

SCANNING ELECTRON MICROSCOPE FOR LIFE SCIENCES / UNDER PURSE SCHEME

Accelerating Voltage.

500V-30kV (or better)

Electron Source

Thermionic Tungsten

Probe Current

Stable high beam current for precision analysis upto 1pA - 2 μ A (or better)

Resolution

10nm or better at 3kV in HV mode (SE detector)

4.5nm or better at 30kV in LV mode (BSE detector)

3.0nm or better at 30 kV HV (SE detector)

3.0nm or better at 30kV in extended vacuum (SE detector)

Magnification

10x – 3, 00,000 (or better)

Stage

Movement facility for X=50mm or higher; Y=50mm or higher; Z=50mm or higher
with Tilt: 0-70⁰, Rotation= 360⁰ (continuous)

Vacuum System

Turbo Molecular Pump based ultra clean and fast vacuum system with following essential vacuum modes

1. High vacuum mode for conducting specimens
2. Low vacuum mode with chamber pressure upto 270 Pascals or better for non conducting specimens
3. Extended vacuum mode for biological samples with chamber pressure upto 2000 Pascals or better.

Chamber Size

Large size with at least 8 accessory ports

Detectors

1. Secondary Electron Detector for use in high vacuum mode
2. Secondary Electron Detector for Low Vacuum mode
3. Back scattered Electron Detector for use in high & low vacuum mode
4. SE and BSE detectors for extended vacuum mode
5. IR CCD Camera for Chamber viewing
6. Faraday cup and current meter for current measurement
7. Vacuum gauges to measure chamber and column pressure
8. Standard samples for verifying instrument resolution

System Control and Softwares

Latest branded CPU with high speed processors, RAM etc. , with preloaded Operating system & programmes. 2 x 19-inch high end TFT flat display, joystick and Manual user interface with all supporting softwares. Software for image analysis. BMP, JPEG, TIFF file formats.

Essential Accessories

- Online UPS (10kVA with minimum two hours backup)
- support kit
- specimen handling tool
- 20 spare Tungsten filaments
- Anti-vibration Table/ Platform
- Peltier Cooling Stage

Optionals

1. High performance Energy Dispersive X-rays Analysis System with Liquid Nitrogen Free (Peltier cooled) Silicon Drift Detectors of area 10 mm² or more. Quantitative detection of wide range of elements with guaranteed detection of elements such as C, N, O etc.
 - a. Detector Resolution: 133eV or better at MnK_a
 - b. Interface between EDS and SEM and all necessary softwares
2. STEM- Dry and Wet STEM
3. Sputter Coater with gold target, carbon coater
4. Cathodoluminescence detector

Terms & Conditions:

1. Instrument Specifications compliance certificate must be submitted alongwith the technical bid.
2. Warranty period atleast 3 years.
3. The spares of the instrument should be available for next 10 years atleast.
4. Training on site by the company engineers on SEM and all accessories.
5. Payment against installation, demonstration and satisfactory working of the Instrument.
6. F.O.R., G.N.D. University, Amritsar.
7. Supplier to provide all detailed information about instrument site preparation at least three months before the date of delivery of instrument.
8. The system should be compatible with common third party accessories and with provision for upgradability in future.
9. Operational manual (Soft &Hard Copy), full circuit diagrams to be provided alongwith.
10. Companies may quote for more than one model meeting the specifications.

11. Earnest money @ 2% of the cost of Instrument in the shape of demand draft in favor of Registrar, Guru Nanak Dev University, Amritsar.

12. Technical and financial bids should be submitted separately in sealed covers and enclosed in one sealed envelope and addressed to Dean, Faculty of Life Sciences, Guru Nanak Dev University, Amritsar-143005, Punjab.

(Gurcharan Kaur)
Dean, Faculty of Life Sciences