Technical Specification

For Macro/Mono Zoom fluorescence microscope for large specimen

S.NO	*DESCRIPTION*	*COMPLIED / NOT COMPLIED*	*CATALOGUE.* **PG.NO**	*REMARKS IF ANY*
1.	Mono to Macro-zoom variable magnification (**Single beam light path)**			
2.	System with built-in aperture-iris diaphragm.			
3.	Stereo observation and bright fluorescence observation as well as imaging should be possible with the system.			
4.	Should be capable of imaging whole organisms such as zebrafish larvae, mouse brain slices, and mouse embryos at low magnification to the detailed observation of gene expression at the cellular level at high magnification:			
5.	**Zoom Ratio**: 1:10 or better, Desired Magnification: up to 200X or above 250X with dedicated Objectives. Microscope magnification should be able to achieve a continuous macro zoom of a minimum 6.5x and a maximum of 125x or better with 2X objective.			
6.	Tilting / Ergonomic Trinocular Head capable of switching between standard and stereo observation with Lightpath selection 100% eyepiece and 100% camera. The tilting trinocular head should have a variable tilting angle range of 0˚ to 20˚ or better.			
7.	Plan Apochromatic objective 1X NA>0.25 WD>60mm			
8.	2X /2.3X plan apochromatic objective with a correction collar allowing aberration correction for imaging thick tissues for 3D, Z Stack, and time-lapse imaging.			
9.	The microscope stand should be upgradable to motorized focus column.			
10.	Objective switching should be possible without removing an objective from the microscope (Mechanical revolving noes piece).			
11.	**Illumination**: Brightfield transmitted illumination for transparent specimens using bright LED. Life Span of the LED should be more than 55,000 hrs.			
12.	Built-in turret for different types of application: Bright Field, Darkfield, Polarization, Oblique Illumination, with an ability to adjust adequate contrast to view transparent embryos with different types of light Contrast. Darkfield illumination should be possible & Adjustable oblique illumination is preferred.			

13.	White light LED illumination for fluorescence imaging with minimum 4-position filter turret or better.			
14.	Fluorescence filter: Bandpass fluorescence filter for UV, GFP, and RFP with 32 mm diameter bigger filter for high contrast and Signal to Noise ratio/.			
15.	Empty fluorescence turret positions to add with empty filter cube for future up-gradation of Fluorescence Application			
16.	White light LED illumination should provide a broad spectrum of illumination, covering the excitation bands of common fluorophores from DAPI to Cy5, LED Lamp should have a minimum lifetime 20000 hrs or better,			
17.	Lamp Intensity control 0-100% in 1% steps, TTL and USB and imaging software control. The light should be able to be switch between three LEDs (365, 477/488nm & 561nm with software, touchpad and external trigger for three colour fast sequential imaging of large live samples and tissues.			
18.	**Camera**: Monochrome cooled 6 Mega Pixel or better CCD/CMOS camera with minimum pixel size 4.54 x 4.54 µm or better, Sensor Cooling -12 degree Celsius below ambient with minimum 75% Peak Quantum Efficiency. Digital interface USB 3.0 or better.			
19.	**Software:** The image analysis software should be able to control all the functions of the camera. Automated Multichannel Image acquisition, time-lapse at a specified interval, Basic measurement, etc. The software should have the capability to capture multi-channel fluorescence. The imaging software should be able to control the LED light source for intensity and wavelength switching and light shutter. The imaging software should also be able to control future upgradable motorized functions such as Motorized focus and automated multi-channel time-lapse imaging and should control external triggering devices such as Perfusion system/peristaltic pump/microfluidic devices through DAQ card.			
20.	**Computer**: Suitable computer- i5/i7 processor with 16 GB RAM /1TB HDD, 4GB graphic card, windows 10, 30" Monitor, Keyboard & Mouse.			

(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number (comply/not comply) for the Above points with document proof as required. Failing which bidders will be technically disqualified)