

**INDIAN INSTITUTE OF TECHNOLOGY ROPAR, RUPNAGAR-140001 (PUNJAB)
DEPARTMENT OF MECHANICAL ENGINEERING**

Dated: 4-2-2010

SUBJECT: N.I.Q. for purchase of scientific equipments

Sealed quotations are invited for the purchase of the following item. The equipments are to be installed at IIT Ropar (Roopnagar) Punjab. Delivery of the equipments shall be required within 1-2 months of placement of the purchase orders. The quotations should reach in the office of Dr. Harpreet Singh (Room No. 208, Mechanical Engineering Department) latest by 3:00 PM on February 22, 2010. The firms are requested to send offers for Technical and Commercial bids separately.

1. **Computer Controlled Scanning Electron Microscope alongwith Energy Dispersive Spectroscop (SEM/EDS) with Electron Gun compatible with both W and LaB6 filaments : One (1)**

Electron Source	Tungsten filament and LaB6
Resolution	3.0 nm or better both with LaB6 and W
Accelerating Voltage	200V to 30kV or better
Operation	High vacuum (10 ⁻⁴ torr or better) with variable pressure mode
Probe Current	Range 1pA to 2 uA or more
Magnification	10x to 3, 00,000x or better
Vacuum System	Should give ultra clean high vacuum using Turbo Molecular Pump. Variable pressure range for chamber must be 10-250 Pa or better
Stage Specification	5 axis motorized stage with movement facility for X = 80 mm, Y = 90 mm, Z = 5 – 30 mm or higher in each, Tilt = 0 to 90°, Rotation = 360° with minimum 7 accessory ports; Multiple specimen stage to accommodate samples of size up to 150 mm dia or more, Height: 75 mm or better
Detectors	1. Secondary Electron Detector for high vacuum mode 2. Solid state Back Scattered Electron Detector 3. Low Vacuum detector
EDS System	129 ev or better resolution Peltier Cooled EDS, capable of analyzing all the elements starting from boron and higher atomic numbers, related software both for qualitative and quantitative

	analysis including point, line and area mapping
Standards	Quote standards for the EDS System
Computer System	Two computers (HP or Dell) of latest consideration with colour Laser Printer
UPS	UPS capable of supporting both the main system and the chiller of branded (LIBERT or APC) company with 60 min. backup
Warranty	Three years comprehensive warranty with spares from the date of installation
Operator	The supplier will have to provide a highly skilled full-time operator for the SEM/EDS system for atleast three years from the date of installation of the system in the institute at ITS OWN COST. The operator shall work as an employee of the supplier, and the Institute shall bear no responsibility for his/her service liabilities
Accessories	<ol style="list-style-type: none"> 1. Gold Sputter coating unit 2. Carbon coating unit 3. IR-CCD Camera to view inside the chamber 4. Binocular optical microscope with magnification X 400 5. Two vacuum desiccators
Optional	
<u>Heating and Cooling Stage</u>	<u>Heating and cooling stages with temperature range should be quoted</u> as an option
EBS	<u>Should be quoted</u> as an option

Terms and Conditions:

1. The equipments should be supplied and installed at IIT Ropar (ROOPNAGAR) Punjab
2. The equipments may need to be shifted to new campus of IIT Ropar within three years of installation. The Suppliers should ensure that they could provide all the technical support for re-location of the equipments
3. The prices quoted should be inclusive of all taxes and CIF IIT Ropar
4. The quotation received after due date will not be considered
5. The Institute reserves the right to reject any quotation without assigning any reasons
6. The suppliers MUST support the quoted specifications with the help of original printed manuals of the equipments
7. The payment terms should be specified in the quotation clearly
8. The suppliers may mention any number of optional accessories in their quotes; however the same should be clearly distinguished from the main requirements along with their individual prices

9. The suppliers should supply service and operational manuals of the systems.
10. EMD of Rs. 2.0 Lakhs in the name of Registrar, IIT Ropar is to be deposited along with the quotation.
11. The quotations MUST include a detailed compliance report vis-à-vis required specifications.
12. The manufacturers should provide a performance guarantee certificate for all the specifications.
13. Validity of the quotations should be at least three months.
14. Indian Agency Commission if any should be specified separately.
15. Manufacturer's agent should provide an authorization certificate from the Principals.

(Mr. Lagvish Kumar)
Srivastava)

(Dr. Himanshu Tyagi)

(Dr. R.

(Dr. Harpreet Singh)
Jagdish Singh)

(Mr. S.D. Sharma)

(Mr.

(Dr. M.L. Singla)

(Dr. Ashwani Kumar)

(Prof. B.K. Dhindaw)