

**DEPARTMENT OF CHEMICAL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY DELHI**

NOTICE INVITING QUOTATIONS

November 19, 2012

Department of Chemical Engineering intends to procure an Optical Microscope as per the attached technical specifications. Interested vendors may send their "Technical Bid" and "Financial Bid" separately in two separate envelopes mentioning the same. The item for which the bid is should be mentioned clearly on the envelopes along with the tender number. The bids, as per the attached specifications, should be submitted latest by **26th November 2012** to:

Prof. S Basu
Head of the Department
Department of Chemical Engineering
Indian Institute of Technology Delhi
Hauz Khas, New Delhi - 110016
India

TERMS AND CONDITIONS:

1. Installation has to be done by the supplier at his own cost, manpower.
2. Training should be provided during the installation.
3. Indicate proof of being a genuine dealer for the brand you are quoting.
4. If there is any deviation from the above mentioned requirements, make sure to mention it clearly in your quotation.
5. Service facility: Supplier should mention about the possible service set up in India and how capable they are to provide after sales service.
6. The warranty should be a minimum of 3 years.
7. Mention the warranty / installation / insurance / freight terms clearly.
8. Provide a photocopy clearly indicating PAN/TIN number and sales tax registration details.
9. Please keep the Technical and Commercial Bid in different sealed envelopes mentioning the Subject, Ref. No. Due Date etc. (Tender will be rejected if Technical and Financial bids are not quoted separately).
10. Payment terms will be according to IIT Delhi rules.
11. IIT Delhi reserves right to accept/reject any or all quotations without assigning any reason.

For any queries, interested parties may contact Dr. Jayati Sarkar on 97177 01531, 011-26591163, email: jayati@chemical.iitd.ac.in.

TECHNICAL SPECIFICATIONS FOR OPTICAL MICROSCOPE:

Basic Microscopy System:-

- Research Microscope stand for reflected and transmitted light, 12V/100W illumination, with dovetail for interchangeable stages, with adjustable height knob, focus stop and torque adjustment, with ground plate. Power supply 90-250V (stabilized), 50/60Hz.
- 3-step focus drive for coarse, medium and fine focusing, focus torque adjustment and adjustable focus stop, with focus knobs
- Infinity corrected Harmonic Compensated (HC) Optical System
- Objective nosepiece, 6-fold with 25 mm. thread
- Circular Turret Type-4-fold illuminator for Reflected Light; with color-coded and centrable iris aperture and field diaphragm. Filter magazine for 4 light filters 32 mm diameter. Slots for polarizer/analyser
- Daylight filter
- Lamp housings with lamp mount for halogen lamp 12V 100W, with 1-lens collector and heat protection filter, mains cable 0.55m with 5 nos. 12V/ 100W halogen lamp
- XY-Stage Motorized stage with stage bracket, for RL & TL
- **Smart Move Control** for all microscopy hard-ware functions like XY and Z movement, with 4 freely programmable buttons to control microscope functions
- Documentation tube, with fixed viewing angle 30°, field of view 25, with 3 variable beam splitter positions: 100% eyepieces, 50% eyepieces:50% documentation port, 100% documentation port Two nos. Focusable & Adjustable Eyepiece 10x/22
- High Resolution Plan Achromat Universal Objective set - 10x/0.25 BD, 20x/0.40, 50x/0.75
- Special Long Working Distance objectives - 20x/0.35 with minimum free working distance 6.9 mm and 50x/0.50 with free working distance 8.2 mm or more
- IC objective prism set – complete for differential interference contrast
- Dust cover for complete set

OB # Digital Fire-wire Scientific camera System:-

- High-resolution firewire digital camera system with 3.1 Mpixels resolution (2048 x 1536) and max. scalable resolution with PC of 7 MPixels (3072 x 2304), Pixels size – 3.2 μ m x 3.2 μ m, Colour Filter – RGB (Bayer), Colour Depth : 30 bits, Exposure time - 107 μ sec – 2.0 sec, A/D converter: 10bit, Frame rate – 30 frames per sec, Image manager (Database) Software for PC, with PCI Interface Card, Fire Wire and firewire cable 4m; with C-mount 0.55x HC

OC # Image Analyzer Software

Software should be complete automatic and capable for Sophisticated measurements on individual features including size, shape, position, orientation and intensity parameters for multiple Individual features or particles Provides range of grey image processing methods to enhance image prior to analysis Perform threshold detection on colour and monochrome images Provides range of binary image processing methods to select features for analysis Allows user to modify, add, and delete selected features by manual image editing Allows a guard frame to be set to prevent errors in objects touching edge of image Shows a list of selected parameters for all features measured Uses measurement filtering to classify features for measurement Creates histograms to display the distribution of sizes and shapes Calculates a range of statistics for each parameter and for histograms Exports data to Excel to create user defined reports Analyses multiple images and accumulates data for them Uses Sequence Wizard to interactively establish setting of analysis.

- Microscope, camera and software should be from one source for best integration, best reproducible and repeatable results