Fluorescence Microscope with all Accessories

1. The system must be an integrated unit with a digital motorized inverted microscope for Bright Field, Phase Contrast, **DIC (Differential interference contrast)** and Florescence with Live Cell imaging Facility(On stage Incubator)., with highest quality performance in sensitivity and reproducibility.

2. System must have dual cameras (one monochrome and one color CCD/CMOS) with them either embedded within the system or having two active side or top ports for attaching the cameras without compromising the slot for light port.The Digital Monochrome high resolution, camera must be of **5 mega Pixel or higher for high sensitivity**. The digital color high resolution camera must be with atleast **12Mega pixel or higher for high sensitivity imaging**, both the camera should be used for live cell imaging in Bright Field and Fluorescence application.

3. System Must have motorized X-Y scanning stage with SBS-recommended microplate holder for holding all ranges of 96 and 384 well format plates and accessory vessels T25, T75 flask, 12/24/48 well plates, glass slide, petri plates, chambered slides) with lock down holders to fix samples in place for long scans and live cell Imaging

4. System either can have a eyepiece with a 10X with FOV of atleast 22 mm or better OR it must have LCD screen system with high resolution touch screening for automatic viewing.

5. Illumination: High Intensity uniform or adjustable LED transmitted light illumination With at least> 40,000 hrs life.

6. Objectives: Suitable long working distance objectives for Bright field (BF)/ Phase contrast (Ph) and Fluorescence (FL) application: 10X (NA : 0.25 or better) and 20X (NA:0.40 or better)- BF/Ph/ FL, *40X*(NA: 0.65 or better), and 100X (NA: 1.40 or better); 60X, 100X must be for with oil- BF/FI application.

7. Condenser: Atleast a motorized universal turret long working condenser with 4or more position turret.

8. Fluorescence filters: Interchangeable, atleast--4-position **or more** motorized filters with 100W/130W Mercury/Metal halide illumination/ preferably LED light cube

9. Nose piece must have a motorized objective nosepiece with atleast5 or more positions suitable for all microscopic techniques.

10. Excitation and Emission narrow band pass filters or Integrated cubes: GFP, DAPI, RFP, TRITC easilyremovable and Installed by user without any calibration required.

11. Focus: Automated and manual with motorized Z focusing and annotation.

12. Acquisition: Image and Video options should be there.

13. System should have an automated scanning and Imaging capability in defined regions (eg. Fieldsand wells) in different vessels options with simultaneous scanning/sequential Imaging for atleast4 fluorescence, Phase contrast and BF.

14. System must be able to move rapidly and automatically between low-magnification, single-field mode and high-magnification scan mode to easily define and capture the area of interest.

15. Must have an accompanying Image analysis software with free downloadable updates andupgrade versions This should have the options for fully controlling the microscope, Imagestitching and tiling, image overlay, automated cell counting, motorized Z-stacking, automaticacquisition of images, time lapse livecell imaging, controlling an onstage Incubation system, Image outputs atleastin jpg, tif, bmp andpngetc

16. Branded Computer (DELL/HP/Lenovo): i7, 16 GB RAM, 2 TB hard disk, Optical mouse, keyboard, DVD writer, atouch screen >21 inch or more high resolution color monitor (touch screen preferred), 1 GB NVIDIAGraphic Card, Multimedia kit, 64 bit Windows as (atleast 7 and above). Options for USB andnetworking support and storage. Duplex multifunctional laser printer.

17. Must have an online UPS (5KVA/10 KVA) with battery back up 30Ah bank. to support the entire system and onstage incubator . On stage Incubation system Ideal for a long-term monitoring with a fully integrated onstage cell culture Incubator with temperature (ambient to 40C), humidity (atleastupto 80% at 37C), CO2 (0- 20%), O2 (0 to ambient) control - normoxlc and hypoxic conditions Must support time lapse Imaging at high resolution and must support most vessels as mentioned in point 3.In addition Offline UPS/Inverter.
18. Aluminium partition in the laboratory (200sq feet) with Air conditioner to keep the microscope, wiring, switch board, Fan, MCB etc. with fitting .

19. Company must be ISO and CE certified to ensure better system quality.

20. Microscope, Camera and software must be supplied from same manufacturer for better compatibility and upgradability option