Electronic Circuits', *International Journal of Computer Applications, 49 (1)*, July, pp 17-21.
3047. Randhawa D.K.R, Kaur I., Singh M.L. and Bharadwaj L.M. (2011). 'Single Electron Effects in DNA Bases', *International Journal of Advanced Engineering Technology*, 2(1), April-June, pp.197-201.
3048. Randhawa D.K.R, Kaur I., Bharadwaj L.M. and Singh M.L (2011), 'Tunneling effects in DNA Bases Adenine and Guanine. *Ed' International Journal of Computer Applications* 17(1), March, pp 8-12.
3049. Randhawa D.K.R, Kaur I., Bharadwaj L.M. and Singh M.L (2011), 'Study of HLGs and Transfer Integrals of DNA bases for Investigating Charge Conduction', *International Journal of Electronics & Communication Engineering And Technology (IJECET),* 2(1), Jan-April, pp 43-49.
3050. Randhawa D.K.R, Kaur I., Singh M.L. and Bharadwaj L.M (2011), 'DNA Bases as Molecular Electronic Devices', *International Journal of Computer Applications,* 19(2), April ,pp 39-43.
3051. Sharma I., Randhawa D.K.R. , Singh K.L. (2012), 'Quantum Simulation Study of DNA nucleotide Thymine for use in Molecular Devices', *IOSR Journal of Electronics and Communication Engineering (IOSRJECE),* 1(1), (May-June), pp 01-06.
3052. Sharma I., Chauhan A. and Randhawa D.K. R (2012), 'Quantum Dot-A Metaphor for Advancement of Technology', *International Journal of Chemical Technology (IJCT),* Knowledge Review.
3053. Himali Sarangal, Amarpal Singh and Anu Sheetal (2009), 'Simulative analysis of Free Space Optical Transmission System under different Environmental Conditions', *CiiT International journal of Programmable Device Circuits and Systems*, September.
3054. Sarangal, Himali Anu Sheetal and Amarpal Singh (2010), 'Comparative Analysis of High Data Rate Free Space Optical Communication System under Various Environment Conditions', *International Journal of Information Sciences and Application*, 2 (3), pp.465-499.
3055. Manjit Singh, Himali Sarangal and Jyoteesh Malhotra. "Simulative Analysis of the Impact of Non-linearity in terms of BER, Q-factor and Jitter in Optical Soliton transmission at 40Gb/s", *International Journal of Computer Applications*, June 2012, Vol 48, No. 8, pages: 9-12.
3056. S. Kulbir; Grewal V., Saxena R. (2009), 'Fractal Antennas: A Novel Miniaturization Technique for Wireless Communications', *International Journal of Recent Trends in Engineering (IJRTE),* 2(5), November, pp- 172-176.
3057. Grewal V. and Sharma A.K. (2010), 'On Performance Evaluation of Different QoS Mechanisms and AMC scheme for an IEEE 802.16 based WiMax Network', *International Journal of Computer Applications*, 6 (7), September, pp. 12-17.

3058. Grewal V. and Sharma A.K. (2011), "Performance enhancements of WiMax Physical layer with Turbo coding for mobile environments", *International Journal of Advanced systems and Technology*, June, pp-37-46.
3059. Grewal V. and Sharma A.K. (2012), 'Performance Evaluation of WiMAX Network with AMC and MCCDMA for Mobile Environments', *International Journal of Multimedia and Ubiquitous Engineering*,2(7), October,107-117.
3060. Shalli Rani, Jyoteesh Malhotra and Rajneesh Talwar (2013), EEICCP-Energy Efficient Protocol for Wireless Sensor Networks Wireless Sensor Network 5(7) ISSN: 1945-3078 pp. 127-136
3061. Rachita, Sukhraj Kaur and Jyoteesh Malhotra (2013), "Simulative Investigations of Wireless Body Area Network through Varied Channel Condition", *International Journal of Computer Applications, Foundation of Computer Science, 74(7)* ISSN 0975-8887, pp. 06–10
3062. Shalli Rani, Jyoteesh Malhotra and Rajneesh Talwar (2013), "Review of Cross Layer Techniques to Optimize Quality of Service Metrics in Wireless Sensor Networks", *International Journal on Advanced Computer Theory and Engineering, 2(6)* ISSN: 2319 – 2526, pp. 52-58.
3063. Harminder Singh, Tejinder Singh Sidhu (2013), High Temperature Corrosion Behavior of Ni-based Superalloy Superni-75 in the Real Service Environment of Medical Waste Incinerator Oxidation of Metals 2(5-6), ISSN:0030770X, Springer, pp.651-668.
3064. Amandeep Kaur and Jyoteesh Malhotra (2014), "Cascade Fading Channel Models for Wireless Communication- A Survey", *International Journal of Computer Applications*, Foundation of Computer Science, USA, (ISSN 0975-8887) Vol.89, No.14 pp. 22–25.

Journalism and Mass Communication

3065. Duggal, Kamlesh Singh (2013), "Media, Parents and Children", *Development Communication*, Ed. By Harjinder Walia, Publication Bureau, Punjabi University, Patiala.
3066. Duggal, Kamlesh Singh (2011), "Media Education and Industry Linkage" , Vidura, Press Institute of India, Chennai
3067. Duggal, Kamlesh Singh (2013), "Hindi Journalism in Punjab- A Perspective", *Communication Today*, March.
3068. Duggal, Kamlesh Singh (2012), "Punjab Elelctions 2012- A Survey", *Media Ethics: Issues and Concerns*, Ed. By Navjeet Johal, Publication Bureau, Punjabi University, Patiala,
3069. Duggal, Kamlesh Singh and Rubal Kanozia (2014), "Communication Strategies and Environmental Conservation Movements in Punjab-With Special Reference to Kali Bein (A Study Based Upon Doaba Region of Punjab)", *Scholar's View: International Journal of Media & Management*.

3070. Joshi, Namarta (2008), "Aesthetics of Angst in Indian Cinema", *Sancharshri*, Oct- Dec.
3071. Joshi, Namarta (2008), "Lifting the Veil Off Media", *Communication Today* ,July-September.
3072. Joshi, Namarta (2010), "Women Magazines: Women Perspectives", *Communication Today*, July-September.
3073. Joshi, Namarta (2009), "Media, Children and Gender Issues: Need for Parental Intervention", *Development Communication*, Ed. By Harjinder Walia, Publication Bureau, Punjabi University, Patiala.
3074. Joshi, Namarta (2009), "Slumdog Millionaire-A Metaphor for Indian Cinema?", *Challenges and Opportunities Before Indian Media* , Ed. By Gurmeet Singh Mann, Publication Bureau, Punjabi University, Patiala.
3075. Joshi, Namarta (2011), "Media Coverage of Mumbai Blasts", *Mass Communicator*, April- June.
3076. Joshi, Namarta (2010), "Media Education at Crossroads", *Media Critique*, July- September, 2010 India Media Centre, Chandigarh
3077. Joshi, Namarta (2011), "Contemporary Cinema and the Digital Media", *Changing Paradigms of Media Landscape in the Digital Age: Issues and Perspectives*, Amity School of Communication, Jaipur, Pub. Amity University Press, Noida ISBN 978 81 8011 107-5, 2011
3078. Joshi, Namarta (2014), "Constructing NRI Identity in Hindi Cinema", in *Indian Cinema, Society and Culture*, Ed. Dr. Ambrish Saxena, New Delhi: Kanishka Publishers and Distributers.
3079. Joshi, Namarta (2014), "Portrayal of Orphans in Mainstream Hindi Films", *Institutionalised Children: Explorations and Beyond* , March-August, 2014, Number 1, Volume 1, p.91-95.i
3080. Walia, Charan Kamal Media Role In Creating Awareness Of Government Schemes Among People, *Communication Today*, Jaipur Oct-Dec. pp. 110-119.

Laws

3081. Devi, Nirmala (2011), "Domestic Violence Against Women in India-An Analysis", *South Asia Journal of Human Rights*
3082. Devi, Nirmala (2010), "Foeticide- A Threat to Society", *Indian Journal of Human Rights & Social Justice*
3083. Devi, Nirmala (2011), "Crime Agaist Girl Child in India: A socio Legal study", *International Review of Comparative Sociology*.
3084. Devi, Nirmala, (2011), "Custodial Violence in India: A Violation of Human Rights", *Purva Mimaansa.*
3085. Devi, Nirmala (2011), "Gender Equality and Indian Constitution: An Analysis", *Purva Mimaansa.*
3086. Devi, Nirmala (2013), "Legal Protection of Children from Sexual offences in India Global Peace", *An International Journal of Philosophy, Peace, Education, Culture and Civilization*.

3087. Devi, Nirmala (2013), "Perspectives on Human Rights of Disabled persons", *The Third Concept*.
3088. Devi, Nirmala (2011), "Judicial Approach towards the protection of Environment in India: An Analysis", *The Legal Analyst*
3089. Devi, Nirmala (2011), "Right to Education in India: A Fundamental and Human Right" in *System's Thinking and Human Rights- An Indian Perspective*. ISBN 978-81-921380-5-3
3090. Devi, Nirmala (2012), "Rape: Sad Plight of Woman: Violence Most Foul", in *Human Rights Issues & Perspectives*. ISBN 978-93-81832-96-7
3091. Devi, Nirmala (2011), "Child Malnutrition in India: Some Socio-Legal aspects", in *International Conference on Women and Child issues National and International Perspectives*. ISBN 978-81-302-0112-2
3092. Jagota, Rupam (2008), "The Immoral Traffic (Prevention) Act, 1956 – An Ambigous Legislation", in *Socio Economic Offences in India*. Rattan Singh, Verinder Singh (eds.), Faridabad: Allahabad Law Agency. p. 178-185.
3093. Jagota, Rupam (2008), "Clinical Legal Education in India; Its Implementation : A Need of The Hour", *Law Journal*, Vol. XIV.
3094. Jagota, Rupam (2008), "Women Rights : An Analysis with Special Reference to Domestic Violence", *Journal of Political Science*, Vol. IV, No.1, April.
3095. Jagota, Rupam (2009), "Rights of Women Domestic workers: A Socio legal Perspective", *Law Journal*, Vol. XVI.
3096. Jagota, Rupam (2009), "Challenges in Protection & Promotion of Human Rights of Indigenous People: An Analysis", *MDU Law Journal*, Vol. XIV, Part I.
3097. Jagota, Rupam (2009), "Decriminalization of Suicide: Constitutional & Judicial Perspective", *Journal of Social Sciences*, Vol. III, Dec.
3098. Jagota, Rupam (2010), "Living Relationship: a twist to pedigree", *Indian Journal of Law & Justice*, Vol. 1 No. 2/Sep.
3099. Jagota, Rupam (2010), "Plea Bargaining & Criminal Justice System: An Overview", *Compendium of Golden Jubilee of Bar Council of India*, New Delhi. May.
3100. Jagota, Rupam (2011), "Gender Equality and Indian Constitution: An Analysis", *Purva Mimaansa*.
3101. Jagota, Rupam (2013), "Legal Protection of Children from Sexual offences", *India Global Peace*. An International Journal of Philosophy, Peace, Education, Culture and Civilization.
3102. Jagota, Rupam (2013), "Perspectives on Human Rights of Disabled Persons", *The Third Concept*.
3103. Jagota, Rupam (2011), "Judicial Approach towards the protection of Environment in India: An Analysis", *The Legal Analyst*.

3104. Jagota, Rupam (2011), "Right to Education in India: A Fundamental and Human Right", in *System's Thinking and Human Rights- An Indian Perspective*. ISBN 978-81-921380-5-3
3105. Jagota, Rupam Rape; Sad Plight of Woman: Violence Most Foul. Human Rights Issues & Perspectives (2012), ISBN 978-93-81832-96-7
3106. Jagota, Rupam. (2011), "Child Malnutrition in India: Some Socio-Legal aspects" in *International Conference on Women and Child issues National and International Perspectives*. ISBN 978-81-302-0112-2
3107. Jagota, Rupam (2010), "Juvenile Justice System in India: An attempt at Reformation", *RMLNL Uni. Journal*, Vol. 2, April.
3108. Jagota, Rupam (2011), "International Humanitarian Law & Victims", *Indian Journal of Human Rights & Social Justice*, Vol. 6, No.1, Jan – Dec. Pp. 15-24
3109. Jagota, Rupam (2012), "Copyright Infringement: Law & Enforcement perspective", *Ideal Journal of Legal Studies*, Vol. 3,Aug.
3110. Jagota, Rupam (2012), "Challenges in the Functioning of Judiciary: Need for Reform", *Shodh Prerak Multi Disciplinary Quarterly in Referred Research Journal*, Vol. 11, No.4, Oct.
3111. Jagota, Rupam (2012), "Distributive Justice: A Honey for the Poor", *Indian Journal of Law & Social Justice*, Vol. 2 No.2, Sep.
3112. Jagota, Rupam (2012), "Decriminalization of Elections vis-à-vis Elected Reform: A Judicial Perspective", *Chota Nagpur Law Journal*, Vol. 5, No. 5.
3113. Jagota, Rupam (2013), "Copyright Infringement: Legal Perspective", *Journal of University Institute of Legal Studies*, Vol. V, pp. 138-150
3114. Marwah, D. K. (2009), "Relevance of Reservation Policy: A Critical Studies", *Journal of Punjabi University Patiala*/Vol.III.
3115. Marwah, D. K. (2010), "Free and fair Election in India: A Study", *Law Journal*, Vol. IV.
3116. Marwah, D. K. (2011), "Right of the persons with disability", *Law Journal*, Vol. V.
3117. Marwah, D. K. (2009), "Role of Judiciary in Interpreting & reviewing Law & Policy of Reservation", *Law Journal GNDU*, Vol. 17.
3118. Marwah, D. K. (2013), "Sampling Method", in *Legal Research Methodology* edited by Rattan Singh. Gurgaon: LexisNexis. ISBN 978-81-8038-897-2.
3119. Varinder Singh (2009), "Municipal Solid Waste Law: An Indian Scenario with Special Reference to State of Punjab:", *Law Journal*, GNDU.
3120. Varinder Singh (2008), "Environment Impact Assessment: A Case Study of Sri Guru Ram Dass International Airport Amritsar", *Law Journal*, Guru Nanak Dev University, Amritsar, Vol. XVI.

Department of Punjabi

3121. Singh, Sukhvinder (2012), "Prakarji Punjabi-Kujh Sidhantak Nukte", *Punjabi Bhasha Vikas de Nawe Passar*, Ed. by Amarjit Kaur, Patiala: Punjabi University.
3122. Singh, Sukhvinder (2011), "Punjabi Ucharan Kosh:Kujh Bhasha Vigianak Nukte", *Punjabi Bhasha Vikaas de Badlde Pripekh*, edited by Amarjit Kaur, Patiala: Punjabi University,
3123. Singh, Sukhvinder (2012), "Bhasha de Vikas vich Jan-Sanchar madima di bhumika", *Punjabi Bhasha, Sahit Sabhiachar ate Media - Antar Samvad*, edited by Rajinder S. Brar. Punjabi University Patiala.
3124. Singh, Sukhvinder (2011), "Gugge de geetan di chinntanmak adhiviakti" (co author Dhiraj Singh) in *Panjabi Lokdhara - Virsa ate Vartman* edited by Satinder Aulakh. Ravi Sahit Prakashan Amritsar. pp.84-93).
3125. Singh, Sukhvinder 92009), "Punjabi Bhasha ate Gurmukhi Lippi de vikas da sathanak: rashtari ate antar-rashrari paripekh" in *Punjabi bhasha ate Gurmukhi Lipi de vikas madal*, ed. by Bhagwant Kaur, Patiala, Panjabi University Patiala. Pp. 198-203.
3126. Singh, Sukhvinder (2008), "Bhashai Sankat ate Punjabi bhasha", *Alochana*, No.217-218, Apr.- Sep. pp. 54-62.

CONSTITUENT COLLEGES

Guru Nanak Dev University College, Verka

3127. Aulakh, Amraj Kaur (2012), "Surviving on Waste: A Study of Waste Pickers", *International Journal of Social Sciences Tomorrow*, Vol. 1, No. 9, November.
3128. Bindra, Jasjot K; Kaur, Manwinder (2013), "Demographic Dividend of India-SWOT Analysis", RR *Bawa DAV College for Girls Eco-news* Vol-I , ISBN-978-81-926536-0-0, pp.56-60.
3129. Kaur, A; Aggarwal, S (2010), "Bibliometric analysis of research publications of Department of Chemistry Guru Nanak Dev University, Amritsar", IASLIC *Bulletin*.
3130. Kaur, Amrit (2011), "An analysis of GSM and CDMA Technology", in Singh, Jasbir (ed.), *Emerging Trends in computing and information technology 2011,* ISBN. 978-81-7072-124-6, pp. 270 -273.
3131. Kaur, D. & Kaur, R.P. (2008), "A Theoretical Study on N-H Bond Dissociation Energies of oxo, thio and seleno carbamates and their N-protonated and N-deprotonated species", *J. Mol. Structure (THEOCHEM),* Vol. No. 858, pp.94-100.
3132. Kaur, D. & Kaur, R.P. (2009), "Correlation between Proton Affinity and Conjugation effects in carbamic acid and its higher chalcogenide analogs", *J. Mol. Structure (THEOCHEM),* Vol.No.913, pp. 90-96.

3133. Kaur, D. & Kaur, R.P. (2009), "Substituent Effect on N-H Bond Dissociation Enthalpies of Amines and Amides: A theoretical Study", *Int. J. Quantum Chemistry*, Vol. No. 109, pp.559-568.
3134. Kaur, R.P. (2009), "The role of isomerism and medium effects on stability of anions of formo- and thioformohydroxamic acid", J. *Mol. Structure (THEOCHEM),* Vol. No. 911, pp. 30-39.
3135. Kaur, R.P. (et.al.) (2008), "A Comparative Study on Hydrogen Bonding Ability of Thioformohydroxamic acid and Formohydroxamic acid", *J. Mol. Structure (THEOCHEM),* Vol. No. 864, pp.72-79.
3136. Kaur, R.P. (et.al.) (2010), "The role of conjugative interactions in acidic and basic character of five membered aromatic heterocyclics", *J. Mol. Structure (THEOCHEM),* Vol. No. 949, pp.14-22.
3137. Kiran (2008), "Kulwant Singh Virk Kahani Sangreh *Astbaazi* da Bahupakhi Adhiyan", in *Punjabi Duniya*, March- October, pp. 284 to 293.
3138. Kiran (2008), *Bhasha Adhyan dian Vidhiyan*, Khoj Darpan, pp. 133-138.
3139. Mahendru, Mamta (2012), "Tradition vs Modernity in Rama Mehta's *Inside the Haveli*" in Sharda, Ramnita Saini (ed.), *Proceedings of International Conference on English language and Literary Studies*, ISBN-978-81-923858-0-8, pp. 194-197.
3140. Mahendru, Mamta (2013), "*A Street Car Named Desire* by Tennessee Williams: A Battle of Sexes", in *The Literary Icon,* Vol.2, June, ISSN 2278-6627, pp.46-50.
3141. Mahendru, Mamta (2013), "Justice or Inhumanity, John Galsworthy's *Justice:* A Study", in *Ambrosia*, Vol.3, ISSN 2249-4499, October, pp.59-63.
3142. Megha Salwan (2009), "*Babal jaee ki kare*: Ek drishti", in Bedi, H.S. & Kaur, Raminder (eds.), *Path te Parsang: Babal jaee ki kare*, Chandigarh: Lokgeet Parkashan, pp. 119-127, ISBN: 81-7142-696-4.
3143. Megha Salwan (2009), "Rekha Chiter: Vidhagat Adhyan", *Shabad*, January-June, pp.19-26.
3144. Megha Salwan (2012), "Dalit Chetna da Sankalp", in Singh, Mehal & Kaur, Kanwalpreet (eds.), *Dalit Sarokar: Sidhaant te Vihaar*, Amritsar: Ravi Sahit Parkashan, pp.102-111.
3145. Megha Salwan (2012), "Jindar da Kahani Sangreh bina vajah ta nahi: Alochnatmak Adhyan", in Singh, Karandeep (ed.), *Jinder da Katha Sansar*, Samana: Sangam Publications, pp. 64-71, ISBN: 978-93-82011-44-6.
3146. Megha Salwan (2012), "Vichran te Vichaaran wich uljhi Mansikta di kahaani *Sorry*", in Dhaliwal, Sukhraj (ed.), *Sorry: Aad toh Ant Tak*, Samana: Sangam Publications, pp.90-94, ISBN: 93-82011-2-6.
3147. Megha Salwan (2013), "Jinder di Kahaani *Raftaar:* Sabhyacharak badlav di drishti ton", *Lokvaani*, July-September, pp.53-58.

3148. Megha Salwan (2013), "Sanyukt Vaak: Arthgat ate Sarachnatmak Bhed", *Punjabi Duniya*, Jan-Feb-March, pp.80-85.
3149. Megha Salwan (2010), "Lok Kawya-roop *Boli:* ChinVigyanak Adhyan", *Shiraza,* November-December, pp.49-58.
3150. Megha Salwan (2012), "Jasvir Rana di Kahaani Khitiyaan ghum rahiyaan ne Sabhyacharik Parivartan di drishti ton", *Shiraza*, May-June, pp.32-39.
3151. Megha Salwan (2012), "Kirpal Singh Punni di *Parvasi Chetna*", *Shabad*, April-June, pp. 55- 63.
3152. Ram, Mangat (2011), "*Kal, Aaj te Bhalke*- Bhashaee Paripekh", in Singh, Parminder (ed.), *Kal, Aaj te Bhalke*, Amritsar: Ravi Sahit Parkashan, pp. 25-34, ISBN: 81-7143-540B.
3153. Randhawa, Puneet (2012), "Individualistic Assertion vs. Societal Interference: the Existential Struggle in Vijay Tendulkar's *Silence the Court is in Session",* in *Ambrosia*, Vol. 2, September. pp. 83-88.
3154. Randhawa, Puneet (2012), "Narrative Unfolding of the Quest for Self-reliance in Richard Bach's *Jonathan Livingstone Seagull*", in *The Literary Icon,* Vol. 1, ISSN: 2278-6627, August, pp. 36-43.
3155. Randhawa, Puneet (2012), "Religious Ecstasy and Political Maneuvering in Shaw's *Saint Joan*", in Sharda, Ramnita Saini (ed.), *Proceedings of International Conference on English Language and Literary Studies*, March, ISBN 978-81-923858-0-8, pp. 262-266.
3156. Randhawa, Puneet (2012), "The Instinctual Battle of the Post Modern Individual in Robert Pirsig's *Zen and the Art of Motorcycle Maintenance*", in Sharma, Shikha (ed.), *Post Modern World Fiction*, ISBN-81-89459-03-1, pp.156-164.
3157. Randhawa, Puneet (2012), "The subtle fervency of the feminine persona: A consonance of thought and deed in the indefatigable Sikh woman in her spiritual journey in the Scripture", in *Abstracts of Sikh Studies*, Vol. XIV, Issue 3, July/September, ISSN: 2230-7729, pp. 87-91.
3158. Randhawa, Puneet (2012), "The Vision of the Ultimate: The Supremacy of 'Gurshabad' in Guru Nanak's *Japji Sahib*", in *The Literary Icon*, Vol. 1, ISSN: 2278-6627, August, pp. 88-96.
3159. Salwan, Mini (2008), "Kahani Sangreh *Toorhi di Pand*: Bhupakhi Vishleshan", *Punjabi Duniya*, March-October, pp.495-505.
3160. Salwan, Mini (2009), "*Babal jaee ki kare*: Istri Sanvedna da dastavej", in Bedi, H.S & Kaur, Raminder (eds.) *Path te Parsang: Babal jaee ki Kare*, Chandigarh: Lokgeet Parkashan, pp. 157-164, ISBN: 81-714-696-4.
3161. Salwan, Mini (2010), "Lokyan de Antargat Bhasha Vigyan di Sarthakta", *Sheeraza*, March-April, pp.39-43.
3162. Salwan, Mini (2010), "Sant Singh Sekhon da Natak Jagat", *Punjabi Duniya*, January- September, pp.504-514.

3163. Salwan, Mini (2011), "*Kal Aj Ate Bhalke*: Prashanik vakan da Adhyan", Singh, Parminder (ed.) *Kal Aj Ate Bhalke: Rachnatmak Pasaar*, Amritsar: Ravi Sahit Parkashan, pp. 62-73, ISBN: 81-7143-540-8.
3164. Salwan, Mini (2012), "Vak Roopantran Parkirya", in Dhaliwal, Sukhraj (ed.), *Sorry: Aad ton Ant Tak*, Samana: Sangam Publications, pp. 101-107, ISBN: 93-82011-22-6.
3165. Salwan, Mini (2012), "Kahani Sangreh *Nahin main Nahin*: Varhat Parkirya", Singh, Karandeep (ed.) *Jinder da Katha Sansar*, Samana: Sangam Publications, pp. 120-129,ISBN: 978-93-82011-44-6.
3166. Salwan, Mini (2012), "Kirpal Singh Pooni di kav-bhasha", *Shabad*, April-June, pp. 63-71.
3167. Salwan, Mini (2012), "Lokdhara de Bhashaee Cehan", *Sheeraza,* July-August, pp.47-57.
3168. Salwan, Mini (2013), "Adheen Visheshani Upvak: Sanrachnatmak Pakh", in *Jago International*, January-June, pp.111-118.
3169. Salwan, Mini (2013), "Kahani Sangreh *Risdi Akh di Jarhat*", in Kaur, Sarabjit (ed.), *Manvi Chetna*, Chandigarh: Tarlochan Publishers, pp. 56-63, ISBN: 978-81-7914-606-4.
3170. Singh, Mehal (2009), "Pita": Rishtian di dastan", Prvachan, 30. Pp. 66-71.
3171. Singh, Mehal (2010), "Khabal di parhat", Pravachan, 31.
3172. Thakur, Sonika (et. al.) (2011), "Photo-luminescent and thermal behavior of 120 MeV Si and 84 MeV O ion irradiated PVDC", *Journal of Luminescence,* Vol. 131, Issue 4, April, pp. 686-694.
3173. Thakur, Sonika (et. al.) (2011), **"**Structural, thermal and optical behavior of 84 MeV oxygen and 120 MeV silicon ions irradiated PES", *Nuclear Instruments and Methods in Physics Research B: Beam Interactions with Materials and Atoms,* Vol. 269, Issue 5, 1 March, pp.550-554**.**

Guru Nanak Dev University College, Narot Jaimal Singh

3174. Kaur, D.; Kohli, Ruchi (2008), "Intra and Intermolecular Hydrogen bonding in Formohydroxamic Acid:", *Int. J. Quantum Chemistry*, 2008, 108, 119-134
3175. Mahajan, P. and Aparna Bhatia (2013), "Determinants of corporate social disclosure: an empirical study of sensex companies in India", *IIMS Journal of Management Science*, Vol. 4, December
3176. Lal, Madan and Vinay Girotra (2009), "Combating Bureaucratic Corruption in India", *Punjab Journal of Politics*, Vol. 32-33, pp. 133-145
3177. Lal, Madan (2009), "Gurudom: The Political Dimension of Religious Sects in the Punjab", *South Asia Research*, Vol. 29, No. 3, pp. 223-234

3178. Lal, Madan (2010), "Changing Patterns of Civil-Military Governments in Pakistan", *The Indian Journal of Political Science*, Vol. 71, No 2, pp 635-649

ANNEXURE: II

List of Ongoing Research Projects Undertaken by the various Teachers of the University

Sr. No.	Name and Designation of the Teacher	Department	Title of Research Project	Period		Funding Agency	Grant Sanctioned Rs.
				From	To		
1.	Dr. B.S. Bajwa	Physics	MoU between BARC, Mumbai & GNDU, Amritsar for setting up of a Model calibration Centre at Guru Nanak Dev University, Amritsar to strengthen radon studies in the state of Haryana, Rajasthan and Punjab.	01-04-2011	31-03-2016	BARC	25,05,000
2.	Dr. Subodh Kumar	Chemistry	Molecular Probes for Nitroaromatic Explosives	1-04-12	31-03-15	BRNS	29,02,500
3.	Dr. Derick Engles	Elect. Tech	Modeling & Simulation of Charge Transport in Nano Devices	01-02-2011	31-03-14	CSIR	3,46,000
4.	Dr. Narpinder Singh	FST	Functional and film forming properties of selected cereal and legume proteins	24-02-2011	23-02-2014	CSIR	15,21,667
5.	Dr. Vipan Kumar	Chemistry	Intramolecular Amidolysis of Funcationalized Mono cyclic b-lactams: Convenient Access to Novel Heterocyclic Scaffolds	28-01-2011	27-01-2014	CSIR	8,96,000

6.	Dr. Amritpal Kaur	FST	Factors governing the quality of baked, extruded and indigenous products:role of wheat constituents and improving agents.	11-07-2011	10-07-2014	CSIR	19,78,000
7.	Dr. R.K. Mahajan	Chemistry	Electrochemical Sensors for Cation/Anion Recognition	25-07-2011	24-07-2014	CSIR	16,37,000
8.	Dr. S.S. Chimni	Chemistry	Develoment of Organocatalysts for Enantioselective Michael Reaction	01-01-2012	31-12-2015	CSIR	15,29,000
9.	Dr. Aman Mahajan	Physics	Anthracene based blue emitters for organic light emitting devices	01-07-2011	30-06-2014	CSIR	20,82,000
10.	Dr. Subodh Kumar	Chemistry	Quaternary nitrogen based chromo and fluoro genic anion sensors	01-03-2011	28-02-2014	CSIR	14,34,000
11.	Dr. P.K. Pati	Biotechnology	Development of a Molecular Detection System for Alternsria Species Infecting Withania somnifera (L) and analysis of Post-Infectional Changes during leaf spot disease using Biochemical and Molecular approaches.	01-06-2011	31-05-2014	CSIR	18,77,000
12.	Dr. Palwinder Singh	Chemistry	Lead optimization Conjugates of Small Organic Molecules-Design, Synthesis, Biological Evaluation and Mechanistic Studies	01-07-2011	30-06-2014	CSIR	18,13,333

13.	Dr. Geeta Hundal	Chemistry	Synthesis Characterization and ION Recognition Studies of Nanopractical Based Anion Senors Employing N Bonding Interactions	01-02-2011	31-01-2014	CSIR	13,09,000
14.	Dr. Renu Bhardwaj	Bot. & Env. Sci	Insights Into 24-Epibrassinolide mediated synthesis of Stress Protective Proteins and Enzymes in Brassica juncea Lunder Copper Stress Using Biochemical and Molecular Approaches	01-07-2011	30-06-2014	CSIR	21,52,000
15.	Dr. Satwinder jeet Kaur	Bot. & Env. Sci	Investigations on Quinones and Imidazoles as Apoptosis-Inducing and Cox-2 Inhibiting Agents	01-02-2011	31-01-2014	CSIR	17,43,000
16.	Dr. Hardeep Singh Gujral	FST	Processing and Value Addition of Hulless Barley By Extracting b Glucans Polyphenols and Antioxidants For Utilization In Functional Foods	07-02-2012	06-02-2015	CSIR	11,02,667
17.	Dr. Ritu Bala	Chemistry	Synthesis, Characterization ad X-Ray Structural Studyof New Bis(Diethylenetriamine) Cobalt (III) Complexes	01-03-2012	28-02-2015	CSIR	13,04,000
18.	Dr. P.K. Banipal	Chemistry	Hydration Characteristics and Molecular Recognition of Saccharides	01-01-2012	31-12-2015	CSIR	13,04,000
19.	Dr. Tarsem Singh Gill	Physics	Study of Nonlinear Wave Structures in Multispecies Space Plasma	02-01-2012	01-01-2015	CSIR	6,76,000

20.	Dr. Paramjit Kaur	Chemistry	Electrospectrophotometric Chemosensors and Their Application to Reconfiguable Molecular Logic Gates	01-10-2012	30-09-2015	CSIR	15,20,000
21.	Dr. B.S. Randhawa	Chemistry	Studies on Synthesis, Characterization and Magnetics/Electrical Properties of Nanosized Pervoskite-Type Ferrites	01-01-2012	31-12-2015	CSIR	12,10,000
22.	Dr. Parabhpreet Singh	Chemistry	Development of Perylene-Azobenzene Contsructs and Their Applications	01-11-12	31-10-15	CSIR	20,12,000
23.	Dr. Vandana Bhalla	Chemistry	Fluorescent Materials: Synthesis and Evaluation of Aggregation Behaviour	01-04-13	31-3-16	CSIR	19,21,333
24.	Dr. Bindiya Arora	Physics	Uncertainties in Frequency Standards	10-07-13	09-07-16	CSIR	20,73,000
25.	Dr. Anup Kumar Kesavan	Mol. Bio. & Bio Chem.	Functional Characterization of the Iron Regulatory Negative Repressor Gene sirR In Mycobacterium smegmatis	01-12-13	30-11-16	CSIR	31,02,667
26.	Dr. Mohan Paul Isher	Pharmaceutical Sciences	Design, Synthesis, Conformational Studies and Evaluation of Some Novel Rigid Scaffold For Peptidommetics	20-1-13	19-1-16	CSIR	14,69,333
27.	Dr. Tarlok Singh Lobana	Chemistry	Metal Mediated Chemical Reactivity of Heterocyclic thiones	01-01-13	31-12-15	CSIR	18,96,000
28.	Dr. Palwinder Singh	Chemistry	OC-GNDU_00002	25-07-12	24-07-14	CSIR-CDRI	4,00,000

29.	Dr. Vipan Kumar	Chemistry	Multicomponent synthesis and evaluation of 4- Aminoquinoline and g and d Lactam bifunctional hybrids as potential	01-04-2011	31-03-2014	DAE-BRNS	14,40,000
30.	Dr. Surinder Singh	Physics	A follow up study of the radon,thoron and their progeny measurements in the dwellings of Himachal Pradesh and HHP regions of Toshan, Haryana	01-04-2011	31-03-2014	DAE-BRNS	24,93,500
31.	Dr. Gurcharan Kaur	Bio-Technology	Cellular and molecular mechanisms of adverse effects of antiepileptic and mood stabilising drugs	21-09-2010	20-09-2013	DBT	59,16,000
32.	Dr. P.K. Pati	Bio-Technology	Insights into secondary metabolite production and their accumulation in Withania somnifera using *in vitro* propagation system under the Indo-Japan cooperation in cell engineering	03-11-2010	02-11-2013	DBT	74,64,400
33.	Dr. Vanita Kumar	Centre for Genetics Disorders	The neurobiology of hereditary retinal diseases: genes and molecular dysfunctions underlying disorders of the neuroretina Disorders	15-09-2010	14-09-2013	DBT	1,07,40,000
34.	Dr. Gurcharan Kaur	Bio-Technology	Use of Ashwagandha derived phytochemicals for development of differentiation-based therapy of brain cancers	10-11-2010	09-11-2013	DBT	73,54,400

35.	Dr. Harvinder Singh Saini	Microbiology	Developing efficient microbial inocular for degradat ion of textile dycs and their amines: Genotoxicity evaluation for validation of their degradation potential	29-09-2011	28-09-2014	DBT	28,45,600
36.	Dr. Prabhjeet Singh	Bio-Technology	Heat Stress-induced Calmodulin-Binding proteins in Sorghum:Characterization,cloning and expression analysis	30-08-2011	29-08-2014	DBT	44,75,000
37.	Dr. Narpinder Singh	Food Science & Technology	Evaluation of genetic diversity in kidney bean and field pea germplasm for some important traits	23-09-2011	22-09-2014	DBT	59,51,216
38.	Dr. Prakash Chandra Mishra	Bio-Technology	Strcuture-function studies on a conserved essential malaria parasite protein containing PEXEL motif	24-06-2011	23-06-2014	DBT	26,48,000
39.	Dr. S.S. Chimni	Chemistry	Biotransformation of epoxides by recombinant epoxide hydrolases	28-09-2012	27-09-2015	DBT	13,44,600
40.	Dr. Sanehdeep Kaur	Zoology	Developing Strategies for Biological Control of Spodoptera litura (Fab.) by Understanding the Role of Gut Microflora in its Survival and Fitness	18-09-2012	17-09-2015	DBT	35,35,400
41.	Dr. H.S.Saini	Microbiology	Bioremediation of electronic waste (E-waste) for precious metal recovery and removal of polybrominated diphenyl ethers(PBDE's)	10-10-13	09-10-16	DBT	13,20,000

42.	Dr. B.S.Chadha	Microbiology	Developing Fungal strains for enzyme production through mutagenesis, protoplast fusion and over-expression using A. niger citrate synthase promoter	08-10-13	07-10-16	DBT	26,37,200
43.	Dr. D.S.Sogi	Food Science & Tech.	Ascertaining Immunoreactivity of gliadin isolated from North Indian Wheat Cultivars, Probiotic fermented dough and gluten free products	23-07-13	22-07-16	DBT	42,50,000
44.	Dr. Rachna Hora	Mol.Bio. & Bio.Chem.	Structure-function analysis of an essential exported, parasite protein	25-07-13	24-07-16	DBT	43,64,234
45.	Dr. Manoj Kumar	Chemistry	Pentaquinone Based Receptors-A Search for New Chemosensors	11-07-2012	10-07-2015	DRDO	56,17,000
46.	Dr. B.S. Randhawa	Chemistry	Synthesis of Pure and mised ferrites from the solution combustion and precursor methods- A comparative study	30-05-2012	29-05-2015	DRDO	25,52,000
47.	Dr. Surinder Singh	Physics	Nanomicrostructures on semiconducting substrates: synthesis and characterization	30-11-2010	29-11-2013	DST	31,55,983
48.	Dr. Aman Mahajan	Physics	Design and synthesis of substitued triazoles for light emitting applications	29-07-2011	28-07-2014	DST	22,38,000
49.	Dr. Vandana Bhalla	Chemistry	Synthesis and evaluation of Photophysical properties of discotic materials	25-03-2011	24-03-2014	DST	22,32,000

50.	Dr. Sukhprit Singh	Chemistry	Synthesis of some new carionic amphiphiles and evaluation of their surface and biological properties	19-01-2011	18-01-2014	DST	36,76,000
51.	Dr. Shweta Shenoy	Sports Med & Physio.	Nutrition and Bone Health of Women in Punjab- A Community Study	05-10-2012	04-10-2015	DST	28,59,318
52.	Dr. Saroj Arora	Bot. & Env. Sci	Profilling and quantification of hydrolytic products of Glucosinolates from germplasms of Brassica juncea (l.) Czern. and Eraca sativa (Mill.)	30-07-2012	29-07-2015	DST	53,24,600
53.	Dr. Narpinder Singh	FST	Diversity in processing quality amongst corn genotypes grown in Indian Himalaya	26-07-2012	25-07-2015	DST	54,99,400
54.	Dr. R. Thangaraj	Physics	Study of characteristic defects for tailoring the phase change behavior in chalcogenide semi conductors	30-07-2012	29-07-2015	DST	20,82,800
55.	Dr. Subheet Jain	Pharm. Sci	Development and characterization of carrier based nanogel formulation for skin targeting of 5-FU	14-05-2012	13-05-2015	DST	17,00,000
56.	Dr. S.S. Chimni	Chemistry	Development of application of Cinchona alkaloids derived organocatalysts for asymmetric transformation	14-05-2012	13-05-2015	DST	46,85,000

57.	Dr. R.K. Mahajan	Chemistry	A comprehensive study of aggregate assemblies of surfactant-triblock polymer system	23-05-2012	22-05-2015	DST	45,60,000
58.	Dr. Vasudha Sambyal	Human Genetics	Assessment of HIF-1a and TP53 as prognostic markers in esophageal cancer-Q Multidisciplinary Approach	24-07-2012	23-07-2015	DST	49,68,000
59.	Dr. Palwinder Singh	Chemistry	Targeting ABC transporters of Candida albicans: Development of chemosensitizers of antimicrobial drugs	11-07-2012	10-07-2015	DST	49,00,000
60.	Dr. Amritpal Kaur	FST	Quality Characterization and utilization of durum wheat cultivars	31-12-2012	30-12-2015	DST	24,22,000
61.	Dr. Seema M Thayil	Mol Bio & Biochem	Comparision of phenotypic and genotypic resistance in TB isolates from previously treated and treatment native coinfected individuals	14-08-13	13-08-16	DST	23,43,000
62.	Dr. Atul Khanna	Physics	Nanostructured Multicomponent Bismuth-Borate Glasses and Glass Ceramics	29-08-13	28-08-16	DST	5,25,000
63.	Dr. B.S. Chadha	Microbiology	Novel biotechnological processes for production of high value products from rice straw and bagasse to be operated under consortium mode under the component4 of the National Agricultural Innovation Project (NAIP)	14-01-2009	31-03-2013	ICAR	1,54,91,540

64.	Dr. B.S. Chadha	Microbiology	Increasing the efficiency of Microbial production of Bioethanol from agricultural Biomass (NFBSFARA)	01-01-2011	31-12-2015	ICAR	45,14,220
65.	Dr. Gursatej Gandhi	Human Genetics	Genetic polymorphism, DNA damage and oxidate status in individual resisting in the vicinity of mobile phone base stations	01-10-2011	30-09-2014	ICMR	13,24,776
66.	Dr. Atul Khanna	Physics	Studies of ion beam induced crystallisation in metal oxide thin films	11-11-2011	10-11-2014	IUAC	2,82,653
67.	Dr. Atul Khanna	Physics	Study of effects of ion beam irradiation on the structure and properties of oxide glasses.	06-09-13	05-09-16	IUAC	5,46,333
68.	Dr. Surinder Singh	Physics	Setting up operation and maintanance of GPS stations at selected location by various agencies viz. GNDU, Asr.	02-08-2011	01-08-2014	MOES	14,42,600
69.	Dr. Manoj Kumar	Chemistry	Discotic materials with tunable photophysical properties	2-07-13	1-07-16	SERB	54,50,000
70.	Dr. Subodh Kumar	Chemistry	1-Arylbenaimidazolium based molecular architects of recognition of anions	28-06-13	27-06-16	SERB	54,70,000
71.	Dr. Manpreet Kaur	Human Genetics	Association of galectin-3 polymorphism its serum levels and oxidative stress biomakers with Rheumatoid Arthritis (RA)	28-06-13	27-06-16	SERB	23,30,000

72.	Dr. Narpinder Singh	Food Sci & Tech	Chemical, rheological and processing quality of fractions produced by successive size reduction milling of different wheat varities	26-07-13	25-07-15	SERB	69,20,800
73.	Dr. Pratapbir Singh	Microbiology	Development of cost-effective bioprocess for biosurfactant production: it's effective process scale-up	22-08-13	21-08-16	SERB	24,35,000
74.	Dr. Amritpal Kaur	Food Sci & Tech	Development and Quality Evaluation of Gluten free Products for Celiae disease patients	1-10-13	30-09-16	SERB	45,42,000
75.	Dr. Jatinder Singh	Mol Bio & Biochem	Molecular Cloning and expression of two insecticidal lectins	13-11-13	12-11-16	SERB	48,50,000
76.	Dr. Renu Bhardwaj	Bot.&Env. Sci	Isolation and Characterizaion of brassinosteroids and polyamines from Brassica juncea, plants under cadmium metal stress	01-07-2011	30-06-2014	UGC	9,31,800
77.	Dr. Sandeep Kumar Sood	Computer Sc.	Trust based proactive resource provisioning in clouds	01-07-2011	30-06-2014	UGC	10,48,000
78.	Dr. Kamlesh Guleria	Human Genetics	Assessment of HIF-1x and TP53 polymorphism and their serum levels in Breast Cancer Patients	01-07-2011	30-06-2014	UGC	10,66,300
79.	Dr. Vandana Bhalla	Chemistry	Discotic receptors: Ion sensing and switching	01-07-2011	30-06-2014	UGC	7,96,800

80.	Dr. Shweta Shenoy	Sports Medicine& Physio.	Analysis of the effectiveness of physical activity protocols on physiological and psychological parameters of patients with type 2 diabetes	01-07-2011	30-06-2014	UGC	11,00,300
81.	Dr. G. S. Virk	Bot. & Env. Sci	Response of antioxidant enzymes to Nickel stress incoeus blumed benth, employing *in vitro* techniques	01-02-2011	31-01-2014	UGC	10,36,800
82.	Dr. T.D. Narang	Mathematics	Approximation in abstract spaces	01-02-2011	31-01-2014	UGC	10,98,000
83.	Dr. Manpreet Kaur	Human Genetics	Association of mannose binding lectin polymorph ism and serum protein levels in chronic obstructive pulmonary disorder (COPD) and rehumatoid arthritis(RA) patients in Punjab	01-02-2011	31-01-2014	UGC	9,09,800
84.	Dr. Badarud doza	Human Genetics	Study of genetic polymorphisms of short tandem repeat (STR) loci in Punjabi population of North- West Punjab	01-02-2011	31-01-2014	UGC	8,84,300
85.	Dr. Gursatej Gandhi	Human Genetics	Genetic polymorphism in relation to renal disease genetic damage and biomarker responses	01-02-2011	31-01-2014	UGC	9,56,800
86.	Dr. Maninder Kaur	F S& T	Characterization and modification of starch and protein from tamarind (Tamarindus Indica L.)Kernel	01-02-2011	31-01-2014	UGC	11,11,800

87.	Dr. Saroj Arora	Bot. & Env Sci	Assessment of cytotoxicity induced by Phyto- chemical of Acacia nilotica (L.) wild Ex. del. Via apoptotic pathways through capase activaties in human cancer cell times	01-07-2011	30-06-2014	UGC	11,38,800
88.	Dr. Adarsh Pal Vig.	Bot. & Env Sci	DNA topoisomerases inhabitory effects of gulcoinolated from brassica rapa and raphanus sativus	01-07-2011	30-06-2014	UGC	8,26,800
89.	Dr. Puja Ohri	Zoology	Evaluation of stress protective properties of24-epibrassinolide in plants during nematde infection	01-07-2012	30-06-2015	UGC	13,37,800
90.	Dr. Gursharanjit Singh	Guru Nanak Studies	Adictionary of Indian Religious Terminology	01-07-2012	30-06-2014	UGC	6,32,100
91.	Dr. Satish Verma	Pb. School of Economics	Unit Cost, Financing and Quality of Higher Education (General) in Punjab	01-07-2012	30-06-2014	UGC	6,14,800
92.	Dr. Amritpal Kaur	Food Sci & Tech	Characterization and utilization of Banana flour in Different products	01-07-2012	30-06-2015	UGC	11,80,000
93.	Dr. Amritpal Singh	Pharmacy	Investigation of the Role of mast cells in models of the pathological and physiological myocardial remodeling	01-07-2012	30-06-2014	UGC	1,90,000
94.	Dr. Jaspal Singh	CBM	Soliciting Enhanced Income Tax Compliance Individual self Employed Assessee Perspective	01-07-2012	30-06-2014	UGC	3,82,000

95.	Dr. Subash Chander	CBM	Corporate Social Reporting in an Emerging Economy A Study of Indian Companies	01-07-2012	30-06-2014	UGC	7,84,600
96.	Dr. Vasudha Sambyal	Human Genetics	Assessing BRCA1 in sporadic breast cancer patients	01-07-2012	30-06-2015	UGC	7,12,500
97.	Dr. Rajbir Bhatti	Pharm. Sci	Pharmacognostic and Phytochemical Standardization and anticancer studies on the leaves of aegle marmelos core	01-07-2012	30-06-2014	UGC	1,55,000
98.	Dr. Mandeep Kaur	CBM	Service Quality: Customer Satisfaction and Customer Retention in Tourism Sector-A study of Punjab	01-07-2012	30-06-2014	UGC	6,12,200
99.	Dr. Jaspal Singh	Physics	Uramiu Radium and Thorium measurements in Drinking waters of Punjab and Health Risks Assessment	01-07-2012	30-06-2014	UGC	8,14,000
100.	Dr. N.S. Saini	Physics	Nonlinear excitations and solitiary structures in Multi-component plasmas	01-07-2012	30-06-2015	UGC	9,79,800
101.	Dr. M.S. Gill	Sociology	Dynamics of Caste and Land in Agrarian Society of Punjab	01-07-2012	30-06-2014	UGC	8,29,800
102.	Dr. Paramjit Kaur	Chemistry	Multi channel recognition of lonic analysis using ferrocence based sensors	01-07-2012	30-06-2015	UGC	11,76,800

103.	Dr. Ritu Bala	Chemistry	Caltionic chromium urea complex as an anion receptor Synthesis, characterization and X-ray structural study of Hexaureachromium (III) Complexes	01-07-2012	30-06-2015	UGC	10,40,800
104.	Dr. Narpinder Singh	FST	Modification of starches from different botanical sources	01-07-2012	30-06-2015	UGC	11,97,200
105.	Dr. M.P.S. Ishar	Pharm. Sci	Design synthesis and evaluation of novel isoxazolidine analogs of nicotine	01-07-2012	30-06-2015	UGC	15,05,800
106.	Dr. Kuljit Singh	Computer Sci	Tracking open source software evolution for characterization of its evolutionary behaviour	01-07-2012	30-06-2015	UGC	9,35,800
107.	Dr. Vikram Chadha	Economics	Relevance of Technology Parks in the process of Industrialsing Punjab- Present Status, Challenges, Policy Implication and Future Prospects	01-07-2012	30-06-2014	UGC	6,93,600
108.	Dr. Rattan Singh	Law	Right to Education: Some pitfalls and Policies of Government- A study with special reference to State of Punjab	01-07-2012	30-06-2014	UGC	4,94,800
109.	Dr. Rajesh Kumar	School of Social Science	Alignment of Sarv Shiksha Abhiyan with Right to Education: A study of Border Areas (Majha Region) of Punjab	01-07-2012	31-12-2013	UGC	1,50,000

110.	Dr. Bindia Arora	Physics	UGC-BSR Research Start-Up-Grant for newly recruited faculty at Assistant Professor in Science Department.	01-04-2012	31-03-2014	UGC	6,00,000
111.	Dr. Prabhjeet Singh	Chemistry	UGC-BSR Research Start-Up-Grant for newly recruited faculty at Assistant Professor in Science Department	01-04-2012	31-03-2014	UGC	6,00,000
112.	Dr. Manoj Kumar,	Chemistry	Fluoregenic sensing of soft metal ions	01-04-13	31-03-16	UGC	10,63,800
113.	Dr. Rakesh Kumar Mahajan	-do-	Characterization of self assemblies of surfactants in the presence of bioactive compounds	01-04-13	31-03-16	UGC	13,35,800
114.	Dr. Baljinder Singh Bal	Physical Education	An Analysis of certain Neurocognitive functions respiratory indices and components of Health Related Fitness: An Exploration through the Practice of Yoga	01-04-13	31-03-15	UGC	8,02,500
115.	Dr. Subheet Jain	Pharmaceutical Sciences	Development and Characterization of vitamin E TPGS based nanoemulsion for sustained and targeted delivery of anti-fungal agents	01-04-13	31-03-16	UGC	11,59,000

116.	Dr. Amrinder Singh	Sports Med. & Physio	Evaluation of the prevelance of type 2 diabetes mellitus, hypertension and metabolic syndrome and awareness of its risk factors in the urban Punjabi sikh population	1-04-13	31-03-15	UGC	2,00,000
117.	Dr. Sukhraj Kaur	Microbiology	*In vitro* evaluation of anticancer and antimicrobial properties of novel bacteriocins from human lactic acid bacteria	1-04-13	31-03-16	UGC	11,78,300
118.	Dr. Jatinder Kumar	Mathematics	Application of wavelets for data Analysis and partial differential Equations	1-04-13	31-03-15	UGC	2,00,000
119.	Dr. Preet Moninder Singh Bedi	Pharmaceutical Sciences	Synthesis of Non-Purine based Xenthine Oxidase Inhibitors	1-04-13	31-03-15	UGC	1,30,000
120.	Dr. Sukhdeep Kaur	Physics	UGC-BSR Research Start-up-grant for newly recruited faculty at Assistant Professor level in Science Departments of various Universities	01-04-13	31-03-14	UGC	6,00,000
121.	Dr. Bhavnita Dhillon	Food Science & Tech.	UGC-BSR Research Start-up-grant for newly recruited faculty at Assistant Professor level in Science Departments of various Universities	01-04-13	31-03-14	UGC	6,00,000

122.	Dr. Tejwant Singh	Chemistry	UGC-BSR Research Start-up-grant for newly recruited faculty at Assistant Professor level in Science Departments of various Universities	01-04-13	31-03-14	UGC	6,00,000
123.	Dr. Sanjana Merotra	Human Genetics	UGC-BSR Research Start-up-grant for newly recruited faculty at Assistant Professor level in Science Departments of various Universities	01-04-13	31-03-14	UGC	6,00,000

Annexure – III :

Research Grant Received and Research Projects Completed

A: Details of grant received for various research projects from various funding agencies the year 2009-10 to 2012-13

S. No.	Name of the Funding Agency	Grant Received in (Rs)			
		2009-2010	**2010-2011**	**2011-2012**	**2012-2013**
1.	UGC	4642397	15924470	7788222	20357793
2.	DST, New Delhi	11354019	10935814	4702200	24640425
3.	DBT, New Delhi	2593200	33003355	12805600	8801754
4.	DAE, BRNS(Board of Research in Nuclear Science), Mumbai	6869250	2302015	3881025	3987687
5.	Ministry of Defence, New Delhi	435600	602200	246000	5880000
6.	Ministry of Environment & Forest, New Delhi	172000	115000	-	-
7.	All India Council for Technical Education, New Delhi	1060000	-	925000	-
8.	India Council of Agricultural Research(ICAR), New Delhi	9581768	2430253	257651	2669858
9.	Indian Council of Medical Research (ICMR), New Delhi	1132516	455440	4835568	537544
10.	Council of Scientific & Industrial Research, Lucknow	-	-	-	349975
11.	NSC (IUAC), New Delhi	1187386	719456	473565	807381
12.	IFCPAR	645595	-	126153	-
13.	Bhaba Atomic Research Centre, Mumbai	500000	2505000	-	-
14.	CSIR, New Delhi	7854701	8957637	13881462	8159562
15.	UGC-DAE, New Delhi	-	146081	101322	-
16.	NABARD, Mumbai	136500	-	68250	-
Total		**48164932**	**78096721**	**52411218**	**76191979**

B: List of Research Project completed between 31-03-10 to 31-03-13

S. No	Name of Teacher	Department	Project Title	Date of Completion	Funding Agency	Amount Sanctioned (Rs)
1.	Dr. Kamaljit Singh	ACS&T	Molecular modification of pyrimidinones: potential antiviral agents	31-01-13	UGC	8,44,800
2.	Dr. Kamaljit Singh	ACS&T	Functionally decorated cyclic conjugated chemical entities	14-12-12	DST	27,85,000
3.	Dr. Kamaljit Singh	ACS&T	Microbial decolourisation of coloured textile industrial effluents	07-10-11	MEF	13,23,420
4.	Dr. Satinder Kaur	ACS&T	Dehydration of azeotropic alcohol and removal of dyes from the effluent by surfactant application	31-01-12	UGC	10,61,800
5.	Dr. M.P Mahajan	Applied Chemistry	Synthesis of functionalized B-LACTAMAS &their transformation to novel heterocyclic compounds	31-10-11	CSIR	11,76,000
6.	Dr. Sumanjit Kaur	Applied Chemistry	Investigations of dye adsorption from aqueous solutions using unconventional adsorbents	31-01-12	UGC	5,18,800
7.	Dr. M.P Mahajan	Applied Chemistry	Synthesis of functionalized B-Lactoms &their transformation to novel heterocyclic compounds	30-06-12	CSIR	15,75,000

8.	Dr. Vipin Kumar	Applied Chemistry	Synthesis and evaluation of structural chimeras of 2-azetidinones and 7-chloroquionoline: A novel approach in malaria chemotherapy	25-03-13	DST	16,13,600
9.	Dr. Atul Khanna	Applied Physics	Ion beam induced crystallization of alumina coating deposited by e-beam evaporation	05-02-11	IUAC	2,61,000
10.	Dr. Atul Khanna	Applied Physics	Low temperature specific heat capacity measurements and Raman spectroscopic studies in oxide glasses	03-11-11	DAE, Indore	3,04,000
11.	Dr. R. Thangaraj	Applied Physics	Study of photodoing of switching characteristics in GE-Sb-Te films for memory application	07-04-12	CSIR	15,50,000
12.	Dr. Karamjit Singh	Architecture	Sikh Architecture: the perception of space in Architecture and philosophy	31-03-11	UGC	6,32,300
13.	Dr. Sandeep Dua	Architecture	An analytical approach towards integration of urban form & architecture through proportional harmonies	07-05-12	AICTE	3,50,000
14.	Dr. Gurcharan Kaur	Biotechnology	Investigation on the therapeutic potential application of PSA Memimitcs in cell culture and mouse models of brain injury and disease	15-03-13	ICMR	33,95,592
15.	Dr. Prabhjeet Singh	Biotechnology	Peptydyl Prolyl Cis-Trans Isomerases: Role in Storage Protein Deposition in wheat and Relevance to industry	01-09-11	DBT	38,32,000

16.	Dr. Prabhjeet Singh	Biotechnology	Transgenic analysis for the role of wheat gene(TaVAP) encoding for a vesicle-associated protein in abiotic stress tolerance	24-11-11	DBT	33,28,000
17.	Dr. Ramandeep Kaur	Biotechnology	Isolation of myxobacteria from plaines of north region diversity & potential source of novel anti-infective	14-01-13	CSIR	20,44,800
18.	Dr. Gurcharan Kaur	Biotechnology	Reproduction neuroendocrine dysfunction in cycling female rats treated with antiepileptic drugs	31-01-13	UGC	11,67,300
19.	Dr. P.K Sehajpal	Biotechnology	Molecular heterogeneity in mycobacterium tuberculosis clinical isolates prevalent in Punjab	31-01-13	UGC	10,49,300
20.	Dr. Gurcharan Kaur	Biotechnology	Juxtacrine and/or paracrine control of brain plasticity	31-08-10	IFCPAR	21,93,000
21.	Dr. Rajinder Kaur	Botanical & Env. Sci.	Evaluation of antimutagenic and antioxidant activity of chlorophytum borivillianum sant fernand	31-01-13	UGC	1,00,000
22.	Dr. G.S Virk	Botanical & Env. Sci.	*in vitro* Production of Phytophtora resistant plants of cotrus jambir lush (jatti khatt) through induced mutagenesis	15-04-10	CSIR	12,51,000
23.	Dr. Satwinderjeet Kaur	Botanical & Env. Sci.	Study of antioxidant and genoprotective potential of phytochemicals from some important medical plant	30-04-12	UGC	11,54,300,
24.	Dr. (Mrs) Saroj Arora	Botanical & Env. Sci.	Evalution of glucosinolates from brocolli promoting lgclooxygenore-2 (COX-2) inhibitory agents	25-06-12	CSIR	12,50,000

25.	Dr. (Mrs) Renu Bhardwaj	Botanical & Env. Sci.	Studies on expression of brassinosteroids under heavy metals stress in Brassica juncea during development	10-01-11	DBT	49,50,000
26.	Dr. P.K Patti	Botanical & Env. Sci.	Molecular and biochemical approach to study brassinosteriods mediated responsed in rice under pesticides and salth stress	31-03-11	UGC	11,94,300
27.	Dr. (Mrs) Renu Bhardwaj	Botanical & Env. Sci.	Insight into Brassinosteriods-regulated defense system of Raphanus Sativus under heavy metals stress using biochemical and molecular approaches	25-02-11	DST	28,06,800
28.	Dr. A.K Thukral	Botanical & Env. Sci.	Phytoremediation of Chromium (VI) using reducing agents and metals chelators with Hordeum vulgare L	31-01-12	UGC	8,05,800
29.	Dr. Avinash Nagpal	Botanical & Env. Sci.	Assessment of genotoxity and responses of antioxidative enzymes to heavy metal contaminated agricultural soils in Allium cepa	31-01-12	UGC	10,76,800
30.	Dr. Amarjit Soodan	Botanical & Env. Sci.	Exploration, Invesorization and Taxonomic Analysis of the Grass flora of Punjab	31-01-12	UGC	6,15,800
31.	Dr. Bikramjit Singh Mann	Commerce and Business Management	Understanding the Influence of culture on Brand Buying Behaviour- An Empirical investigation	31-01-13	UGC	5,98,700
32.	Dr.Rishi Raj Sharma	Commerce and Business Management	Knowledge Management Practices and organizational Ethos: A study of Indian Service Sector	31-01-13	UGC	3,57,000

33.	Dr. Sangeeta Arora	Commerce and Business Management	Micro Financing Interventions in urban Punjab	31-01-13	UGC	5,32,200
34.	Dr. Harmeen Kaur Soch	CBM	Critical Success factors and driving forces of wireless web dopteon- an empirical investigation of Indian and Canadian consumers	31-01-12	UGC	6,23,700
35.	Dr. Lakhwinder Singh	CBM	Stress burn out and health among teachers: a study of universities in Punjab	31-01-12	UGC	6,79,000
36.	Dr. Raghbir Singh	CBM	Ethics in food advertising to children parental concerns &mediation	28-04-12	AICTE	7,10,000
37.	Dr. Vanita Kumar	Centre for Genetic Disorder	Molecular Genetic analysis in diabetic retinopathy cases	24-02-12	DST	18,96,000
38.	Dr. Inderpreet Kaur	Chemistry	Chemically modified absorbents: Preparation and application for the removal of organic dyes	31-01-13	UGC	85,000
39.	Dr. Vandana Bhalla	Chemistry	Novel II extended thiophene-acene Hybrid materials	31-01-11	CSIR	4,66,000
40.	Dr. S.S. Chimmi	Chemistry	Organocatalyzed Asymmetric ring opening of Epoxides	31-10-10	CSIR	4,86,000
41.	Dr. Tarlok Singh Lobana	Chemistry	Heterocyclic Thioamide derivatives of Palladium and Platinum Metals	31-01-12	UGC	5,36,800
42.	Dr. Sukhprit Singh	Chemistry	Synthesis and Evaluation of lubricants from Vegetables Oils	31-01-12	UGC	7,73,800
43.	Dr. Damanjit Kaur	Chemistry	A Theoretical Study on Acidity, Basicity and Reactivity of Oxazolidinones	31-01-12	UGC	6,84,800

44.	Dr. B.S Randhawa	Chemistry	Synthesis of Nanosized inorganic oxide materials by combustion of metal nitrate-oxaly dihyrazide solutions	16-04-11	DRDO	14,98,000
45.	Dr. B.S Randhawa	Chemistry	Synthesis of Nanosized ferrites by solution combustion method & investigation on their micro-structural/magnetic properties	31-07-11	CSIR	12,88,000
46.	Dr. M.S Bakshi	Chemistry	Physiochemical aspects of novel Gemini surfactants and their applications in material chemistry	14-05-11	CSIR	15,96,000
47.	Dr. M.S Bakshi	Chemistry	Mixed micells & synthesis of gold and silver nanaoparticles by suing mixed Gemini surfactants as capping agents	31-03-11	UGC	7,93,800
48.	Dr. Manoj Kumar	Chemistry	Flurogenic Anion sensors	31-03-11	UGC	7,99,300
49.	Dr. Manoj Kumar	Chemistry	Hexa-peri-hexabenzocoronene (HBC) based Materials: Synthesis and Self-assembly	30-06-11	DST	25,00,000
50.	Dr. (Mrs) Paramjit Kaur	Chemistry	Change transfer assemblies as colorimetric chemosensors	31-12-11	CSIR	9,21,000
51.	Dr. Vandana Bhalla	Chemistry	Discotic electron acceptor materials-synthesis and self assembly	19-03-12	DRDO	14,99,000
52.	Dr. Subodh Kumar	Chemistry	Photoresponsive molecular chemosensors ans chemionics based on hetero(aromatics)	10-01-13	DST	38,00,000
53.	Dr. S.S. Chimmi	Chemistry	Organocatalytic approach to stereo selective friedel- crafts reaction	31-01-13	UGC	9,66,800
54.	Dr. Subodh Kumar	Chemistry	Ramanna Fellowship	15-07-10	DST	34,80,000

55.	Dr. Palwinder Singh	Chemistry	Synthesis of multi drug resistance modulators	28-06-10	DST	22,86,000
56.	Dr. Geeta Hundal	Chemistry	Synthesis Characterization & Ion recognition studies of chromogenic receptors with Imine Linkages	30-04-10	CSIR	11,01,613
57.	Dr. Manoj Kumar	Chemistry	Fluorgenic sensors & molecular switches based of Thiacalix[4] arenes & calyx[4] arenes	31-03-13	CSIR	17,50,000
58.	Dr. Vandana Bhalla	Chemistry	Synthesis and self-assembly behaviour of triphenylene based liquid-crystalline materials	07-05-10	DBT	19,98,000
59.	Dr. T.S Banipal	Chemistry	Mixed Micells properties of triblock polymers & their application in material chemistry	30-06-10	CSIR	11,46,000
60.	Dr. Balwinder Singh	CBM	An Examination of Mispricing and Returns of Indian Public Offerings in India	31-03-11	UGC	3,29,000
61.	Dr. Harminder Singh	Electronics & Comm. Engg.	Studies on the behaviour of coating in improving the resistance to hot corrosion degradation in waste incineration	31-03-13	UGC	--
62.	Dr. Narpinder Singh	Food Science & Technology	Ramanna Fellowship	30-09-10	DST	34,80,000
63.	Dr. Narpinder Singh	Food Science & Technology	Isolation and characterization of starch and protein from different legumes	23-12-10	DST	31,69,000
64.	Dr. Dalbir Singh Sogi	Food Science & Technology	Studies on water melon pigments-synthesis extraction, degradation utilization	31-03-11	UGC	11,26,800

65.	Dr. Hardeep Singh Gujral	Food Science & Technology	Processing and utilization of oats into high B-glucan foods	31-10-12	UGC	10,81,800
66.	Dr. Balmeet Singh Gill	Food Science & Technology	Utilization of tomato processing waste for pigment production by rhodotorula glutinis	13-09-10	DBT	50,12,800
67.	Dr. Sudha Jitendra	Hindi	Aadhunik Hindi aur Punjabi kavita mein swatantra Aandolan ke Bhavabhivyakti ka Tulnatamak Aadhyan	31-03-11	UGC	5,16,800
68.	Dr. Madhu Sandhu (retd.)	Hindi	Hindi ka Bhartiya aur prvassi mahila katha lekhan tulnatamak adhyayan (1980 se aghtam)	31-01-12	UGC	6,36,800
69.	Dr. Joginder Singh	History	Contemporary Sikh Sants and Babas of the Punjab: A case study of the Neeldhari Sant Khalsa and Nanaksar Sects	31-01-13	UGC	7,94,500
70.	Dr. Rai Jasbir Singh	History	A History and Literary study of source Books on Sikh Religion	31-01-13	UGC	2,47,900
71.	Dr. AJS Bhanwer	Human Genetics	Analysis of genetic Determinants of T2DM and their role in the susceptibility in some north west Indian population groups	20-08-11	DBT	16,75,000
72.	Dr. AJS Bhanwer	Human Genetics	Molecular studies of alcoholism in SC population of Punjab	31-01-13	UGC	11,71,800
73.	Dr. Anupam Kaur	Human Genetics	Genetic polymorphism of MTHFR: it's implication as maternal risk factor for Down syndrome	31-01-13	UGC	8,61,800

74.	Dr. Kawaljit Kaur	Human Genetics	Study of adiponectin levels and single nucleotide polymorphisms in the adiponectin gene in type 2 diabetic women	14-10-13	DST	17,88,000
75.	Dr. Amritpal Kaur	Library & Inf. Science	Impact of electronic Journals on University Libraries and Academic Attitudes towards their use and communication: A study with reference to the University of Punjab & Chandigarh	31-01-11	UGC	3,81,200
76.	Dr. Om Parkash	Mathematics	Measures of Information and their applications to study various optimization principles	31-03-11	UGC	5,12,800
77.	Dr. Pammy Manchanda	Mathematics	Certain problems in Wavelet and Gabor Analysis	31-01-12	UGC	6,82,800
78.	Dr. Parminder Singh	Mathematics	Statistical inference under order restrictions	31-01-12	UGC	7,25,800
79.	Dr. Charanjeet Singh	Mathematics	Performance analysis of some queering models for manufacturing systems	31-01-13	UGC	6,70,800
80.	Dr. Rajesh Kumari Manhas	Microbiology	Evaluation of antagonistic potential of endophytic and rhizosphere actinomyceti isolates and their secondary metabolics against fungal phytopathogens	30-04-12	UGC	10,56,800
81.	Dr. Harvinder Singh Saini	Microbiology	Screening of bacteria for novel carbonyl reductases catalyzing as symmetriareduction of ketones	30-04-12	UGC	9,84,800

82.	Dr. Amarjit Kaur	Microbiology	Novel cholinesterase inhibitors from soil & endophytic fungal isolates production & characterization	14-01-13	CSIR	17,95,000
83.	Dr. Harleen Kaur	Microbiology	Approaches for developing lovastatin hyper producting aapergillus terreus strains and optimization production	18-01-13	DST	10,44,000
84.	Dr. B.S Chadha	Microbiology	Screening for Bio-molecules from microbial diversity collected from different ecological niches	23-09-10	DBT	24,60,000
85.	Dr. P.K Sehajpal	Micro Biology & Bio-chemistry	Analysis of genetic Determinants of T2DM and their role in the susceptibility in some north west Indian population groups	20-08-11	DBT	7,80,000
86.	Dr. S.K Garg	Micro Biology & Bio-chemistry	Molecular regulation of root specific mercury accumulation in eichhornia gassipes(MART) solms during phytoremediation	31-12-12	CSIR	17,15,000
87.	Dr. Sunil Kumar	Pb. School of Economics	Sources of total productivity growth in Indian manufacturing sector: A comparative analysis of pre and post reforms periods	31-01-11	UGC	4,56,200
88.	Dr. P. S Raikhy	Pb. School of Economics	Free Electricity supply to agriculture in Punjab: Impact on different sections of society and the state	30-04-11	UGC	6,47,700
89.	Dr. Kuldip Kaur	Pb. School of Economics	Male-Female wage differentials in Punjab- An analysis from Amritsar district	31-01-12	UGC	3,86,300

90.	Dr. Lakhwant Singh	Physics	Swift heavy ion induced modification and field effect characterization of some polymeric materials	10-08-12	DST	24,52,560
91.	Dr. Bindia Arora	Physics	Quantum computing with trapped neutral atoms and cold ions: towards fault tolerant computation	14-11-12	DST	19,32,000
92.	Dr. D.P Singh	Physics	SHI induced modifications in structural, electrical, magnetic and optical behaviour of transition metal doped ZnO dilute magnetic semiconductor	04-11-10	IUAC	2,61,000
93.	Dr. R.K Bedi	Physics	SHI irradiation induced modifications in structural and optical properties of TCO films	21-10-10	IUAC	2,61,000
94.	Dr. Lakhwant Singh	Physics	Opto structural characterize ation of some ion irradiatedpolymers and their applcation	19-11-10	IUAC	2,61,000
95.	Dr. Lakhwant Singh	Physics	Swift heavy ion induced modification of Boron Carbonitrride (BCN) Nanaocomposite	27-05-11	IUAC	2,61,000
96.	Dr. R.k Bedi	Physics	Development of metal oxide based nano structured materials for Device applications	31-03-11	DAE	21,56,250
97.	Dr. Ravi Chand Singh	Physics	Preparation and study of thin/thick cilms of nano structured metal-oxide materials and their application as a gas sensors	30-04-12	UGC	9,30,800

98.	Dr.S. Sihotra	Physics	Financial Assistance for the FAIR project as GSI Dasmstsdt Germany Accelerator and Detector-related R&D and Phototyping	Transfer to Panjab University Chandigrah	DST	8,66,800
99.	Dr. R.k Bedi	Physics	Design systhesis and evalution of photo responsive polyaromatics films for solar cell applications	05-07-12	DST	24,93,104
100.	Dr. Sham Sunder Malik	Physics	Theoretical perspective of dynamic and chaotic aspects of nuclei	31-03-13	DAE-BRNS	13,78,000
101.	Dr. Aman Mahajan	Physics	Design and development of functionalized phthalocyanine derivaties for light emitting	31-03-13	DAE-BRNS	19,96,150
102.	Dr. Sham Sunder Malik	Physics	Semi classical techiniques for manybody nuclear system and the role of symmetries	16-07-10	DST	7,79,700
103.	Dr. R.k Bedi	Physics	Preparation and characterization of AgInSe2 films for device application	03-05-10	IUAC	2,61,000
104.	Dr. Gurnam Singh (retd.)	Political Science	The quandary of human trafficking: kaleidoscope on Indian Punjab & Introduction,	31-10-11	UGC	5,49,200
105.	Dr. Jagroop Singh Sekhon	Political Science	A behavioral study of Political Attitudes and opinion in Punjab & UT of Chandigarh	31-01-11	UGC	5,66,200
106.	Dr. Jagrup Singh Sekhon	Political Science	Problems of Border Area Farmers in Punjab: a Empirical Study	28-02-11	ICSSR	4,21,400
107.	Dr. Gian Kaur	Pb. School of Economics	Farmers suicides in Punjab	31-03-13	UGC	5,27,600

108.	Dr. Lekh Ram Sharma (retd.)	Sankrit	Punjab as a repository and source os Sanskrit Litetature	31-03-11	UGC	8,50,800
109.	Dr. Rajesh Kumar	School of School Science	Alignment of Sarv Shiksha Abhiyan with Right to Education:A study of Border Areas (Majha Region) of Punjab	31-12-12	UGC	1,50,000
110.						

Inter-institutional collaborative projects

S. No	Project Title	Name of Teacher	Department	Funding Agency	Amount Received (Rs)
110	Novel biotechnological process for production of high value products from rice straw and bagasse	Dr. B.S Chadha	Microbiology	ICAR, NAIP, New Delhi	1,88,41,333

ANNEXURE – IV

PLACEMENT DETAILS

Placement Profile - Batch 2009

MCA Master in Comp. Applications.	085	M.Sc. Food	003
MBA Masters in Business Admn.	050	MBE	001
M.Tech. Information Technology	006	M.Com	001
M.Tech Communication Sys.	003	B. Tech. Computer Sc.	167
M.Tech. Urban Planning	006	B.Tech. Electronics and Comm.	101
M.Sc. Physics	001	B.Tech.Food Technologies	006
M.Sc. App. Physics	003	B.Tech.Urban Planning	001
M.Sc. Physics (Hons. School)	002	B.Tech. Textile Chemistry	012
M.Sc. Chemistry	016	B. Pharma	005
M.Sc. Applied Chemistry	008	LLB	002
M.Sc. Env. Sciences	003		
M.Sc. Biotech	001	**Total**	481
MA Sociology	001		

Sr. No	**Company Name (On Campus)**	**No. of Students**		**Course**	**Annual Pay Package**
1.	Avaya (05.10.2007)	12	12	ECE	4.5
2.	Infosys (06.02.2008)	87	39 27 11 01 01 02 01 03 01 01	CSE ECE MCA Phy. APP. PhyHS PLNG Food M.Tech.-IT M.Tech.-CS	3.25 3.50
3.	TCS (04.02.2008 – 05.02.2008)	85	40 24 18 02 01	CSE ECE MCA M.Tech.-IT M.Tech.-CS	3.15 3.30
4.	Accenture (12.02.2008 – 13.02.2008) * Off Campus	43+1	17 08+ 1* 18	CSE ECE MCA	3.10

5.	Trident (27.02.2008)	01	01	TXT	9.00
6.	Nagarro (27.02.2008)	01	01	CSE	3.00
7.	Nucleus (11.03.2008 – 12.03.2008)	16	12 02 02	CSE M. Tech-IT MCA	3.00
8.	Iflex (23.03.2008) Off Campus	07	04 03	CSE ECE	2.40
9.	Tech Mahindra (09.04.2008)	16	09 03 04	CSE ECE MCA	3.00
10.	Infogain (15.04.2008 – 16.04.2008)	14	10 04	CSE MCA	2.50
11.	Amdocs (09.06.08)	09	03 06	MCA CSE	4.2
12.	Syntel (13.06.2008)	11	05 02 04	MCA CSE ECE	2.8 2.6
13.	Indian Army (26-27.08.08)	01	01	CSE	As govt. norms
14.	Indian Navy (off campus) (10.09.08)	07	07	ECE	As govt. norms
15.	CSC- (14-15.09.08)	32	07 20 05	MCA CSE ECE	3.00
16.	NIIT (17.09.08)	07	06 01	MCA CSE	2.00
17.	Vardhman (18.09.08)	05	05	TXT	2.00
18.	Welspun (27.09.08)	02	02	TXT	1.80
19.	CMC (19-21.10.2008)	11	05 06	CSE ECE	2.10
20.	Asian Paints	01	01	MBA	3.00
21.	SBI Life Insurance 17-18.11.2008	02	02	MBA	2.50
22.	ICICI Prudential Life Ins. 19.11.2008	22	22	MBA SHORTLISTED	Final Interview to be held latter
23.	Eli Lilly 19.11.2008	03	03	BPH	3.08
24.	Tata Tele Services 26.11.2008	03	02 01	MBA ECE	3.10 3.25

25.	IBM Daksh 24.01.2009	14	04 03 02 01 01	MCA MBA L.L.B Soc App	1.80
26.	SRF Laboratories 24.02.2009	01	01	BPH	1.80
27.	Ind Swift Laboratories 09.03.2009	06	05 01	Chem A Chm.	1.20
28.	Ranbaxy Laboratories 13.03.2009/07.07.09 (Mail)	04	01 03	A. Chem Chem.	2.00
29.	Intelligence Bureau 19.03.2009	15 +3 other	08 02 01 01 01 01 01	MBA MCA M.Tech.(IT) M.Tech.(CS) APP Env. Sci. Biotech.	3.00
30.	IDBI Bank 13.04.2009	14	14	MBA	3.25
31.	Jubilant Chemsys 17.04.2009	04	02 02	Chm A Chm.	2.40
32.	HDFC Standard Life Insu. 20.04.2009	05	03 01 01	MBA MBE M.Com	2.20
33.	Sonalika International Tractor Ltd. 25.04.2009	01	01	MBA	2.16
34.	Bharti Retail 05.05.2009	02	02	MBA	3.60
35.	Integral Biosciences 06.05.2009	07	04 03	A. Chm Chem.	1.75
36.	NSPL 11.05.2009	03	03	MBA	1.20
37.	Nestle, Moga 21.05.2009	05	02 01 02	Food Chem. M.Sc. Food	1.20 2.20
38.	R.S. Saluja Textile Group 02.06.2009	01	01	TXT	1.68
39.	Khanna Paper Mills 04.06.2009	01	01	MBA	1.50

40.	Inst. Of Spatial Planner & Env. Research Panchkula 05.06.2009	02	02	M. Plng	1.80
41.	Haryana State Industrial & Infrastructure Dev. Corp, 05.06.2009	02	02	M. Plng	1.80
42.	Green Fiesta 08.06.2009	02	01 01	Food M.Sc. Food	
43.	DLF Primerica Life 09.06.2009	09	09	MBA SHORTLISTED	2.90
44.	Third Space, Amritsar 11.06.2009	01	01	M. Plng	1.80
45.	PRIA 20.06.2009	01	01	M. Plng	2.16
46.	HDFC Bank 30.06.2009	09	09	MBA	2.40
47.	Eisai Pharmaceuticals	01	01	MBA	
	10 & 13 July, 2009	01	01	B. Pharma	
48.	Hindustan Zinc 08.05 & 16.07.2009	01	01	Chem.	2.00
49.	Khanna Paper Mills 01.08.2009	01	01	MCA	1.80
50.	Parabolic Drugs	01	01	Chem..	1.20
	Total	481			

Placement Profile - Batch 2010

MCA Master in Comp. Applications.	100	M.Sc. Food	002
MBA Masters in Business Admn.	028	M. Pharmacy	001
M.Tech. Information Technology	004	B. Tech. Computer Sc.	163
M.Tech. Planning	006	B.Tech. Electronics and Comm.	111
M.Tech Communication Sys.	003	B.Tech.Food Technologies	005
M.Sc. Chemistry	009	B.Tech. Textile Chemistry	011
M.Sc. Applied Chemistry	005	B.Tech. Planning	014
MA English	002	M.Sc. Social Sciences	011
M.Sc. Zoology	002	B.Sc. Social Sciences	011
MBE	002		
		Total	490

Sr. No	Company Name (On Campus)	No. of Students		Course	Annual Pay Package
1.	Indian Army 15.09.2009	27	13 14	CSE ECE	Short-Listed
2.	Vardhman Textiles 12.10.2009	03	03	TXT	1.91
3.	Akash Educational Services 01.11.2009	02	02	Zoology	3.50
4.	Trident 16.11.2009	03	03	TXT	4.20
5.	Donear Industries 17.11.2009	03	03	TXT	1.68
6.	Malwa Industries	02	02	TXT`	1.70
7.	Oriental Bank of Commerce 03.01.2010	11	11	MBA	4.60
8.	TCS 3-5.01.2010	137	66 28 41 01 01	CSE ECE MCA M.Tech. (IT) M.Tech (CS)	3.15 3.50
9.	Accenture 11.01.2010	51	15 22 14	CSE ECE MCA	3.00
10.	Nucleus Software 17.01.2010	06	06	CSE	3.00
11.	Jubilant Chemsys 19.01.2010	05	05	Chem.	1.20
12.	Indswift Laboratories 25.01.2010	02	01 01	Chem. App. Chem.	1.20
13.	India Bulls 29.01.2010	03	02 01	MBE MBA	1.80
14.	Panacea Biotec 01.02.2010	05	04 01	App. Chem Chem	1.80
15.	IBM Daksh 09.02.2010	21	11 02 07 01	B Social Sc. M Social Sc MCA MA Eng.	1.90

16.	Bajaj Allianz 09.02.2010	17	08 06 01 01 01	M Social Sc. MBA MCA ENG M. Tech	1.92
17.	Avaya Global 16-17.02.2010	13	05 08	ECE(2010) ECE (2011)	4.5
18.	Religare Securities 04.03.2010	01	01	MBA	2.4
19.	SBI Life Insurance 05.03.2010	05	05	MBA	2.5
20.	Tech Mahindra 17-18.03.2010	33	11 15 07	CSE ECE MCA	2.9
21.	Mind Infotech 20-21.03.2010	08	08	CSE	2.20
22.	Wipro BPO 03.04.2010	03	03	CSE	3.20
23.	HCL Comnet 8-10.04.2010	11	06 05	CSE ECE	2.75
24.	Amdocs 11-12.04.2010	19	16 02 01	CSE ECE MCA	4.60
25.	CSC 30.04-01.05,2010	27	09 07 11	CSE ECE MCA	3.20
26.	Patni Computers 13.05.2010	06	04 02	ECE CSE	3.00
27.	Nestle, Moga 20.05.2010	03	02 01	B. Food M Food	1.50 to 2.00
28.	Bharti Axa life Insurance 21.05.2010	05	04 01	MBA M Social Sc	2.00
29.	Spectross	01	01	ECE	2.70
30.	Ravalgaon 05.07.2010	03	03	B. Food	1.20
31.	Nectar Life Sciences 29.06.2010	02	02	Chem.	1.32
32.	Wipro Technologies 09-10.07.2010 Wipro Off Campus	40 03	21 13 06	CSE ECE MCA	3.50
33.	Ranbaxy 12.07.10	01	01	M.Phar	3.40

34.	Motorola 02.07.2010	01	01	ECE	4.75
35.	Data Softech 29.07.2010	04	02 02	MCA CSE	2.20
36.	Rayat Bahra Group of Inst. 11.08.2010	04	02 02	M.Tech (IT) M.Tech (CS)	2.60 1.90
37.	Guru Nanak Dev Uni. Lovely Prof. University Municipal Corporations Delhi, Jaipur & Patiala Town Plg. Dept. Punjab, HSIIDC Panchkula ISPER Panchkula Voyants, Gurgaon	20	14 06	B.PLNG M. PLNG	1.70 to 03.00 1.70 to 4.40
38.	Quest Software (Off Campus)	06	06	CSE/ECE	2.2
	Total	(490 Selected) + (27 Shortlisted)			

Placement Profile - Batch 2011

MCA Master in Comp. Applications	150	B. Tech. Computer Sc.	240
MBA Masters in Business Admn.	057	B.Tech. Electronics and Comm.	152
M.Tech. CSE	013	B.Tech.Food Technologies	006
M.Tech Communication Sys.	010	B. Pharma	003
M.Sc. Chemistry	021	B.Tech. Textile Chemistry	008
M.Sc. Applied Chemistry	002	B.Tech. Architecture	002
M.Sc. Physics	005	B.Tech Sugar	011
M.Sc. Zoology	001	M.Sc. Social Sciences	004
M.A. Social Sciences	006	B.Sc. Social Sciences	002
M.Sc. Food	005	B.Sc. Chemistry	001
M.Sc. Micro	001	IAS Centre	001
		LLB	001
		Total	701

Sr. No	Company Name (On Campus)	No. of Students		Course	Annual Pay Package
1.	Avaya Global 16-17.02.2010	08	08	ECE	4.5
2.	IBM Daksh 09.09.2010	05	05	Social Sc.	1.50
3.	ITC Food 20.09.2010	03	03	Food	3.80

4.	Vardhman 08.10.2010	02	02	Text	2.50
5.	Indian Army 09.2010 & 11.10.2010	22			Shortlisted (As per Govt. Norms)
6.	Dy Star 19.10.2010	03	03	Text	3.00
7.	SRF 1 & 2.11.2010	05	04 01	Chem. App.Chem.	2.2
8.	Samsung India 23-24.11.2010	04	04	CSE	2.04
9.	TCS 12-14.12.2010	272	129 81 55 07	CSE ECE MCA M.Tech	3.15 3.30
10.	Accenture 16-17.12.2010	99	38 22 39	CSE ECE MCA	3.03
11.	Capgemini 18.12.2010	78	15 15 40 08	CSE ECE MCA M.Tech	3.15
12.	Headstrong 19-20.12.2010	23	14 04 05	CSE ECE MCA	3.50
13.	Motorola (off campus) 05.01.2011	02	02	ECE	1.80 (During Training)
14.	Simbhaoli Sugar Simbhaoli	03	03	Sugar	1.20
15.	Spray Engineers Ltd. Mohali	01	01	Sugar	1.20
17.	Renuka Sugar, Belgaum	06	06	Sugar	1.20
18.	Tech Mahindra & Mahindra Satyam 10-11.01.2011	25	09 08 08	CSE ECE MCA	3.07
19.	Khanna Paper Mills 23.12.2011, Jan. 2011, April, 2011 & May	14	14	MBA	1.80
20.	S.K. Bikes, Ludhiana 17.01.2011	02	02	MBA	1.80
21.	IBM Daksh 19.01.2011	05	03 02	Soc. Sc. MBA	1.56

22.	Amdocs 20-22.01.2011	10	10	CSE	4.20
23.	SEL Manufacturing 25.01.2011	06	03 03	MBA TXT	3.60
24.	Jubilant Chemsys 27-28.01.2011	07	06 01	Chem App. Chem.	2.40
25.	Egis India 28.01.2011	02	02	B. Arch.	3.00
26.	Intelligence Bureau 29.01.2011	16	05 01 02 01 01 01 01 02 02	MBA Law B Soc. Sc M Soc. Sc. IAS Centre B Chem. Phy. ECE MCA	3.00
27.	Aakash Institute 01.02.2011	11	06 04 01	Chem.. Phy. Zoology	4.00
28.	HCL 04.02.2011	01	01	Soc. Sc.	1.56
29.	SBI Life Insurance	05	05	MBA	2.25
30.	Computer Science Corp. 22.02.2011	13	10 02 01	CSE ECE MCA	3.25
31.	Alcatel Lucent 04.02.2011	01	01	CSC	1.80 During Training
32.	Tavant Technologies 24.01.2011	01	01	CSC	3.50
33.	Wipro BPO 02.03.2011	01	01	ECE	3.00
34.	Yes Bank 16.03.2011	03	03	MBA	4.00
35.	IDBI Bank 26.03.2011	13	13	MBA	4.50
36.	Oriental Bank of Commerce 28-29.03.2011	04	04	MBA	4.80
37.	Apeejay Staya Research Foundation, Gurgaon 28-29.03.2011	05	05	Chem.	2.00

38.	Nestle, Moga 20.04.2011	06	03 02 01	B.Tech. Food M.Sc. Food Micro	1.44
39.	Reliance Fresh 21.04.2011	05	05	MBA	1.90 after 6 months 2.40
40.	Nestle, Delhi 03.04.2011	03	03	B. Pharma	3.70
41.	Rayat Bahra 02.06.2011	16	09 07	CSE ECE	2.52
42.	Pioneer Industries 09.06.2011	04	01 03	B.Tech. Sugar M.Sc. Food	
43.	Global Inst. of Engg. & Tech. 28.06.2011	08	05 03	M.Tech (CSE) M.Tech. (CS)	2.64
	Total	701			

Batch 2012

MCA Master in Comp. Applications.	073	B. Tech. Computer Sc. -CSE	212
MCA (FYIC)	004	B.Tech. Electronics and Comm.	169
MBA Masters in Business Admn.	069	B.Tech Elec. & Com. Sys.	020
M.Tech. CSE	017	B.Tech.Food Technologies	011
M.Tech Communication Sys.	005	B. Pharma	002
M.Sc. Chemistry	004	B.Tech. Textile Chemistry	006
M.A. Psychology	004	B.Tech Sugar	009
M.Sc. Food	006	B.Sc. Social Sciences	010
M.Sc. Botany	001	B.Sc. Physics	001
M.Sc. Social Sciences	001		
		Total	**624**

Sr. No	Company Name (On Campus)	No. of Students		Course	Annual Pay Package
1.	TCS 17-18.08.2011	301	112 111 018 046 012 002	CSE ECE ECS MCA M.Tech (CSE) M.Tech. (CS)	03.15 03.25
2.	Accenture 21-22.08.2011	111	054 034 002 001 001 017 002	CSE ECE ECS TXT B.Food MCA MCA (FYIC)	03.03
3.	Thought Works 27-28.08.2011	01	01	CSE	05.86
4.	Headstrong 01-02.09.2011	14	001 002 005 006	MCA (FYIC MCA CSE ECE	03.50
5.	Information Mosaic 07-08.09.2011	01	01	MCA	04.10
6.	IBM Global Process 22.09.2011	16	10 04 01 01	B Soc. PSY B. Phy M. Soc	2.00
7.	Capgemini 03-04.10.2011	24	01 03 10 10	MCA (FYIC) MCA CSE ECE	03.60
8.	DyStar 19.10.2011	03	03	Txt	03.00
9.	Trident 11.2011	02	02	Txt	14000 P. M. Stipend (during training)
10.	Shree Renuka Sugars 08.11.2011	06	06	Sugar	01.80

11.	Nucleus Software 14.11.2011	08	01 07	MCA CSE	03.00
12.	Global Institute 26.11.2011	02	02	M.Tech. (CSE)	02.64
13.	Motorola 15.11.2011	03	03	ECE	15000 P.M. Stipend (during training)
14.	Vadilal 05.11.2011	12	05 07	M. Food B. Food	3000 P.M. Stipend (during training)
15.	Rana Distillery 13.12.2011	02	02	Sugar	8000 P.M. Stipend (during training)
16.	Olam Industies, Gurgaon 13.122011.	01	01	Sugar	5000 P.M. Stipend (during training)
17.	Khanna Paper Mills 13.122011.	01	01	MBA	02.60
18.	Syntel 02.01.2012	01	01	CSE	03.00
19.	HDFC Bank 11.01.2012	16	16	MBA	02.82
20.	AON Hewitt 11.01.20121	02	01 01	CSE ECE	02.75
21.	Reliance Retail 19.1.2012	02	02	MBA	02.40
22.	Jubilant Chemsys 20.1.2012	03	03	Chm	02.40
23.	Samsung India Electronics 23.1.2012	01	01	CSE	06.25
24.	Aakash Educational Services Ltd. 24.1.2012	01	01	BOT	04.92
25.	SBI Life Insurance 25.01.2012	06	06	MBA	02.50
26.	Daiichi Sankyo Pharma 12.03.2012	01	01	Chm	02.59
27.	Axis Bank 15.03.2012	32	32	MBA	03.15
28.	Nestle, Moga 27.03.2012	01	01	B.Food	01.80

29.	Oriental Bank of Commerce 16.04.2012	06	06	MBA	03.50
30.	Bharti Axa Life Insurance 02.05.2012	04	04	MBA	01.80
31.	Aryan International 10.05.2012	01	01	B.Food	01.80
32.	Reliance Life Sciences 23.05.2012	02	02	B. Pharma	02.00
33.	Global Institutes 29.05.2012	06	03 03	M.Tech. (CS) M.Tech (CSE)	02.59
34.	Samsung India Electronics 04-05.06.2012	13	01 12	MCA CSE	06.25
35.	Bharti Airtel 06.06.2012	02	02	MBA	03.25
36.	Ludhiana Beverages 18-06-2012	02	02	B.Food M.Food	01.80
37.	Amdocs 25.07.2012	14	08 04 02	CSE ECE MCA	04.20
	Total	624			

Batch 2013

MCA Master in Comp. Applications	042	B. Tech. Computer Sc.	142
MCA (FYIC)	008	B.Tech. Electronics and Comm.	122
MBA Masters in Business Admn.	086	B.Tech Elec. & Com. Sys.	016
MBE	001	B.Tech.Food Technologies	005
M.Tech. CSE	015	B.Tech. Textile Chemistry	008
M.Tech Communication Sys.	004	B.Tech Sugar	007
M.Sc. Chemistry	009		
M.Sc. App. Chemistry	003		
M.Sc. Social Sciences	006	**Total**	**493**
M.Sc. Molicular Bio & Biochem.	001		
M. Pharma	001		

Sr. No.	Company Name (On Campus)	No. of Students		Course	Annual Pay Package
1.	TCS 5-7.09.2012	225	77 92 13 20 06 13 04	CSE ECE ECS MCA MCA (FYIC) M.Tech (CSE) M.Tech.(ECE)	03.15 03.25
2.	AADTT 10.09.2012	04	04	TXT	03.00
3.	Thought Works 18-19.08.2012	01	01	CSE	06.75
4.	Uttam Sucrotech 18.08.2012	01	01	B.Tech. Sugar	03.25
5.	Capgemini 15 -16.09.2012	37	03 01 01 01 19 11 01	MCA MCA (FYIC) M.Tech. CSE M.Tech. S/w CSE ECE ECS	03.60
6.	I.V.P 18.09.2012	01	01	CSE	05.75
7.	Headstrong 20.09.2012	21	05 08 08	MCA CSE ECE	03.50
8.	Infogain 22.09.2012	09	06 03	MCA CSE	03.50
9.	Trident 29.09.2012	01	01	TXT	09.00
10.	Nagarro 03.10.2012 (Written Test)	01	01	CSE	03.50
11.	IBM Global Process Services 18.10.2012	11	03 02 06	MCA Chem. Social Sc.	02.00

12.	Vardhman 19.10.2012	03	03	TXT	03.00
13.	Appin Technology 30.10.2012	05	02 01 01 01	ECE MCA MCA (FYIC) CSE	02.80
14.	Callbacker 31.10.2012	03	01 01 01	ECE ECS CSE	02.70
15.	Indian Army (Batch-2014) 02.11.2012	36		shortlisted	(As per Govt. Norms)
16.	GreyB Services 03.11.2012	03	02 01	CSE MCA	02.64
17.	Motorola Mobility	__	Result Awaited	ECE ECS	02.04 (During Training)
18.	Motorola Solution	01	01	ECE	02.04 (During Training)
19.	Trident 15.12.2012	07		Shorlisted	15.00
20.	ITC Food 18.12.2012	02	02	Food	03.80
21.	S.K. Bikes 16.01.2013	01	01	MBA	01.80
22.	SBI Life Insurance 23.01.2013	12	12	MBA	02.50
23.	Berger Paints 29.01.2013	03	03	MBA	04.25
24.	Yes Bank 29.01.2013	05	04 01	MBA MBE	02.00
25.	Panacea Biotec 01.02.2013	07	04 03	Chemistry App. Chem	01.68
26.	SAP Labs 18.02.2013	05	05	CSE	03.00
27.	Perkin Elmer 22.02.2013	01	01	MBA	04.20
28.	Daiichi Sankyo 28.02.2013	01	01	Chemistry	02.59
29.	SR Fine Chemicals 11.03.2013	04	04	B.Tech (sugar)	02.00
30.	Inter Globe Technologies 17.03.2013	02	02	CSE	02.5

31.	HDFC Life 21.03.2013	05	05	MBA	01.8
32.	Uttam Sugars 25.03.2013	01	01	B.Tech (sugar)	03.15
33.	Praj Industries 25.03.2013	01	01	B.Tech (sugar)	03.60
34.	Nestle 15.04.2013	03	03	B.Tech. Food	01.80
35.	Ree-Ytal 17.04.2013	03	03	MBA	01.50-06.00
36.	SRF Ltd. 29-30.04.2013	02	02	Chem.	02.25
37.	Samsung India Electronics 2-3.05.2013	06	06	CSE	05.50
38.	Amdocs 4-5.05.2013	24	15 05 03 01	CSE ECE MCA ECS	04.20
39.	Birla Sunlife Insurance 06.05.2013	05	05	MBA	02.15
40.	HDFC Bank 08.05.2013	16	16	MBA	02.70
41.	Axis Bank 05.07.2013	36	36	MBA	03.17
42.	Perkinelmer 17.07.2013	02	01 01	M. Pharma M.Sc. Mol.	04.20
43.	Airsoft 27.08.2013	02	02	ECE	01.00
44.	Tech Mahindra 11.09.2013	17	08 05 03 01	CSE ECE ECSC MCA	03.07
Total		493			

Annexure V: List of Accredited Colleges

Note: As per information given on NAAC website this accreditation status is valid for a period of FIVE years with effect from EC date.

Sr. No.	Name of the Colleges	Accredi-ted Status	Month & Year of Accreditation
1.	Amardeep Singh Shergill Memorial College, Mukandpur	B++	Sep 2004
2.	Anand College of Education for Women, Jethuwal, Amritsar	B	Sep 2010
3.	Apeejay College of Fine Arts, Jalandhar	A	Dec 2009
4.	BBK DAV College for Women, Lawrence Road, Amritsar	A+	May 2004
5.	Banarsi Dass Arya Girls College, Jalandhar Cantt.	B	Feb 2008
6.	D.A.V. College of Education for Women, Outside Beri Gate, Amritsar	B++	Feb 2007
7.	D.A.V. College, Jalandhar	4****	Feb 2001
8.	D.A.V. College, Katra Sher Singh, Amritsar	A+	Sep 2005
9.	DIPS College of Education, Dhillwan, Kapurthala	B	Jan 2013
10.	Doaba College, Jalandhar City	A+	Sep 2004
11.	Govt. College, Dist. Amristar, Ajnala	B	Feb 2006
12.	Govt. College of Education, Ladowali Road, Jalandhar	B++	Feb 2006
13	Govt. College, Gurdaspur	B+	May 2004
14.	Guru Gobind Singh Khalsa College, Sarhali, Amritsar	B+	May 2005
15.	Guru Nanak College for Women, Charan Kanwal, Banga.	C++	May 2004
16	Guru Nanak College of Education for Women, Kapurthala	B	Feb 2007
17.	Hans Raj Mahila Maha Vidyalaya, Jalandhar	A	Jan 2013
18.	Hindu College, Amritsar	B	Mar 2009
19.	Hindu Kanya College, Kapurthala	A	Mar 2007
20.	KC College of Education, Nawan Shehar	B	Mar 2011
21.	Kamla Nehru College for Women, Dist. Kapurthala, Phagwara	A	Feb 2005
22.	Kamla Nehru College of Education for Women, Kapurthala	A	Jul 2012

23.	Kanya Maha Vidyalaya, Vidyalaya Marg, Jalandhar	A+	May 2004
24.	Khalsa College of Education, Amritsar	A	Sep 2011
25.	Khalsa College, Amritsar	A	Sep 2011
26.	Khalsa College for Women, Amritsar	A	Mar 2009
27.	Khalsa College of Education, Ranjit Avenue, Asr	B	Mar 2008
28.	Lyallpur Khalsa College for Women, Jalandhar City	A+	Sep 2004
29.	Lyallpur Khalsa College, Jalandhar	A+	Sep 2011
30.	Mata Ganga Girls College, Jandiala Road, Dist. Amritsar, Tarn Taran	B+	May 2006
31.	Montgomery Guru Nanak College of Education, Adarsh Nagar, Jalandhar	B++	Feb 2006
32.	Mohan Lal Memorial Institute of Education, Mudhal, Amritsar	A	Mar 2011
33.	MK College of Education, Jalandhar	B	Oct 2013
34.	Nawab Jassa Singh Ahulawalia Government College, Kapurthala	B+	Sep 2004
35.	Prem chand Markanda S.D. College for Women, Nehru Garden Road, Jalandhar	A	Feb 2006
36.	Pt. Mohan Lal SD College for Women, Gurdaspur	B	Sep 2009
37.	RRMK Arya Mahila Maha Vidyalaya, Pathankot	B	Jun 2009
38.	R.R. Bawa D.A.V. College for Girls, Batala	A	Jan 2013
39.	Ramgarhia College of Education, Satnampura, Phagwara	B+	Feb 2005
40.	Sai College of Education, Jadla, Nawan Shahr	B	Sep 2011
41.	Sant Baba Bhag Singh Institute of Education, Jalandhar	B	Jul 2012
42.	Sewa Devi SD College of Education, Tarn Taran	B	Jul 2012
43.	SGAD College of Education, Tarn Taran	B	Jul 2012
44.	Sri Guru Teg Bahadur College of Education, Khankot, Amritsar	B	Mar 2012
45.	Sri Sai College of Education, Badhani, Pathankot	B	Mar 2011
46.	St. Soldier College (Co-Education), Behind R.E.C. (N.I.T.), Jalandhar	A	Nov 2011
47.	St. Soldier College of Education, Behind REC (NIT) Jalandhar.	A	Sep 2010
48.	Shahzada Nand College for Girls, Amritsar	B	Jan 2009

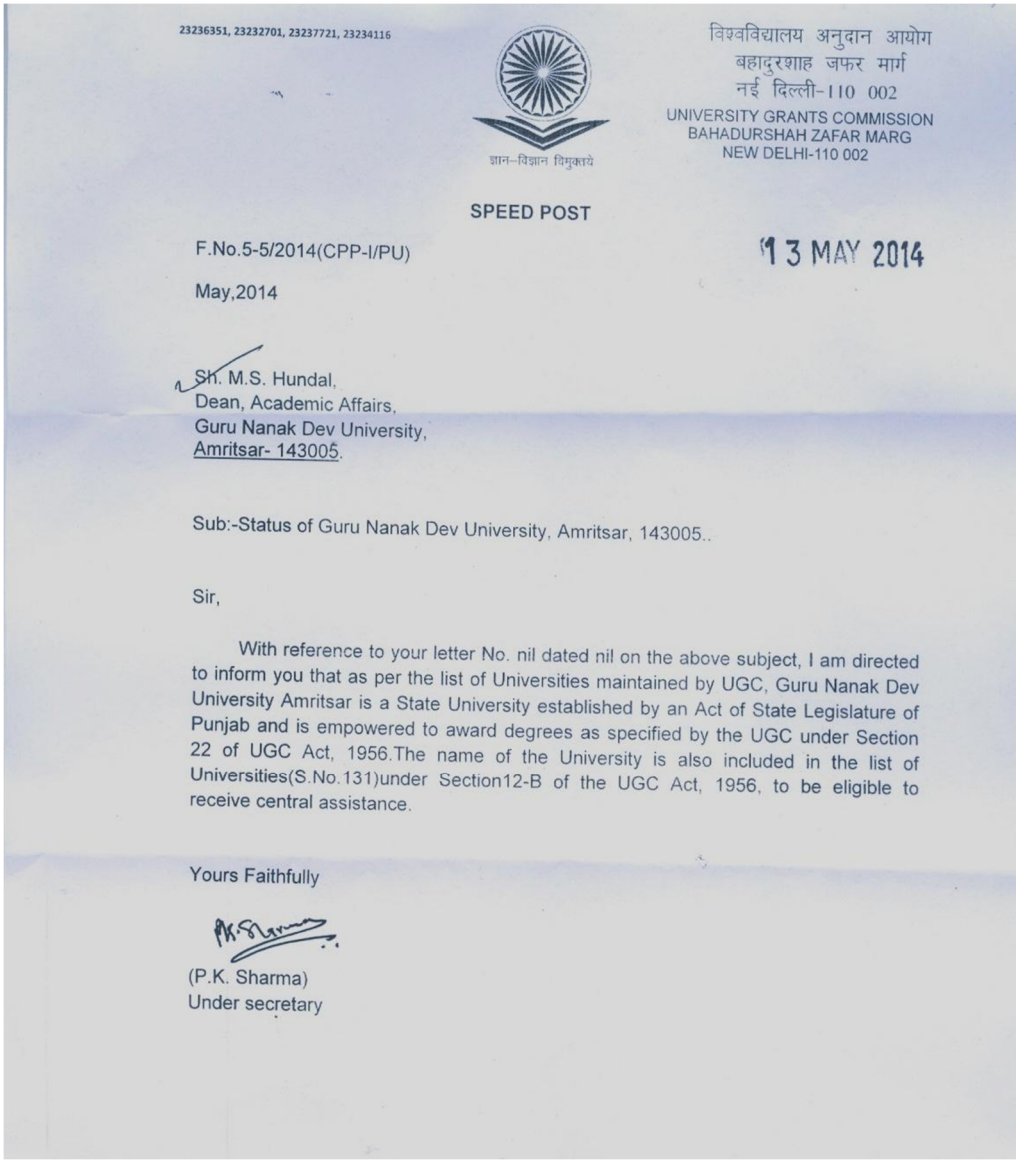
49.	SGAD Govt.College, Tarn Taran	B	Sep 2010
50.	Sant Hira Dass Kanya Mahavidyalaya, Dist. Kapurthala, Kala Sanghian	B++	Feb 2005
51.	Saroop Rani Govt. College for Women, Amritsar	A	Sep 2004
52.	Shaheed Darshan Singh Pheruman Memorial College for Women, Dist. Amritsar, Rayya	B+	May 2006
53.	Shanti Devi Arya Mahila College, Dinanagar	A	Jul 2013
54.	Sikh National College, Charan Kawal, Banga (Nawanshahr)	B	May 2004
55.	Sikh National College, Qadian, Gurdaspur	B+	May 2004
56.	Swami Swatantranand Memorial College, Dinanagar, (Gurdaspur)	B	May 2004

Annexure: VI: List of Colleges with Potential for Excellence

S. No.	Name of the College
1	Appeejay College of Arts, Jalandhar
2	DAV College, Jalandhar
3	Kamla Nehru College for Women, Phagwara
4	S. R. Government College for Women, Amritsar
5	Shanti Devi Arya Mahila College, Dinanagar (Gurdaspur)
6	DAV College, Jalandhar
7	Kanya Mahavidyalaya, Jalandhar
8	Lyallpur Khalsa College, Jalandhar
9	RR Bawa DAV College for Girls, Batala (Gurdaspur)
10	Khalsa College of Education, Amritsar

Annexure – VII:

List of Letters of Recognition to Various Programmes



23236351, 23232701, 23237721, 23234116

ज्ञान-विज्ञान विमुक्तये

विश्वविद्यालय अनुदान आयोग
बहादुरशाह जफर मार्ग
नई दिल्ली-110 002
UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-110 002

SPEED POST

F.No.5-5/2014(CPP-I/PU)

13 MAY 2014

May,2014

Sh. M.S. Hundal,
Dean, Academic Affairs,
Guru Nanak Dev University,
Amritsar- 143005.

Sub:-Status of Guru Nanak Dev University, Amritsar, 143005..

Sir,

With reference to your letter No. nil dated nil on the above subject, I am directed to inform you that as per the list of Universities maintained by UGC, Guru Nanak Dev University Amritsar is a State University established by an Act of State Legislature of Punjab and is empowered to award degrees as specified by the UGC under Section 22 of UGC Act, 1956.The name of the University is also included in the list of Universities(S.No.131)under Section12-B of the UGC Act, 1956, to be eligible to receive central assistance.

Yours Faithfully

(P.K. Sharma)
Under secretary

FD Diary No.68 (FD-III)
Dated 16.07.2013

UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-110002

No F. 3-1/2012 (SU-I) July, 2013

The Under Secretary (FD-III)
University Grants Commission,
BahadurShah Zafar Marg,
New Delhi-110 002.

Subject: Release of Grant-in-aid to **Guru Nanak Dev University, Amritsar 143 001, Punjab** in respect of General Development Assistance Scheme under Plan grant during XII Plan period.

Sir,

I am directed to convey the sanction of the University Grants Commission for payment of an 'on account' grant of Rs **7,84,27,000/- (Rupees Seven Crore Eighty Four Lakh Twenty Seven Thousand Only)** towards General Development Assistance Scheme to **Guru Nanak Dev University, Amritsar 143 001, Punjab** for the plan expenditure to be incurred as per details given below:-

(in Rupees.)

Name of the item	XII Plan Allocation	Grant already sanctioned	Grant being sanctioned	Total grant
XII Plan General Development Scheme	26,31,00,000/-	2,66,13,000/-	7,84,27,000/-	10,52,40,000/-

The Component wise break-up is as under:-

S. No	Component	Head of Account	BE/RE for 2013-14	Code 31 (30%) General	BE/RE for 2013-14	Code35 (70%) Assets
1	General 77.5%	S-2A	155,01,00,000/- Block Grant to state university	1,82,34,278/-	385,03,00,000/- Block Grant to state university	4,25,46,648/-
2.	SC 15%	S.2D (i)	148,85,00,000/- UGC schemes	35,29,215/-	325,29,00,000/-	82,34,835/-
3.	ST 7.5%	S.2D (ii)	78,86,00,000/- UGC schemes	17,64,607/-	162,65,00,000/-	41,17,417/-
	Total			2,35,28,100/-		5,48,98,900/-

Code 31 + Code 35 = Rs 7,84,27,000/-

2. The payment is valid for the financial year 2013-2014 only.

3. The amount of the Grant shall be drawn by the Under Secretary (Drawing and Disbursing Officer) UGC on the Grants-in-aid bill and shall be disbursed to and credited to the **Registrar, Guru Nanak Dev University, Amritsar 143 001, Punjab**, through Electronic mode as per the following details:

	Payment Details:	
(a)	Bank Name & Address of Branch	Punjab & Sind Bank, Guru Nanak Dev University Campus, Amritsar 143 001
(b)	Account No.	1482000102066750
(c)	Type of Account: SB/Current/Cash Credit	Saving Bank
(d)	IFSC Code	PUNB0148200
(e)	MICR Code of Branch	143023013s
(f)	Whether bank branch is RTGS or NEFT enabled: RTGS/NEFT/Both	Yes
(g)	Name and address of Account Holder	Registrar, Guru Nanak Dev University, Amritsar 143 001, Punjab

4. The Grant is Subject to the adjustment on the basis of Utilization Certificate in the prescribed proforma submitted by the University/Institution.

5. The University/Institution shall maintain proper accounts of the expenditure out of the Grants which shall be utilized only on the approved items of expenditure.

6. The University/Institution may follow the General Financial Rules, 2005 and take urgent necessary action to amend their manuals of financial procedures to bring them in conformity with GFRs, 2005 and those don't have their own approved manuals on financial procedures may adopt the provisions of GFRs, 2005 and instruction/guideline there under from time to time.

7. The Utilization Certificate to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished to UGC as early as possible after the close of current financial year.

8. The assets acquired wholly for substantially out of University Grants Commission's Grants shall not be disposed or encumbered or utilised for the purposes other than those for which the grants was given without proper sanction of the UGC and should at any time the University ceased to function, such assets shall revert to the University Grants Commission.

9. A Register of Assets acquired wholly or substantially out of the grants shall be maintained by the University in the prescribed proforma.

10. The grantee institution shall ensure the utilization of grants-in-aid for which it is being sanctioned / paid. In case of non-utilization/part utilization thereof, simple interest @ 10% per annum, as amended from time to time on the unutilized amount from the date of drawal to the date of refund as per provisions contained in General Financial Rules of Govt. of India, will be charged.

11. The University/Institution shall follow strictly the Government of India/ UGC's guidelines regarding implementation of the reservation policy [both vertical (for SC, ST and OBC) and horizontal (for persons with disability etc.)] in teaching and non-teaching posts.

12. The University/institution shall fully implement the Official Language Policy of Union Government and comply with the Official Language Act, 1963 and Official Languages (Use for Official Purposes of the Union) Rules,1976 etc.

13. The sanction is issued in exercise of the delegation of powers vide UGC Order No. 130/2013 [F.No.10-11/12 (Admn.IA & B)] dated 28/5/2013.

14. The University/Institution shall strictly follow the UGC Regulations on curbing the menace of Ragging in Higher Education Institutions 2009.

15. The University/Institution shall take immediate action for its accreditation by National Assessment & Accreditation Council (NAAC).

16. The accounts of the University/Institution will be open for audit by the Comptroller & Auditor General of India in accordance with the provisions of General Financial Rules, 2005.

17. The annual accounts i.e balance sheet, income and expenditure statement and statement of receipts and payments are to be prepared strictly in accordance with the Uniform Format of Accounting prescribed by Government.

18. Funds to the extent are available under the scheme.

19. This issues with the concurrence of IFD vide Diary No. 1632(IFD) dated 08-07-2013

20. This issues with the approval of Vice-Chairman vide Diary No 76 dated 11-07-13.

21. This will be first installment of grant after adjusting adhoc grant already released.

Yours faithfully

(Mrs. Paramjeet)
Under Secretary

Copy forwarded for information and necessary action for: -

1. The Registrar, Guru Nanak Dev University, Amritsar 143 001, Punjab
2. The Finance Officer, Guru Nanak Dev University, Amritsar 143 001, Punjab,
3. Office of the Director General of Audit, Central Revenues, AGCR Building, I.P Estate, New Delhi.
4. Accountant General/the Examiner local fund Accounts, Govt. of Punjab, Chandigarh
5. Guard file.

(Kulvinder Kaur)
Section Officer

डॉ॰ के. गुनासेकरन
अतिरिक्त सचिव
Dr. K. Gunasekaran
Additional Secretary

ज्ञान विज्ञान विमुक्तये

विश्वविद्यालय अनुदान आयोग
बहादुरशाह ज़फर मार्ग, नई दिल्ली-110 002
UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI-110 002
OFF. : (011) 23230405
FAX : (011) 23231055
E-mail : gunakarthic@gmail.com
Website www.ugc.ac.in

SPEED POST

D.O.No.F.14-2/2008(NS/PE)

4th January, 2012

Dear Prof. Brar,

This has reference to the proposal of your university under the Scheme "Universities with Potential for Excellence" (UPE). Out of a total of 31 Universities which sent their proposals, the Standing Committee on UPE shortlisted the following 10 universities based on the eligibility criteria as prescribed in the XI Plan guidelines on UPE i.e NAAC accreditation with 'A' grade and having at least one Centre of Advanced Study or two Departments of Special Assistance under Special Assistance Programme:

1. Andhra University
2. Osmania University
3. Punjab University
4. Karnataka University
5. Mysore University
6. Bangalore University
7. Guru Nanak Dev University
8. Punjabi University
9. Rajasthan University
10. Banaras Hindu University

The above shortlisted universities were requested to send a proposal to UGC indicating the focused area, plan for holistic development and the budget proposed. Ten different Expert Evaluation Committees (EEC) were constituted to visit the shortlisted universities and give a report. The EEC also gave a score out of 100 which was reduced to 40. A copy of the report of the EEC which visited your University is **enclosed** for your guidance.

Simultaneously, the Chairman, UGC also constituted a Working Group on UPE to score the data given by the shortlisted universities, as per the proforma given in the guidelines. The scores were awarded out of 1000 and then reduced to 40.

Finally, the Standing Committee on UPE considered the presentations by the Vice-Chancellors of the shortlisted universities on **7th, 8th and 9th December, 2011** and awarded a score out of 20. The Standing Committee, taking into consideration the scores obtained by the universities with regard to the data as per the proforma, EEC score and the presentation has finally given a relative ranking of the universities out of 100. Based on the relative ranking, the Standing Committee recommended six universities for award of UPE status during XI Plan period.

The recommendations of the Standing Committee were placed before the Commission at its meeting held on **22nd December, 2011**. The Commission considered the issue and resolved as under:

> *"The Commission approved the recommendations of the Standing Committee on UPE for the award of UPE status to the following six universities during the XI Plan period:*
>
> 1. *Banaras Hindu University, Varanasi.*
> 2. *Osmania University, Hyderabad.*
> 3. *Guru Nanak Dev University, Amritsar.*
> 4. *Mysore University, Mysore.*
> 5. *Rajasthan University, Jaipur.*
> 6. *Karnatak University, Dharwad*
>
> *The Commission further decided that the Vice-Chancellors of the selected universities may be requested to revisit their focused areas, holistic development and budget in view of the suggestions made by the Standing Committee and the first installment of grant may be released as per the existing practice.*
>
> *The Commission also decided that the number of slots under the scheme be increased to at least ten in the 12th Plan and that the nomenclature of the scheme may also be suitably modified."*

While communicating the above, I am happy to inform you that your university is one of the six universities identified by the UGC for award of UPE status during the XI Plan period.

Your university could achieve the UPE status due to the hard work done by you, your predecessors, teaching staff, students and non-teaching staff in the past and at present. I am sure that with the award of UPE status to your university, which will entail grants up to Rs.50 crores under the scheme, the University shall be in a position to achieve greater heights on the areas chosen by you in the focused area and for holistic development. You may refer to the XI Plan Guidelines on UPE, which are available on the UGC website (www.ugc.ac.in), while preparing the documents.

As per the decision of the Commission, you may kindly revisit the focused area, plan for holistic development and the budget proposed by you and arrange to send the same within a week so as to enable this office to release the grants.

With kind regards,

Yours sincerely,

(K. Guhasekaran)

Encl: As above.

Prof. A.S. Brar,
Vice-Chancellor,
Guru Nanak Dev University,
Amritsar-143 005 (Punjab)

All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

F.No. North-West/1-1435540612/2013/EOA

Date: 19-Mar-2013

To,
The Principal Secretary (Technical),
Govt. of Punjab.,
Room No 223, 2nd Floor, Sector-9,
Chandigarh-160009

Sub: Extension of approval for the academic year 2013-14

Ref: Application of the Institution for Extension of approval for the academic year 2013-14

Sir/Madam,

In terms of the provisions under the All India Council for Technical Education (Grant of Approvals for Technical Institutions) Regulations 2012 notified by the Council vide notification number F-No.37-3/Legal/2012 dated 27/09/2012 and norms standards, procedures and conditions prescribed by the Council from time to time, I am directed to convey the approval to

Regional Office	North-West	Application Id	1-1435540612
		Permanent Id	1-509732261
Name of the Institute	GURU NANAK DEV UNIVERSITY	Institute Address	DEPARTMENT OF PHARMACEUTICAL SCIENCES, GURU NANAK DEV UNIVERSITY, AMRITSAR, AMRITSAR, Punjab, 143005
Name of the Society/Trust	GURU NANAK DEV UNIVERSITY	Society/Trust Address	DEPARTMENT OF PHARMACEUTICAL SCIENCES, GURU NANAK DEV UNIVERSITY,AMRITSAR,AMRITSAR,Punjab,143005
Institute Type	University Managed		

Opted for change from Women to Co-ed	No	Opted for change of name	No	Opted for change of site	No
Change from Women to Co-ed approved	Not Applicable	Change of name Approved	Not Applicable	Change of site Approved	Not Applicable

to conduct following courses with the intake indicated below for the academic year 2013-14

Application Number: 1-1435540612*

Note: This is a Computer generated Extension of Approval Letter. No signature is required.

Letter Printed On:25 March 2013.

Printed By : AIC004962

All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

Application Id: 1-1435540612			Course	Full/Part Time	Affiliating Body	Intake 2012-13	Intake Approved for 13-14	NRI	PIO	Foreign Collaboration
Program	Shift	Level								
PHARMACY	1st Shift	POST GRADUATE	PHARMACEUTICAL SCIENCE	FULL TIME	Guru Nanak Dev University, Amritsar	32	32	No	No	No
PHARMACY	1st Shift	UNDER GRADUATE	PHARMACEUTICAL SCIENCE	FULL TIME	Guru Nanak Dev University, Amritsar	33	33	No	No	No

- Validity of the course details may be verified at www.aicte-india.org>departments>approvals

The above mentioned approval is subject to the condition that GURU NANAK DEV UNIVERSITY shall follow and adhere to the Regulations, guidelines and directions issued by AICTE from time to time and the undertaking / affidavit given by the institution along with the application submitted by the institution on portal.

In case of any differences in content in this Computer generated Extension of Approval Letter, the content/information as approved by the Executive Council / General Council as available on the record of AICTE shall be final and binding.

Strict compliance of Anti-Ragging Regulation:- Approval is subject to strict compliance of provisions made in AICTE Regulation notified vide F. No. 37-3/Legal/AICTE/2009 dated July 1, 2009 for Prevention and Prohibition of Ragging in Technical Institutions. In case Institution fails to take adequate steps to Prevent Ragging or fails to act in accordance with AICTE Regulation or fails to punish perpetrators or incidents of Ragging, it will be liable to take any action as defined under clause 9(4) of the said Regulation.

(Dr. Kuncheria P. Isaac)
Member Secretary, AICTE

Copy to:

1. **The Regional Officer,**
   All India Council for Technical Education
   Plot No. 1310, Sector 42-B
   Chandigarh-160 036
2. **The Director Of Technical Education,**
   Punjab

Application Number: 1-1435540612*

Note: This is a Computer generated Extension of Approval Letter. No signature is required.

Letter Printed On:25 March 2013.

Printed By : AIC004962

All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

3. **The Registrar,**
   Guru Nanak Dev University, Amritsar

4. **The Principal / Director,**
   GURU NANAK DEV UNIVERSITY
   DEPARTMENT OF PHARMACEUTICAL SCIENCES, GURU NANAK DEV UNIVERSITY,
   AMRITSAR,AMRITSAR,
   Punjab,143005

5. **The Secretary / Chairman,**
   GURU NANAK DEV UNIVERSITY
   DEPARTMENT OF PHARMACEUTICAL SCIENCES, GURU NANAK DEV UNIVERSITY,
   AMRITSAR,AMRITSAR,
   Punjab,143005

6. **Guard File(AICTE)**

Sports medicine R_200364

Phone : 25367030, 25367033, 25367035, 25367036
दूरभाष : 25367030, 25367033, 25367035, 25367036
Telegrams : MEDCONCIND, New Delhi
तार : मेडकौंसिंड, नई दिल्ली
Fax : 0091-11-25367024
E-mail : pg@mciindia.org; mci@bol.net.in
Website : www.mciindia.org

पॉकेट – 14, सेक्टर – 8, द्वारका फेस– 1
नई दिल्ली–110 077
Pocket- 14, Sector- 8,
Dwarka Phase - 1
New Delhi-110077

31/2/11

भारतीय आयुर्विज्ञान परिषद्
BOARD OF GOVERNORS IN SUPER-SESSION OF "MEDICAL COUNCIL OF INDIA"

No.MCI-61(22)/2010-Med. Dated:

(LETTER OF PERMISSION)

The Dean/Principal,
Guru Nanak Dev University,
Amritsar - 143005,
Punjab

Sub: Starting of MD(Sports Medicine) course at Guru Nanak Dev University, Amritsar under Guru Nanak Dev University, (Deemed University), Amritsar u/s 10A of the IMC Act, 1956 – Permission of Board of Governors- regarding

Sir/Madam,

In continuation to this office Letter of Intent dated 07th March 2011 and, with reference to your letter dated 11th March 2011, I am directed to convey the permission of the Board of Governors for Starting of MD(Sports Medicine) course with annual intake of 01(One) student per year with prospective effect i.e. from the academic year 2011-2012 at your institute u/s 10A of the IMC Act, 1956, as amended.

This permission for starting of the above course and admission of students will be till such time the first batch of students admitted against the above course appears for the final examination in the subject. The college authorities may take up the matter for recognition of the qualification under section 11(2) of the IMC Act at the time of first batch admitted against the course appears for final year examination.

Please acknowledge receipt of this letter.

Yours faithfully

[Madhu Handa]
Assistant Secretary

Endst. No. : MCI-61(22)/2010-Med/ 79045 Dated : 24/03/11

1. The Principal Secretary Health, Medical Education & Research, Punjab Govt., Punjab Civil Secretariat, Chandigarh- 160001
2. The Registrar, Guru Nanak Dev University, (Deemed University), Amritsar - 143005
3. The Secretary to the Govt. of India, Ministry of Health & F.W., Nirman Bhawan, New Delhi - 110011.

[Madhu Handa]
Assistant Secretary

अखिल भारतीय तकनीकी शिक्षा परिषद्

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

(भारत सरकार का एक सांविधिक संस्थान) (A STATUTORY BODY OF THE GOVERNMENT OF INDIA)

Sno13

F.No.: 765-65-207(E)/ET/95 Date: 30th April, 2003

To

The Secretary & Technical Education,
Govt. of Punjab,
Mini Secretariat, Sector-9,
Chandigarh –160036.

Sub: Extension of approval of AICTE to GURU NANAK DEV UNIVERSITY,AMRITSAR, PUNJAB,

Sir/Madam,

The Application/ Proposal and/ or the Compliance Report received from **GURU NANAK DEV UNIVERSITY,AMRITSAR, PUNJAB,** has been processed as per laid down procedure, guidelines, policy and/or norms & standards of AICTE, mentioned in **AICTE Regulations and/ or "AICTE Hand Book for Approval Process".**

I am directed to state that the All India council for Technical Education (AICTE) is pleased to accord approval to **GURU NANAK DEV UNIVERSITY,AMRITSAR, PUNJAB,** for extension of AICTE Approval/ Introduction of new course(s)/ Variation in intake (Increase/ Decrease)/ No Admission, as applicable for **under-graduate degree level course(s) in Engineering /Technology** with annual intake for each course as given below :

FULL TIME COURSE(S)	EXISTING ANNUAL INTAKE	REVISED APPROVED INTAKE	ENTRY LEVEL	DURATION (YEARS)	PERIOD OF APPROVAL
SUGAR TECHNOLOGY	15	15	10+2	4	2003-05
ELECTRONICS & COMM. ENGG.	40	40	10+2	4	2003-05
FOOD PROCESSING	20	20	10+2	4	2003-05
PLANNING	40	40	10+2	4	2003-05
COMPUTER ENGINEERING	40	40	10+2	4	2003-05
TEXTILE CHEMISTRY	20	20	10+2	4	2003-05
Total Annual Intake	175.	175.			

इंदिरा गांधी खेल परिसर, इन्द्रप्रस्थ एस्टेट, नई दिल्ली – 110002
Indira Gandhi Sports Complex, I.P. Estate, New Delhi-110002 cont.\-...2
दूरभाष / Phone : 23392506, 63-65,68,71,73-75 फैक्स / Fax : 011-23392554
वैबसाइट / Website : www.aicte.ernet.in

The approval accorded above is subject to fulfillment of the following Conditions:

1. All full time faculty members as per AICTE Norms must be recruited before making admissions.
2. The Institution must have Affiliation to a University for the above courses before making admissions. In the absence of such Affiliation, this Letter of approval shall be treated as Withdrawn. **(Order of the High Court of Madras in W.P. No. 33256 of 2002 and other Batch of Petitions).**
3. All the required Laboratories/ Workshops/ Machineries/ Equipment, as per approved syllabi of the affiliating University, must be operational before making admissions.
4. The approved course(s) shall commence as per the academic calendar of the Affiliating University.
5. If this Letter of approval is received by you after the closing date of State / National Level Central Counseling for Admissions in the concerned State / Union Territory, this Letter of approval will not be valid for making any admission during the above specified academic year, and shall be treated as withdrawn.
6. No excess admission shall be made by the Institution during any academic year.
7. The approval is valid only for the academic year 2003-2004. If no further extension of AICTE approval is received beyond the academic year 2003-2004, this Approval Letter will not be valid for making any admission for the subsequent years.
8. Name of the Institution, Name of the Society/Trust, are not allowed to be changed without prior approval of AICTE. The name and title of the institution should be such that **"the Emblems and Names (Prevention of improper use) Act 12 (1950)"** of Government of India, is not violated in any manner.

   The use of word "Indian" and /or "National" and/or "All India" and/or "All India Council" and/or Commission" in any part of the name of a Technical Institution and/ or any name whose abbreviated form leads to "IIM"/ "IIT"/"IISC"/"IIIT"/ "AICTE"/ "UGC" shall not be permitted. These restrictions will not be applicable for those institutions which are established with the name approved by the Govt. of India.
9. In exercise of power conferred under 10(p) of the AICTE Act, AICTE, may inspect the Institution any time it may deem fit to verify the progress/ compliance or for any other purpose.
10. Any other condition(s) as may be specified by AICTE from time to time.

It may please be noted that consequent to judgement of Hon'ble Supreme Court delivered on 31/10/2002 in TMA Pai Case, the AICTE had issued interim policy regulations, which has been notified in the Gazette of India on 20/03/2003. All the provisions contained in the interim policy regulations shall be applicable for the academic year 2003-2004 in respect of all the AICTE approved institutions.

In the event of infringement/ contravention or non-compliance of the above Conditions and/or the provision of AICTE Act & Regulations/ Guidelines/ Norms & Standards as prescribed by AICTE, further actions leading to 'Reduced Intake' or "No Admission or Withdrawal of Approval, may be taken by AICTE and the liability arising out of such actions will be solely that of the Management of the Institution.

Your faithfully,

(Prof. R.S. Gaud)
Adviser (UG)

Copy to:

1. Regional Officer, AICTE North West Regional Office, H.No. 1310, Sector – 42-B, Chandigarh- 160 036.
2. The Registrar,
3. The Principal
   GURU NANAK DEV UNIVERSITY,
   AMRITSAR, PUNJAB
4. Director of Technical Education, Government of Punjab, Sector – 36 A, Chandigarh – 160036
5. Guard File Bureau (UG)

अखिल भारतीय तकनीकी शिक्षा परिषद्
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION
(भारत सरकार का एक सांविधिक संस्थान) (A STATUTORY BODY OF THE GOVERNMENT OF INDIA)

F.No 765-65-207(E)/ET/95
Date: June 14, 2001

To

Secretary Technical Education,
Govt. of Punjab.
Mini Secretariat, Sector – 9,
Chandigarh – 160 036

Subject: Extension of Approval GURU NANAK DEV UNIVERSITY,, AMRITSAR, PUNJAB, , , , for conduct of Degree (Engg.) programmes.

Sir,

I am directed to state that on consideration of the reports of the Expert Committee and on consultations with the concerned agencies in this regard, the All India Council for Technical Education (AICTE), is pleased to accord extension of approval to GURU NANAK DEV UNIVERSITY,, AMRITSAR, PUNJAB, , , , only for the course(s) and intake capacity as given below with the specific conditions that admission shall be made through the Central Counseling by the Govt. of PUNJAB only:

COURSE(S)	PREVIOUS APPROVED INTAKE	REVISED APPROVED INTAKE	PERIOD OF APPROVAL
COMPUTER ENGINEERING	40	40	2001-03
ELECTRONICS & COMM. ENGG.	40	40	2001-03
FOOD PROCESSING	20	20	2001-03
PLANNING	40	40	2001-03
SUGAR TECHNOLOGY	15	15	2001-03
TEXTILE CHEMISTRY	20	20	2001-03
TOTAL	175.0	175.0	

This approval has been accorded subject to fulfillment of norms & standards of the Council for the course(s) and intake approved above.

Further the observations and specific conditions (if any) of the expert committee are annexed with this letter. The institution shall fulfill all the conditions without any delay: Non-fulfillment of the specific conditions will lead to withdrawal of approval without need of any more opportunity, as the institution is well aware of the deficiencies.

Contd...2/-

उत्तर क्षेत्रीय समिति
राष्ट्रीय अध्यापक शिक्षा परिषद्
(भारत सरकार का एक विधिक संस्थान)

गुरुर्गुरुतमो धाम
NCTE

Northern Regional Committee
National Council for Teacher Education
(A Statutory Body of the Government of India)

F. No. NRC/NCTE/NRCAPP-894/200th Meeting/2012/25470

Dt.

To,

The Secretary/Correspondent,
Guru Nanak Dev University,
Village/Town/City- Amritsar, P.O. - G.N.D.U Campus,
Distt. - Amritsar- 143005, Punjab.

Subject: - Letter of intent prior to grant of recognition/permission for M.Ed. course under clause 7(9) of the NCTE (Recognition Norms and Procedure) Regulation, 2009 - reg.

Sir/Madam,

In terms of Section 14/15 of the NCTE Act, 1993 your institution had submitted an application to the Northern Regional Committee of NCTE for grant of recognition for starting **M.Ed.** Course in the proposed institution i.e. **Guru Nanak Dev University, Village/Town/City- Amritsar, P.O. - G.N.D.U Campus, Distt.- Amritsar- 143005, Punjab.**

2. The NRC, NCTE on the basis of the scrutiny of the documents submitted by the institution, input received from the Visiting Team Report and videography in its 200th meeting held from **20th June to 24th June , 2012** decided that the above institution has adequate financial resources, accommodation, library and laboratory as prescribed in the norms and standards and that it fulfils all such other conditions relating to infrastructural and instructional facilities required for proper functioning of the institution for a teacher education course. Therefore, the NRC, decided to issue letter of intent prior to grant of recognition for **M.Ed.** course under clause 7(9) of the NCTE Regulations 2009 to the institution.

3. Before grant of formal recognition under clause 7(11) of NCTE Regulations 2009 is considered, the institution shall make appointment of qualified faculty/staff as per provisions of the NCTE Regulations, 2009 as per the norms & standards envisaged therein and submit the following documents:-

a. The institution shall submit particulars of the staff duly approved by the University/affiliating body as per the prescribed format available in the NRC, NCTE website.
b. Advertisement in leading newspapers.
c. Letter of University/ Affiliating Body, nominating experts/representative for the Selection Committee.
d. Recommendations of the Selection Committee for appointment of teaching & non-teaching staff as per the norms of the affiliating body.
e. An affidavit on Rs. 100/-stamp paper to the effect that the institution has selected staff as per NCTE/State/University norms.**(format Enclosed)**
f. Educational & professional qualification certificates of all teaching staff showing their eligibility for appointment as per the NCTE norms and experience certificate of the principal /HOD.
g. Downloaded copies of the website of the institution with the hyperlink of the same as per provisions of 7(10) of the NCTE Regulations, 2009.
h. The institution shall convert the Endowment Fund & Reserve Fund into a Joint Account and furnish the evidence / documents in this regard to NRC. An authorisation letter from the Regional Director, NRC, NCTE authorising the institution to convert the FDR into joint account is enclosed. The following FDRs in original are returned herewith.

20/198, Kaveri Path, Near Mansarover Stadium, Mansarover , Jaipur -302 020 (Rajasthan)
Phone : (0141)-2390064, 2390210, Fax : 0141-2390087
E-mail. : nrc@ncte-india.org, Website : www.ncte-india.org

S. No.	Name of the Bank	FDR No.	Amount
1.	State Bank of Patiala	CTD/1 705917	5,00000/-
2.	State Bank of Patiala	CTD/1 705916	3,00000/-

4. **You are advised to comply the above requirement before the formal recognition is considered under clause 7(11) of the NCTE Regulations, 2009.**

5. **Admissions shall not be made until formal recognition order under clause 7 (11) of the NCTE (Recognition Norms & Procedure) Regulations, 2009 is issued by the Northern Regional Committee, NCTE and affiliation is obtained from the University/examining body concerned.**

6. **The compliance report/reply alongwith all necessary documents accompanied with an Affidavit in support of the reply of the above points should be submitted within two months of issue of this letter, failing which appropriate action will be taken as deemed fit and proper.**

Yours faithfully,

Encl. As above.

28/6/12

(Dr. Ram Kishor)
Regional Director

Copy to: **The Director, SCERT, Sector 17 C, Chandigarh, Punjab** - with the request to provide all the assistance to the institution to ensure that the staff or faculty is appointed as per NCTE Regulations, 2009 within two months.

Note: For latest & updated details of the NCTE Regulations published by the NCTE from time to time in the Gazette of India, you may please visit NCTE website i.e. www.ncte-india.org.

उत्तर क्षेत्रीय समिति
राष्ट्रीय अध्यापक शिक्षा परिषद्
(भारत सरकार का एक विधिक संस्थान)

गुरुर्गुरुतमो धाम
NCTE

Northern Regional Committee
National Council for Teacher Education
(A Statutory Body of the Government of India)

To,

The Branch Manager,
State Bank of Patiala,
GT- Road, Cheharta Branch, Amritsar
Punjab.

Sub: - Authority Letter to include the name of Regional Director, NRC, NCTE in the FDRs towards Endowment & Reserve Fund under the joint operation.

Sir,

Guru Nanak Dev University, Village/Town/City- Amritsar, P.O. - G.N.D.U Campus, Distt. - Amritsar- 143005, Punjab submitted an application for grant of recognition by NRC, NCTE, Jaipur for conducting **"M.Ed."** Course with an annual intake of **35 (Thirty Five only)** seats in the name of **Guru Nanak Dev University, Village/Town/City- Amritsar, P.O. - G.N.D.U Campus, Distt.- Amritsar- 143005, Punjab.**

As per rules and Regulations of NCTE, FDRs submitted by the institution in respect of the Endowment and Reserve Fund for the said course must be operated jointly by the authorized representative of the management and an officer of the Regional Committee concerned. However the institution has sought the FDRs earlier prepared by the institution and thereby submitted the new FDRs.

In this regard it is to inform you that the Regional Director is an authorized officer from the side of Northern Regional Committee, NCTE, therefore, you are requested to take in to consideration the above authorization required for conversion of following FDRs in the joint operation between of Management of the institution & Regional Director, NRC, NCTE, Jaipur.

S. No.	Name of the Bank	FDR No.	Amount
1.	State Bank of Patiala	CTD/1 705917	5,00000/-
2.	State Bank of Patiala	CTD/1 705916	3,00000/-

It may be ensured by the concerned bank that only an authorized person of the management shall operate the joint account of the FDRs with the RD, NRC by submitting the authorized resolution of the society/trust and also by completing the required legal formalities as per rules & regulations of the concerned bank. The concerned bank shall, thereafter, after verifying the relevant required records of the management of the institution shall convert the FDRs into joint account on the basis of the above authorization of the RD, NRC, and Jaipur.

---2--

20/198, Kaveri Path, Near Mansarover Stadium, Mansarover , Jaipur -302 020 (Rajasthan)
Phone : (0141)-2390064, 2390210, Fax : 0141-2390087
E-mail. : nrc@ncte-india.org, Website : www.ncte-india.org

Therefore, you are requested to make the FDRs into joint account of the authorized representative of the institution and Regional Director and after conversion of the same into joint account submit a certificate (as per Form "A") to the institution after taking into consideration the above authority letter by the bank so as to make the FDRs into joint account between management of the institution and the RD, NRC.

20/6/12

Regional Director

Copy to:-

The Secretary/Correspondent, **Guru Nanak Dev University,** **Village/Town/City- Amritsar, P.O. - G.N.D.U Campus,** **Distt. - Amritsar- 143005, Punjab.**	After making necessary formalities by the bank, FDRs may be kept in record by the institution and a photocopy alongwith a bank certificate as per Form "A" shall be forwarded to this office for further necessary action.

भारतीय भेषजी परिषद्

(भेषजी अधिनियम, 1948 के अंतर्गत स्थापित)

PHARMACY COUNCIL OF INDIA

(CONSTITUTED UNDER THE PHARMACY ACT, 1948)

तार Telegram : 'फार्मकाउंसिल' 'FARMCOUNCIL'
दूरभाष Telephone : 23239184, 23231348
फैक्स Fax : 011-23239184
ई-मेल E-Mail : pci@ndb.vsnl.net.in
इंटरनेट Website : www.pci.nic.in

संयुक्त परिषद् भवन Combined Councils' Building
कोटला रोड Kotla Road
ऐवान-ए-गालिब मार्ग Aiwan-E-Ghalib Marg
पोस्ट बॉक्स नं. 7020 Post Box No. 7020
नई दिल्ली - 110002 New Delhi - 110002

Ref.No.32-206/2009-PCI | 10893-98

Regd.

25 JUN 2010

The Principal
Department of Pharmaceutical Sciences
Guru Nanak Dev Univeristy,
Amritsar-143005 (Punjab).

The Registrar
Department of Pharmaceutical
Sciences Guru Nanak Dev
Univeristy,
Amritsar-143005 (Punjab).

Sub: Consideration of approval of B.Pharm course & examinations.

Ref: Your letter No.32-206/2009-PCI/24096-97 dt. 25.11.2009.

Sir

With reference to subject cited above, I am directed to inform that the Executive Committee decision conveyed vide Council's letter under reference stands ratified by 85th/C of PCI held in April, 2010.

Yours faithfully

(ARCHNA MUDGAL)
Registrar-cum-Secretary

...2

495.	32-317/2009-PCI Lovely Institute of Technology (Pharmacy), Near Chehru Railway Bridge, Phagwara, Distt. Kapurthala	60	2013-2014	The Registrar Punjab Technical University, REC Campus, Amritsar Byepass, G.T. Road, Ladowali Road, Jalandhar – 144 001 (Punjab). Upto 2007-2008. The Registrar Lovely Professional University, Jalandhar-Ludhiana ,G.TT. Road, Near Chehru Railway Bridge, Phagwara – 144 402 Distt. Kapurthala (Punjab) From 2008-2009.	- Subject to submission of affiliation fee per annum to the PCI within the stipulated time period. - It was further decided to instruct the institution to submit duly attested affidavit to the effect that - • Institute will restrict admission to sanctioned intake by PCI & will not admit students beyond sanctioned intake without prior approval of the PCI. • Institute will not start additional Pharmacy Programme/start 2nd / evening / additional shift in the existing pharmacy institution. • Institution shall comply with statutory norms and standards prescribed by the PCI from time to time. • The entire consequences of failure to comply with the undertaking shall rest on the institution and PCI in no way shall be responsible for the same.
561.	32-206/2009-PCI Department of Pharmaceutical Sciences Guru Nanak Dev University, Amritsar-143005	60 (Raise in admns. from 30 to 60 from 2010-2011 a.s.)	2013-2014	The Registrar Guru Nanak Dev University, Amritsar-143 005	- Subject to submission of affiliation fee per annum to the PCI within the stipulated time period. - It was further decided to instruct the institution to submit duly attested affidavit to the effect that - • Institute will restrict admission to sanctioned intake by PCI & will not admit students beyond sanctioned intake without prior approval of the PCI. • Institute will not start additional Pharmacy Programme/start 2nd / evening / additional shift in the existing pharmacy institution. • Institution shall comply with statutory norms and standards prescribed by the PCI from time to time. • The entire consequences of failure to comply with the undertaking shall rest on the institution and PCI in no way shall be responsible for the same.

Grams : ALINDIABAR, New Delhi
E-mail : info@barcouncilofindia.org
Website : www.barcouncilofindia.org

Tel. :(91) 011-4922 5000
Fax :(91) 011-4922 5011

भारतीय विधिज्ञ परिषद्
BAR COUNCIL OF INDIA

जे. आर. शर्मा
कार्यकारी सचिव
J. R. SHARMA
MA, B.Ed., LL.B., LL.M., MBA
Officiating Secretary

21, राउज ऐवन्यू इन्सटीट्यूशनल एरिया
नई दिल्ली - 110 002
21, Rouse Avenue Institutional Area
New Delhi - 110 002

BCI:D: 1465/2012(LE. Mtg. 7th July, 2012) Dated : 18.7.2012

Regd. A.D.

The Registrar,
Guru Nanak Dev University,
Amritsar – 143 005
Punjab

Sub.: Temporary approval of affiliation of Department of Law, Guru Nanak Dev University, Amritsar for three year LLB law course.

Sir,

Legal Education Committee at its meeting held on 7th July, 2012 considered the inspection report of the above mentioned college and Committee made the following recommendations:-

The Legal Education Committee considered the inspection report submitted by the inspection team of the Bar Council of India. After consideration, Committee is of the view that extension of temporary approval of affiliation be granted to Department of Law, Guru Nanak Dev University, Amritsar for imparting three year LLB course with intake of three sections of 60 students in each section for a period of three years from 2012-13 to 2014-2015 subject to the following conditions.

1. The college management is directed to establish the Legal Aid Centre as per Clause-11, Schedule-III of Rule-11 of the Part-IV of the Legal Education Rules – 2008.

2. The institution is directed to upgrade the library by investing Rs. 50,000/- per year per stream.

3. Subject to further condition that teaching staff should be paid at least U. G. C. scale by Cheque.

4. Institute should submit affidavit in the compliance to the above conditions within three months.

The above recommendations were considered by the Bar Council of India at its meeting held on 8th July, 2012 and accepted the same.

College authorities are also required to apply to the Bar Council of India for further extension of approval of affiliation six months in advance before expiry of the period of approval of affiliation granted by the Bar Council of India i.e. on or before 31st December, 2014 failing which a late fee will be charged.

Yours Sincerely,

(J. R. Sharma)
Secretary

Copy to :

1. The Principal
   Department of Law
   Guru Nanak Dev University,
   Amritsar – 143 005
   Punjab

2. The Secretary,
   Bar Council of Punjab & Haryana
   Law, Bhawan, Dakshin Marg
   Sector – 37A, Near Batra Theater
   Chandigarh

Encl : as above

SPEED POST

वास्तुकला परिषद्
Council of Architecture

वास्तुविद अधिनियम, 1972 के अंतर्गत भारत सरकार का एक स्वायत्त सांविधिक निकाय
(An Autonomous statutory body of Govt. of India, under the Architects Act, 1972)

Ref: CA/5/Academic-PJ01
February 22, 2010

EXTENSION OF APPROVAL

1. The Registrar
Guru Nanak Dev University
AMRITSAR-143 005 (Punjab)
Tel. (O): 0183-2258855, 2258802
Fax: 0183-2258819 & 2258820

2. The Head
Department of Architecture
Guru Nanak Dev University
AMRITSAR-143 005 (Punjab)
Tel. (O): 0183-2258802-09, 2450601-14
Fax: 0183-2258819 & 2258820

Sub: Extension of approval to ***PJ01- Department of Architecture, Guru Nanak Dev University, Amritsar (Punjab)***, to conduct of 5 year full-time **Bachelor of Architecture Degree Course.**

***

Dear Sir,

The Executive Committee of Council of Architecture (COA) at its 103rd meeting held on 2nd January, 2010 has decided that Council will inspect an institution at an interval of 5 years of its earlier inspections and visit to institution which are due for inspection for present academic session i.e. academic session 2010-2011 be not inspected. Further, the respective institutions are given recognition/extension of approval, on the basis of forms B & C with the existing intake, till they complete their five years since the last inspection.

2. Further the Executive Committee also decided that every architectural institution is required to submit information in form-B & C every year. Therefore, you are requested to submit forms B & C for the academic session 2010-2011. Further, an Institution is also required to submit information in the prescribed proforma being sent separately, for displaying the same on the CoA website & any such other medium that the Council may deem fit from time to time.

3. Please note that if any information supplied by the institution is found to be at variance with the actual situation on ground, the council reserves the right to withdraw the above permission sanctioned intake irrespective of the period of approval and/or take such other action against the institution as the Council may deem fit.

4. Your institution was last inspected on *24th & 25th February 2009* for extension of approval to the existing B.Arch. degree course. I am directed to state that the Executive Committee is pleased to accord ***recognition/extension of approval*** to your institution as details given below:

NAME OF THE FULL-TIME COURSE	DURATION	LEVEL OF COURSE	EXISTING INTAKE WITH APPROVAL PERIOD	PERIOD OF APPROVAL WITH INTAKE
Bachelor of Architecture	Five Years Full-Time	Under Graduate Degree Course	40 2009-2010	40 2010-2011, 2011-2012, 2012-2013 & 2013-2014

5. The institution must follow the *"Council of Architecture – Minimum Standards of Architectural Education 1983 & 2008"*

Contd.. P/2

India Habitat Centre, Core - 6A, 1st Floor, Lodhi Road, New Delhi -110 003 India
Ph.: 91-11-24648415, 24654172-73, Fax : 91-11-24647746, Email: coa@ndf.vsnl.net.in, web: www.coa.gov.in

6. The above mentioned intake includes admissions under all categories as per the reservation policy of the Central/State Governments. However, admissions under the "***Supernumerary***" quota for Government of India nominees shall be over and above the CoA sanctioned total intake for a particular Academic Year.

7. Please note that as per the above referred Minimum Standards (i) no candidate, who has less than 50% marks in aggregate, shall be admitted to the architecture course unless he/she has passed an examination at the end of the new 10+2 scheme of Senior School Certificate Examination or equivalent with Mathematics as subjects of examination at the 10+2 level *or* (ii) 10+3 Diploma (any stream) recognised by Central/ State Governments with 50% aggregate marks *or* (iii) International Baccalaureate Diploma, after 10 years of schooling, with not less than 50% marks in aggregate and with Mathematics as compulsory subject of examination.

8. In addition to the above, the admissions further shall be subject to the candidates passing an aptitude test in architecture. It is advisable that your Institution admit students in the 1st year of 5 year B.Arch. degree course on the basis of marks obtained in any of the above said eligibility qualification and the marks scored in National Aptitude Test in Architecture (NATA) administered by CoA.

9. Adequate architecture teaching faculty are to be recruited as per the Minimum qualifications, experience and structure for teaching posts in a degree level architectural institution as prescribed in *Appendix-B1* of the Minimum Standards under reference. Your Institution is requested to adopt these Minimum Standards relating to Duration and Stages of the Course, Admission to the Architecture Course, Courses and periods of Studies, Standards of staff, equipment, accommodation, training and other facilities for technical education and Sanctions for imparting recognized architectural education under the Architects Act, 1972.

10. Please note that the Interview Board or Selection Committee etc. set up for recruitment(s)/promotion(s) in respect of architecture teaching faculty positions shall have a representative of the CoA. The said CoA representative will act as a full-fledged Member of the Interview Board or Selection Committee and help in scrutinizing the qualification, experience and other relevant details of the applicants for selection of suitable candidates. Recruitments or Promotions made to architecture teaching faculty positions in the Institution without the involvement of a CoA representative is not acceptable to the CoA. Please also note that the Head as well as other architecture teaching faculty of your Institution should have valid registration under the Architects Act, 1972 with the CoA.

Yours faithfully,

Vinod Kumar

Vinod Kumar
Registrar

CC: 1. The Secretary : For information, please.
Higher & Technical Education
Govt. of Punjab
Mini Secretariat, Sector-9
Chandigarh-160 036

2. The Director : For information, please.
Directorate of Technical Education
& Industrial Training
Government of Punjab, Sector 36-A
Chandigarh-160 036

3. The Vice Chancellor : For information, please.
Guru Nanak Dev University
AMRITSAR-143 005 (Punjab)

4. The Dean :
Faculty of Physical Planning & Architecture For information, please.
Guru Nanak Dev University
AMRITSAR-143 005 (Punjab)