

**SPECIFICATION FOR MOTORIZED UPRIGHT MICROSCOPE WITH KARYOTYPING AND WHOLE SLIDE IMAGING SOFTWARE**

S.No	Description	Specification
1	General Specifications	System should consist of upright manual/motorized microscope with images acquisition unit and workstation computer with data collection & processing software modules
2	Motorized upright microscope	<ol style="list-style-type: none"> <li>1. Motorized research microscope stand 10nm or better Z-resolution, with adjustable height stop and torque of focusing. The stand should have inbuilt TFT monitor to display all microscope parameters and controls including the motorized functions.</li> <li>2. Revolving nosepiece of minimum 6 position with inward tilt.</li> <li>3. Objectives for i) 4X Plan Achromat, ii) 10X Plan Achromat, iii) 20X Plan Achromat, iv) 40X/0.75 Plan Achromat, v) 60/63X/1.4 oil Plan Achromat, vi) 100x/1.4 oil Plan Achromat</li> <li>4. Binocular phototube with inclination between 15° and 25° (inclusive) and a high field of view of 25 mm.</li> <li>5. Dioptre setting on both the eye piece of 10X/25mm</li> <li>6. Achromat Aplanatic Condenser with neutral density &amp; Blue Filters</li> <li>7. Motorized scanning stage for X, Y &amp; Z movements of 8 slide at a time</li> <li>8. Power supply for 100W halogen lamp stabilized for transmitted light path</li> <li>9. All necessary interfaces (TCP/IP interfaces, RS232 and USB for smooth complete microscope system and its controlling via workstation</li> <li>10. Should have option for epi-fluorescence attachment or upgradation</li> </ol>
3	Digital Camera	<ol style="list-style-type: none"> <li>1. 12 Bit High resolution Monochromatic Cooled Camera with resolution of 1360X 1024 pixels, 2/3" CCD chip size, pixel size of 6.45 μm X 6.45 μm, frame rate of 15 fps @ full resolution, full well capacity: 17000 e, exposure time of 80μs to 270 secs, USB interface – For Karyotyping and FISH</li> <li>2. 12 Bit High resolution Digital Colour CCD Camera with resolution of 1360X 1024 pixels, 2/3" CCD chip size, pixel size of 6.45 μm X 6.45 μm, frame rate of 15 fps @</li> </ol>

		<p>full resolution, full well capacity, exposure time of 80<math>\mu</math>s to 270 secs, USB interface – For Histopathology Whole Slide Image Capturing. If the same camera is supported for Karyotyping and FISH also then Monochromatic camera is optional.</p>
4	Data collection and processing unit	<p>Branded intel i7 10<sup>th</sup> generation or above, with 16 GB RAM, DVD Writer, 256 SSD + 1 TB HDD, 25" TFT Colour Monitor, Multimedia Kit Along with UPS and Colour Laser Printer.</p> <p>Software licenses should be institutional, valid for the lifetime of equipment and should include free upgrades whenever upgrades are available</p>
5	Karyotyping software	<p>Automated capturing of metaphase from at least 8 slides sequentially unattended.</p> <p>Image Enhancement with filter tools for banding enhancement, unlimited undo, processing steps list and any-time access to original image</p> <p>Chromosome separation tool – Automated, semi-automated and manual separation of chromosome</p> <p>Karyotyping – Automated and manual assignment of chromosome with Karyofoms library. Ideograms with different resolutions, flexible annotation function &amp; karyogram form editor</p>
6	Whole slide image capturing software	<p>Automated whole slide image capture in bright field from at least 8 slides sequentially unattended in 10X, 20X and 40X objectives.</p> <p>Automated Z focusing based on the slide in-between capturing.</p> <p>File should be exported in the format such as TIFF, JPGE and other frequently used format.</p>
7	Other applications to be supported	<ol style="list-style-type: none"> <li>1. FISH software</li> <li>2. Multicolour FISH</li> <li>3. Multicolour Chromosome Banding</li> <li>4. Comparative Genomic Hybridization</li> <li>5. Colour Karyotyping</li> <li>6. Telomere analysis</li> </ol>

8	Product Support	The product should ideally have 3 years of manufacturer-pledged complete warranty and 7 years of AMC. The manufacturer should support the product for minimum 10 years of operation. The supplier would be requires to provide comprehensive training to the CUP users on the instrument operation and data analysis and should provide similar training upon request subsequently
9	Power requirement	230V AC; 50Hz; 20A Standard make true online UPS with at least 3 hours of backup
10	FISH Software and Epi-fluorescent attachments	

The Quotation should be addressed to

**The DEAN – MEDICAL**

**Trichy SRM Medical College Hospital & Research Center,**

**SRM Nagar, Trichy – Chennai Highway,**

**Irungalur Village, Tiruchirapalli – 621105**

**Tamil Nadu, India.**

**E-Mail: dean@mc.srmtrichy.edu.in**