

Technical Specification - Upright Optical Microscope			
Sl.No	Item	Description	Compliance
1	Microscope frame	Frame with LED Transmitted Light and Incident Light axis stand with mechanical aperture and fixed field diaphragm, intensity dial for TL and IL	Yes/No
2	Focus	Capable of manual Z drive fine and coarse focusing with 1 & 4-micron resolution. Objective and sample protection through mechanical upper focus stops and torque adjustment.	Yes/No
3	Revolving nose piece	Objective nosepiece for placing five objectives.	Yes/No
4	Illuminator	White LED light for Reflected light and Transmitted light illumination suitable for observation of BF/DF/POL/DIC or Oblique.	Yes/No
5	Reflected light contrast methods	For Bright field, Dark Field, Polarizer, DIC/ Oblique.	Yes/No
6	Transmitted light contrast methods	Bright field	Yes/No
7	Observation tube	Phototube with 30° viewing angle, with interpapillary adjustment 55-75 mm. Beam splitter positions vis/phot: 50%:50%, fixed. Eyepieces - 10x/22mm Field of View	Yes/No
8	Mechanical stage	Movable range 150 (X) mm x 100(Y) mm with suitable 6-inch wafer holder plate and Glass stage plate with suitable wafer holder. Stage should rotate	Yes/No
9	Objectives	Ø Objective 5X/0.15 WD 12mm or better Ø Objective 10X/0.3 WD 6.5mm Ø Objective 20X/0.45 WD 3mm Ø Objective 50X/0.80 WD 1mm Ø Objective 100X/0.9 WD 1mm	Yes/No
10	Digital colour camera	Minimum 5 MP HD digital color camera with CMOS sensor. High definition live image 1920x1080p, speed 60fps and Full HD MJPG Video recording with 30fps	Yes/No

  
**परियोजना समन्वयक**  
**Project Co-ordinator**  
**विद्युत इंजीनियरिंग विभाग**  
**Department of Electrical Engineering**  
**भारतीय प्रौद्योगिकी संस्थान मद्रास**  
**INDIAN INSTITUTE OF TECHNOLOGY MADRAS**  
**चेन्नै / Chennai - 600 036 भारत / India**

11	Basic Measurement Software	Interactive Measurement software for calibrated measurement parameters such as length, area, perimeter, diameter and angles. Should be capable of measuring the vector distance between points, determining angle, width and height and calculating areas and mean intensity. Also, should have a facility for report generation and micron marker.	Yes/No
12	Dust Protection cover	Mandatory	Yes/No
13	System Integration	Optical microscope, Digital Camera and Software should be from the same manufacturer for better synchronization and image quality.	Yes/No
14	Manual	Standard electronic & hard copy	Yes/No
15	Warranty	One year standard warranty	Yes/No
16	Shipping terms	DAP at IIT Madras site	Yes/No
17	Facility details	Detailed information regarding facilities should be provided	Yes/No

### **Important Notes:**

1. Please provide complete specification of the system along with utilities connection and range. We may reject the tender if a proper specification is not provided OR if the outlay/design proposed is not found satisfactory.
2. Please provide photographs, drawings and technical specifications of the equipment.
3. Please provide at least 3 references of laboratories (in India) where you have installed similar systems with full specification of the systems. We may reject the tender if we find the reference systems unsatisfactory.
4. Please provide details of after sales service. The supplier should have service centre or facility with complete infrastructure in India to handle major repair of the system. Critical spares should be available off the shelf in Indian offices. In case of a break down, maintenance and replacement of parts should be possible at purchaser's site. We may reject the quote if the after-sales service details or feedback from previous purchasers are found unsatisfactory.
5. Please provide separate technical and financial bids in sealed envelopes.
6. Please mark tender number on top of the cover envelope.
7. Provide list of mandatory and optional spares along with wear & tear consumables list.



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