

***Tender Document***

***on***

***Procurement/Supply of for Scanning Electron Microscope  
with LN2 FREE EDS, Coater, & UPS for Mechanical  
Engineering Department***

Last date of submitting Tender Document:22/03/2019 by 3.00 p.m.



***Pathfinder for Excellence in Technical Education***



**NATIONAL INSTITUTE OF TECHNICAL  
TEACHERS' TRAINING AND RESEARCH,  
KOLKATA**

(Under Ministry of HRD, Government of India)

**Block –FC, Sector – III, Salt Lake City, Kolkata – 700 106**

**Tel: +91-33-23370479 /4125 Fax: +91-33-23376331**

**Website: <http://www.nittrkol.ac.in>**

**NOTICE INVITING TENDER**

Sealed tenders are invited from manufacturers or their authorized-business partners/marketing agents/service agents or dealers for Procurement/supply of Scanning Electron Microscope with LN2 FREE EDS, Coater, & UPS for Mechanical Engineering Department. Tender Paper (TP) will be available in the Institute website and CPP Portal, Govt. of India from 02/03/2019 to 22/03/2019. Bidders may submit their quotation latest by 3.00 p.m. on 22/03/2019 Sealed tender should contain quotations, EMD & tender fee (Demand Draft of Rs. 500/- i/f/o "Director, NITTR, Kolkata" payable at Kolkata) in three separate envelopes. Tenders will be opened at 5:00 p.m. on the same date.

Advt. No. 17/2018-19

Director



**NATIONAL INSTITUTE OF TECHNICAL  
TEACHERS' TRAINING AND RESEARCH  
(Under Ministry of HRD, Govt. of India) BLOCK  
FC, SECTOR III, SALT LAKE CITY,**

**KOLKATA- 700 106**

**TENDER NOTICE**

**ON**

**SUPPLY OF SCANNING ELECTRON MICROSCOPE WITH LN2 FREE EDS,  
COATER, & UPS FOR MECHANICAL ENGINEERING DEPARTMENT**

*Sealed tenders are invited in from the Manufacturers/ Bonafide Suppliers / Authorized Dealers for SUPPLY OF SUPPLY OF SCANNING ELECTRON MICROSCOPE WITH LN2 FREE EDS, COATER, & UPS FOR MECHANICAL ENGINEERING DEPARTMENT*

For the details please visit NITTTR website [www.nitttrkol.ac.in](http://www.nitttrkol.ac.in) and CPP Portal, Govt. of India . The tender documents can be downloaded from the website. The tender document is also obtainable from the office. The cost of Tender paper is Rs.500/- by way of Demand Draft drawn in favour of 'The Director, NITTTR, Kolkata' payable at Kolkata. The tender should be accompanied by DD/ Bank Guarantee of 4 % of estimated price as Earnest Money Deposit (EMD).

The Tender Documents with detailed requirements and other terms & conditions can be submitted as per the dates mentioned below:-

<b>Sale of Tender Document</b>	<b>Last Date &amp; Time of submission of Tenders</b>	<b>Tender opening at NITTTR, Kolkata</b>
<b>02 / 03/ 2019 to 22/ 03 /2019 (11:00 AM to 3:00 PM )</b>	<b>22/ 03 / 2019 Up to (3:00 PM)</b>	<b>22 / 03 / 2019 4.00 PM onwards</b>

**Advertisement No: 17/2018-19**

**NATIONAL INSTITUTE OF TECHNICAL TEACHERS'  
TRAINING AND RESEARCH, KOLKATA  
(Under Ministry of HRD, Govt. of India)  
BLOCK FC, SECTOR III, SALT LAKE CITY, KOLKATA-700 106**

TENDER NOTICE

ON

**SUPPLY OF SCANNING ELECTRON MICROSCOPE WITH LN2 FREE EDS,  
COATER, & UPS FOR MECHANICAL ENGINEERING DEPARTMENT**

Sealed tenders are invited in TWO BID FORMAT from the Manufacturers/Bonafide Suppliers/Authorized Dealers for SUPPLY OF *SCANNING ELECTRON MICROSCOPE WITH LN2 FREE EDS, COATER, & UPS* FOR MECHANICAL ENGINEERING DEPARTMENT. The two BID FORMAT are as follows (1) Part One- TECHNICAL BID giving detailed terms and conditions with documents mentioned in the tender document and (2) Part Two- FINANCIAL BID

Both Part One- TECHNICAL BID(Envelop-I) and Part Two- FINANCIAL BID(Envelop-II) in separate sealed covers which shall be contained within another main envelope mentioned "Advertisement No" and should mention SUPPLY OF VARIOUS EQUIPMENT/MACHINES/SOFTWARE FOR MECHANICAL ENGINEERING DEPARTMENT. Item wise bidding in the TWO BID SYSTEM will be accepted.

For the details please visit NITTTTR website [www.nittrkol.ac.in](http://www.nittrkol.ac.in) and CPP Portal Govt of India. The tender documents can be downloaded from the website. The tender document is also obtainable from the office. The cost of Tender Document is Rs 500/- by way of Demand Draft drawn in favour of 'The Director, NITTTTR, Kolkata' payable at Kolkata. The tender should be accompanied by DD/Bank Guarantee of 4% of estimated price as Earnest Money Deposit (EMD).

The Tender Documents with detailed requirement and other terms & conditions can be submitted as per the dates mentioned below:

Sale of Tender Document	Last date & Time of submission of Tenders	Tender opening (only Technical Bid) at NITTTTR, Kolkata
<b>02 / 03/ 2019 to 22/ 03 /2019 (11:00 AM to 3:00 PM )</b>	<b>22/ 03 / 2019 Up to (3:00 PM)</b>	<b>22 / 03 / 2019 4.00 PM onwards</b>

**Advt. No. 17/2018-19**

**DETAILED SPECIFICATION FOR Specification of Scanning Electron Microscope with LN2 FREE EDS, Coater, & UPS: (Estimated Rs. 95 Lakh) Qty:01**

<b>1. Electron Source</b>	Pre Centered/Pre Aligned Tungsten Filament
<b>2. Resolution</b>	<p><b>High Vacuum mode</b> 3 nm or better at 30KV 20 nm or better at 1KV</p> <p><b>Low Vacuum mode</b> 4 nm or better at 30 KV in BSE</p>
<b>3. Accelerating Voltage</b>	0.3KV to 30KV or better (continuous)
<b>4. Probe Current</b>	1 $\mu$ A or more
<b>5. Magnification</b>	5X to 3,00,000X or better
<b>6. Vacuum System</b>	10- 400 Pa or higher
<b>7. Stage Specification</b>	5 axis Fully Motorized, Eucentric / Compucentric Stage, X = 100 mm or higher, Y = 50 mm or higher, Z = 50 mm or higher, Fully motorized Tilt = -10 ° to 90° or better, Rotation = 360° (continuous).
<b>8. Specimen Size</b>	200 mm in diameter or higher
<b>9. Detectors &amp; Scanning Parameters</b>	<ol style="list-style-type: none"> <li>1. Dedicated and separate secondary electron detector for low vacuum/variable pressure mode.</li> <li>2. 5 segment solid state back scattered Electron detector for both high vacuum and low vacuum/ variable pressure mode.</li> <li>3. Separate secondary electron detector</li> <li>4. MIX (SE+BSE)</li> <li>5. Facilities for Scanning control, Image Storage, Image Processing and Detector control</li> <li>6. Auto gun control and gun alignment, auto bias and auto saturation of gun condition.</li> <li>7. Automatic / manual control of other features like focus, brightness and contrast etc.</li> <li>8. Manual user interface with knob control for focusing, stigmation, brightness and other SEM controls with manual joystick for stage movement</li> <li>9. High Vacuum to Low Vacuum or Low Vacuum to High Vacuum mode of operation should be controlled by software not mechanically.</li> <li>10. The entire range of Variable Pressure (10 to 400 Pa or More) must be controlled by a single aperture not by multiple change of aperture.</li> </ol>

	<ol style="list-style-type: none"> <li>11. Condenser Lens is preferable for adjustment the Probe Current (Low to High Range) without changing of aperture.</li> <li>12. The system must have suitable condenser and objective lens, also suitable objective lens aperture adjusted from outside both for imaging &amp; analysis.</li> <li>13. Evacuation or venting of the system for sample exchange should be without N<sub>2</sub> gas.</li> </ol>
<b>10. Image display &amp; Processing</b>	<ol style="list-style-type: none"> <li>1. Two 24- inch LED or higher</li> <li>2. Noise reduction by average or integration method</li> </ol>
<b>11. Image format</b>	BMP, JPEG or TIFF
<b>12. Computer systems with Color Printer</b>	<p>With CPU Minimum Intel Core i7 or better, 16GB RAM  Microsoft Window 10, 64-bit based, Mouse / Keyboard control,  Two separate computers must be provided for SEM and EDS systems separately  One standard black and white laser printer with 1200 dpi for data printing and one standard colour laser printer for elemental mapping</p>
<b>13. SEM System Disk Drives</b>	Hard disk: 4TB (2x2) or more, Mouse & Key board system control etc.
<b>14. Digital Store</b>	Excellent image storage capability with resolution 2048 x 2048 pixels or better.
<b>15. EDS (Energy Dispersive X-Ray Spectrometer)</b>	<ul style="list-style-type: none"> <li>• LN<sub>2</sub> free SDD detector, active area 30 mm<sup>2</sup> or higher with 129 eV resolution</li> <li>• Detection from Be (4) to Am (95)</li> <li>• Must have quantitative, qualitative analysis, mapping, Line scan, Point id , Area Analysis capabilities</li> <li>• Upgradable to WDS; EBSD</li> <li>• Complete with hardware and software.</li> </ul>
<b>16. Accessories:</b>	<ol style="list-style-type: none"> <li>1. Gold Coater – 1 no., Suitable vacuum operated Gold Coater with RP pump. The coater should have facility of changing the sputtering current and time.</li> <li>2. Chamber scope with IR illumination from same manufacturer</li> <li>3. Sample navigation system</li> <li>4. Adhesive Carbon Tape – 10 rolls,</li> <li>5. Filaments for SEM – 100 nos (in case of Tungsten),</li> <li>6. Aperture Set – 2 nos or more</li> <li>7. RP Oil – 2 Lit. or more</li> <li>8. CL aperture-10 set</li> <li>9. OL aperture-10 set</li> <li>10. Vacuum grease- 50 gm</li> <li>11. O-ring-1 set each</li> <li>12. Electron gun clean polishing paste-100 gm</li> <li>13. Other consumables required to run the instrument for three years (warranty period) to be quoted as standard supply along with instrument</li> <li>14. Chiller unit</li> <li>15. Dehumidifier</li> <li>16. Standard samples for calibrating spatial resolution and calibrating EDS</li> <li>17. Cross sectional sample holder</li> </ol>
<b>17. UPS</b>	At-least 5 KVA Online UPS with 1hr or more Battery Backups will be supplied by the bidder.
<b>18. Warranty</b>	<ul style="list-style-type: none"> <li>• The entire system Should be cover Three Years of Comprehensive warranty to cover all the defects in material, workmanship, consumables and all parts.</li> <li>• The warranty will come from the date of successful installation and commissioning</li> </ul>

	<ul style="list-style-type: none"> <li>• After expiry of warranty spares should be available for at least 10 years</li> <li>• After the expiry of Three years comprehensive warranty, Two Years Free AMC should be provided.</li> </ul>
<b>19. Year of Manufacturing</b>	Year of Manufacturing should be 2019
<b>20. Anti-vibration support</b>	Should have fully integrated self-levelling pneumatic vibration isolation
<b>21. Authorization letter</b>	Authorization letter from EDS manufacturer
<b>22. Installation and Training</b>	<ul style="list-style-type: none"> <li>• The quoted model or similar model must have at least 5 or more no of installations in India.</li> <li>• Training at NITTTR Kolkata for minimum of 4 weeks for free of cost</li> <li>• All maintenance, installation, user's handbook, kits, manuals, circuit diagram etc. are to be provided.</li> <li>• Detailed pre installation requirement must be furnished along with the offer.</li> <li>• The supplier should be provide detailed infrastructure requirements including civil, electrical, plumbing, special foundation, environment (temperature, vibration etc.) required workspace etc.</li> </ul>
<b>23. Delivery</b>	<p>Supplier has to deliver the consignment to NITTTR Kolkata .The offered price should inclusive of customs clearing charges, local transportation up to NITTTR Kolkata, and insurances charges up to NITTTR Kolkata. NITTTR Kolkata will only provide necessary documents for clearing, (like duty exemption certificate, authorization etc.), road permit, and customs duty at per actuals.</p> <p>Please note initially the customs duty needs to be paid by the vendor. However it can be reimbursed later on submission of actual documents (Bill of Entry etc.)</p>

**Total Estimated Price of Tender is Rs. 95, 00,000/- (Rupees Ninety Five Lakhs)**

**Other conditions**

Bidder should provide training of the system for minimum 3 days free of cost. Bidder must have supplied similar equipment to academic institutes.

Standard Warranty (at least 3 year)

**Installation, demonstration, training and operating manual (2 sets hard copy and one set CD), supported power adapter and software CD (if any).**

**TERMS & CONDITIONS**

**1. The quotation is divided into the two following parts:**

**A) TECHNICAL BID:**

This part should include

- Specification, Make & Model, Brochure
- Validity period of quote
- Payment terms (not value)
- Supporting papers: GST registration & Income Tax Certificates, Trade Licensed etc. (Details are given in the section C.7)

**B) FINANCIAL BID:**

To be considered only when Technical Quotation is accepted by NITTTR, Kolkata

This part should include :

- Specification, Make & Model
- Price (inclusive all taxes) – with back up of basic price (GST)
- Terms & Conditions (Comprehensive)

**C) Other terms and conditions :**

2. The bidder(s) should preferably be either manufacturer of base machine / equipment / tool or an authorized business partner / marketing agent / service agent (second preference) of the OEM. In case of authorized business partner / marketing agent / service agent, authorization certificate should be attached along with the tender. The brands / models / specifications mentioned are indicative. Equivalent higher configuration products may also be quoted.
3. The rate quoted must be F.O.B. NITTTR, KOLKATA inclusive of packing, forwarding etc GST insurance, if any must be indicated separately. Educational discount, if any should be indicated clearly. For imported items, Custom duty shall be indicated separately.
  - 3.1 All legal disputes shall be under the jurisdiction of the Kolkata Courts in the state of West Bengal.



- 3.2 Director, NITTTR,Kolkata reserves the right to accept or reject any or all the tenders without assigning any reason whatsoever and decision of the Director, NITTTR,Kolkata in the matter shall be final and binding.

NB: Only relevant information (s) need to be submitted/complied with along with quotation(s)

### **3. Earnest Money Deposit (EMD):**

- 3.1 “EMD at the rate of 4% of the estimated price” in the form of Crossed Account payee demand draft or fixed deposit receipt from commercial bank or Bank guarantee from a commercial bank drawn in favor of Director, NATIONAL INSTITUTE OF TECHNICAL TEACHERS’ TRAINING AND RESEARCH, KOLKATA on any scheduled bank at Kolkata shall be submitted along with the tender.
- 3.2 Tender without earnest money deposit shall be OUTRIGHT REJECTED. A model format of bank guarantee for furnishing EMD is enclosed in Annexure- A.
- 3.3 Forfeiture of EMD: EMD of a tenderer will be forfeited if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender. Further, if the successful tenderer fails to furnish the required performance security within the specified period, its EMD will be forfeited.
- 3.4 Refund of EMD: EMD furnished by all unsuccessful tenderers shall be returned to them without any interest whatsoever, at the earliest after expiry of the final tender validity period but not later than 30 days after conclusion of the contract. EMD of the successful tenderer shall be returned, without any interest whatsoever, after receipt of performance security from it as called for in the contract.
- 3.5 No EMD is required from bidders who are registered with (i) Central Purchase Organization (ii) NSIC, (iii) the concerned Ministry or Department, and (iv) similar other Organization as applicable.
- 3.6 EMD in the form of DD should be in a separate envelop superscripting “EMD”.
- 4. Each bidder shall submit only one tender.**
- 5. Validity of Tender:** Tender shall remain valid for a period not less than 3 months after the deadline date specified for submission.
- 6. Delivery Period:** Delivery period shall be 45 days from the date of issuing purchase order.
- 7. Submission of Documents:** The Bid should contain the following:
- Printed copy of the brochure/leaflet containing, Make, Model No. and Specifications.
  - Copy of Two Years Income Tax acknowledgment (F. Y 2015-16 and F.Y 2016-17) and copy of PAN Card.
  - Copy of Valid Trade license.

- Copy of GST Registration Certificate.
- Copy of up-to-date custom duty clearance certificate, if applicable
- Copy of valid registration certificate from State/Central Government.
- Copy of valid registration certificate of SSI Unit, if any.
- The Tenderer (s) may furnish a list of clients serviced during the last three (3) years along with satisfactory completion certificates
- Copy of latest audited statement of accounts
- In case of foreign manufacturer Authorization Certificate.

8. **Bid Price:** While furnishing the quoted price in the Financial Bid, the bidder (s) may note the following:

8.1 The contract shall be for each item of equipment / instrument / software as mentioned in the schedule of goods/services. Corrections, if any in quoted price, shall be made by crossing out, initialing, dating and rewriting.

8.2 All duties, taxes and other levies payable by the vendor under the contract.

8.3 All duties, taxes and other levies payable by the vendor under the contract shall be included in the total price and Taxes should be quoted separately.

8.4 The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account, except revision of taxes and duties.

8.5 The rate quoted must be both in words and figures.

8.6 The quantity against each item mentioned in the tender may vary according to the actual requirement at the time of placing Purchase Order.

**The rates quoted by the bidder should be in Indian Rupees.**

**Late Bids: In the case of advertised tender enquiry, late bids (i.e. bids received after the specified date and time for receipt of bids) should not be considered.**

9. **Award of Contract:** The NITTTR, KOLKATA will award the contract to the bidder whose tender has been determined to be substantially responsive in terms of technical specifications, terms & conditions and price quoted.

9.1 Notwithstanding the above, NITTTR, KOLKATA reserves the right to accept or reject any bidder(s) and to cancel the bidding process and reject all bids at any time prior to the award of contract.

9.2 The bidder whose bid is accepted will be notified of the award of contract by the NITTTR, KOLKATA prior to expiration of the tenderer(s) validity period. The accepted terms of the offer shall be incorporated in the purchase order.

10. **Performance Security:**

10.1 Performance security at the rate of 6% of the contract value in the form of account payee demand draft, fixed deposit receipt from commercial bank or Bank guarantee from a commercial bank in favour of Director, NITTTR, Kolkata shall be submitted within 21 days after the notification of the award of contract. Performance security should remain valid for a period of sixty days beyond the date of completion of all contractual obligations of

the vendor, including warranty obligations. A model format of Bank guarantee for providing performance security is enclosed at Annexure –B

10.2 Forfeiture of Performance Security: Performance security is to be forfeited and credited to the Institute Account in the event of a breach of contract by the vendor, in terms of the relevant contract.

10.3 Refund of Performance security: Performance security should be refunded to the vendor without any interest, whatsoever, after it duly performs and completes the contract in all respect and beyond 60 days of completion of all such obligations under the contract.

11. Liquidated Damages Clause for late Delivery and Late Installation:

a) If the supplier fails to deliver any or all the goods or to perform services like installation, erection, testing, commissioning, or other allied works on or before specified time period mentioned in the purchase order or extended date of completion time granted by institute if any, he shall without prejudice to any other right or remedy available under the law to the institute on account of such breach, the vendor will pay as agreed compensation the amount calculated at the rate stipulated below:

b) LD Clause for delay of delivery, installation, testing, commissioning, or other allied works will be as follows:-

0.5% of delivered price of delayed goods (or services) for each week or part thereof subject to maximum 10% of contract value.

12. **Payment:** Payment will be made immediately after delivery & satisfactory commissioning of the goods / services and training of personnel. Payment in settlement of the bills will be subject to the deductions of income tax/ GST at applicable rates under TDS.

13. **Normal Commercial Warranty/ Guarantee:** Normal commercial warranty/ guarantee of three years shall be applicable to the supplied goods/ services and this should be specified clearly by the bidder.

14. **Live Demonstration:** Live demonstration of the item(s) should be arranged by the vendors at their cost, if asked by the Institute.

15. Points which are not explicitly covered under “**terms and conditions**” above shall be covered by General Financial Rule 2017, Government of India, Ministry of Finance, Department of Expenditure. A copy of the same is available in the office of the Department of Mechanical Engineering for perusal of the tenderers. Tenderers are advised to go through the manual before submission of their tenders. A soft copy of the manual can also be downloaded from <http://finmin.nic.in>

16. The non-transferable tender document excluding standard agreement form can be obtained from the Office of the Accountant as per above users on payment of **500/- (Rupees Five Hundred only)** in cash or Demand Draft in favour of the Director, NITTTR, Kolkata. **The users of downloaded tender document shall have to pay the cost of tender document i.e. 500/- by way of Demand Draft in favour of the Director, NITTTR, Kolkata payable at Kolkata while submitting their tender. Otherwise the Tender will not be accepted.**

17. The Competent Authority may cancel the whole tender process without assigning any reason.

You are requested to provide your offer as per schedule provided in Notice Inviting Tender in the sealed envelope super-scribing **"Tender Advt. No. 17/2018-19"**

To

The Director,  
National Institute of Technical Teachers' Training and Research,  
Block – FC, Sector – III,  
Salt Lake City, Kolkata – 700 106  
PIN: 700 106 Tel. No. +91(033) 2337-0497/4125