

**Annexure -I**

**Item: Research microscope with Imaging software and Desktop PC**

Main body	Upright Stand with LED transmitted light. <ul style="list-style-type: none"> <li>- Coarse and fine focusing knobs on both left and right side; focus stop adjustment</li> <li>- Integrated Power Unit</li> <li>- 24mm Z focus range</li> <li>- Specimen holder for one-hand operation, spring lever left</li> </ul>
Binocular Phototube	Binocular phototube, 30°/23 (50:50 splitting ratio) The microscope stand should have provision to attach a camera without replacement of the Binocular tube.
Eyepiece	10x mag, 23mm FOV or better, with ± 5 diopter & rubber eyecups
Nosepiece	Revolving 6 position coded nosepiece with anti-collision mechanism.
Transmitted Illumination	10W LED Illumination. Light manager – for Uniform brightness of light intensity for all magnifications without the need to change the intensity manually.
Contrasting Techniques	Brightfield. Must be upgradable to Phase Contrast, Darkfield, DIC, Plas-DIC
ECO Mode	Automatic switch-off of Illumination if the microscope is not in use for more than 15 minutes – Energy saving
Smart Documentation	Snap button on microscope stand for easy image capturing without the need of computer. The microscope should have memory card slot to save images.
Stage	Mechanical stage 75 × 50mm (hard coated anodized surface, right drive, extendable and with torque setting) with dual slide holder for one hand operation
Objectives	Plan-achromat 5x/0.12 Plan-achromat 10x/0.25 Plan-achromat 20x/0.45 Plan-achromat 40x/0.65
Camera With Adaptor	Camera should be from the same manufacturer/branded with following specification 5 megapixel CMOS camera Pixel Count : 2560(H) x 1920(V) = 5 Mpixel Pixel Size : 2.2 x 2.2 µm Sensor Size : 1/2.5" (diagonal 7.1mm) Exposure time : 100µs - 2s Live Image : 15fpsat full resolution Interface : USB3.0
Software	<b><u>Operational software</u></b> <ul style="list-style-type: none"> <li>- Software should be capable of Image acquisition with b/w, rgb, high-resolution and high-sensitivity cameras, b/w images with up to 16 bits, color images with up to 3 x 16 bits.</li> <li>- Store images in BMP, GIF, JPG, PNG, TIFF, WDP, WMP image formats</li> <li>- Should have standard image processing and editing tools, as well as measurement tools like length, Area, contour-based measurement data (area, box, perimeter, gray values), angle</li> </ul> Following features must be available with software <ul style="list-style-type: none"> <li>- <b>Video recorder functionality</b></li> <li>- <b>HDR - Acquisition of High Dynamic Range Images</b></li> <li>- <b>Panorama, Extended Depth of Focus</b></li> <li>- <b>Report creation and modification of Microsoft Word report templates</b></li> </ul> <b><u>IMAGE ANALYSIS MODULE must have provision for</u></b>

	<p>Assistant for creation of an automatic measurement program.  Segmentation, object separation and masks.  Geometrical and intensity-measurements. Data display in table, list style and scatterplot / histogram.  Hierarchical and zone-of influence (ZOI) measurements.  Batch processing functions to generate cumulated data lists or images with embedded measurement data.</p>
<p>PC for microscope</p>	<p>Suitable Branded Desktop PC (i5 processor with 16 GB RAM and 1 TB hard disk) must be a supplied along with microscope with licensed OS</p>
<p>Other terms and conditions:</p>	<ul style="list-style-type: none"> <li>• A minimum of three-years warranty should be provided for the complete system along with PC</li> <li>• At the time of installation, trained service engineer should provide complete and detailed operation of the system along with its software and minor maintenance and training.</li> <li>• Calibration Stage Micrometer with Certification should be provided with the microscope</li> </ul>