

Technical Bid opening meeting on 21.09.2019 at 4.00 p.m.(please refer point No. vii)

DEPARTMENT OF CHEMISTRY

Indian Institute of Technology Madras, Chennai – 600036.

Technical Specification for Optical microscope

1. Camera:

- CMOS sensor
- Frame rate 30 – 50 fps
- Minimum resolution of 1600 x 1200

2. Stage movement (X, Y and Z axis):

- Manual movement in X and Y direction
- Movement step size of 25 mm
- Stage rotation of 360° with minimum step size of 1°
- Z-axis movement minimum step size of 1 micron

3. Magnification:

- Magnification range from 100x-1000x
- Minimum working distance 2.5 cm and maximum working distance of 10 cm
- Hand held observation is needed
- Future upgradability needed in the same system
- Optical zoom is mandatory

4. Lens rotation:

- Lens to be tilted along with camera to 90°
- Minimum step size of tilting is 1°
- Lens mounts for adding custom camera
- Lens can be detachable and can be used separately

5. Lighting:

- Bright field lighting
- Dark field lighting
- MIX lighting
- Diffuse illumination
- Adjustable illumination
- Transmission lighting
- Polarization illumination
- DIC light
- Light shift
- 10000 lux LED and 40000 h lifetime

6. 3 D view:

- Depth composition
- Manual 3 D composition
- 3 D image comparison

- Saving format for 3D images
- 3 D profiling with line and surface roughness measurement

7. 2 D View:

2 D measurements, automatic edge detecting auto zoom and scaling, measurements such as distance, radius and angle needed

8. PC

Dedicated PC for the microscope with minimum storage of 500 GB, DVD-ROM attachment and other accessories is mandatory

