

**OFFICE OF THE REGISTRAR : BODOLAND UNIVERSITY**

Debargaon, P.O. Rangalikhata  
Kokrajhar – 783370, BTC, Assam.  
[bodolanduniv@gmail.com](mailto:bodolanduniv@gmail.com)



Tel./Fax No. 03661-277183 (O)  
Tel. No.  
Mobile No.

F. No – BU/NEC/RES/2022/03/ 1227

date- 08/12/2022

**Notice Inviting Tender**

Sealed Tenders are invited from reputed manufactures/authorized dealers/suppliers for Supply, Installation and Commissioning of Scanning Electron Microscope (SEM) and other its accessories at NEC sponsored project of Bodoland University. Detailed specification of the items, terms & conditions etc are given below. Last date of submission of Tender with all relevant papers is 28/12/2022 up-to 12:00 noon to be submitted at Tender box of Bodoland University.

The tender should be submitted in one sealed envelope containing two separate envelopes i.e. Part –I TECHNICAL BID and Part –II FINANCIAL BID. The technical bid shall be opened on above mentioned date and time and the financial bid of only those bidders who qualify in technical bid shall be opened on the same date or at a later date which shall be intimated to the bidder whose technical bid are found to be valid. Detailed specification and any other special features along with company manuals, receipt of Tender fee deposited should be submitted with their Technical bid. Tentative amount is Rs. 116.00 lakh only.

The bidders are advised to visit the website [www.buniv.edu.in](http://www.buniv.edu.in) for download the detail forms.

The tender fee for an amount of Rs. 10,000/- (non-refundable) and EMD 2% of total quoted amount (Re-fundable) should be deposited in the Bodoland University Account No. 31607155480, IFSC Code- SBIN0007379 by online mode. The receipts of the tender/EOI fee and EMD deposited should be submitted along with the technical bid. In case, if any Bandh/Holiday falls in any respect/sequence, the sequence will be held in the next working day.

The university authority reserves the right to reject or accept any one or all tender without assigning any reasons thereof.

Registrar

Copy to :-

1. The P.S to the V.C for kind appraisal to him.
2. The Finance Officer, i/c, for information.
3. Prof. Sandeep Das, P.I. NEC sponsored Project for information.
4. The System Administrator for upload in university website.
5. The Member Secretary, Purchase Committee for information.

Registrar

**Technical Specifications for Scanning Electron Microscope (SEM) & other its accessories**

S/N	Technical Parameters	Descriptions
<p>Latest state-of-the art design, fully automated Scanning Electron Microscope (SEM) with necessary accessories for imaging of biological samples.</p>		
1	Electron Source:	Tungsten (W) filament. The source alignment should be automatic.
2	Resolution:	<ul style="list-style-type: none"> <li>• 3 nm at 30 kV (SE) or better</li> <li>• 8 nm at 3 kV (SE) or better</li> <li>• 15 nm at 1 kV (SE) or better</li> </ul>
3	Operational Modes:	<ul style="list-style-type: none"> <li>• High Vacuum mode</li> </ul>
4	Accelerating Voltage:	0.2 kV to 30 kV, with incremental step of 10 volts for the entire range.
5	Probe Current:	1 pA or less to 5 $\mu$ A or more – continuously variable
6	Magnification:	10x to 10,00,000x - continuously variable
7	Electron-Optics:	<p>The SEM should be equipped with suitable Condenser lens and Objective lens.</p> <p>The system should have adjustable aperture from outside for both imaging and analysis purpose.</p> <p>The analytical working distance should be 8.5mm or better to enhance the X-ray signal collection by EDS.</p>
8	Vacuum System:	<p>The vacuum system should be capable of producing ultra clean high vacuum using appropriate turbo molecular pump backed by rotary pump to achieve required vacuum at reasonable time.</p> <p>High Vacuum Level: <math>1 \times 10^{-3}</math> mbar or better</p>

9	Stage Specification:	<p>5-axes Fully Motorized Stage with movement facility with:</p> <ul style="list-style-type: none"> <li>○ X = 80 mm or higher</li> <li>○ Y = 80 mm or higher</li> <li>○ Z = 30 mm or higher</li> <li>○ Tilt = <math>-10^{\circ}</math> to <math>+90^{\circ}</math></li> <li>○ Rotation = <math>360^{\circ}</math> - continuous</li> </ul> <ul style="list-style-type: none"> <li>● Facility to accommodate multiple specimens should be provided.</li> <li>● The stage should accept samples up to 500 gm at full motion of all the 5 axes.</li> </ul>
10	Specimen Chamber Specification	<ul style="list-style-type: none"> <li>● Large Specimen Chamber with internal diameter 300 mm and height 200 mm or more.</li> <li>● Minimum number of spare ports in the chamber should be 5 for integrating accessories &amp; detectors in future.</li> <li>● Sample size: 200 mm in diameter or better.</li> <li>● Sample height: 100 mm or better.</li> </ul>
11	Detectors:	<ul style="list-style-type: none"> <li>● Secondary Electron Detector (ET-SED) for use in high vacuum mode.</li> <li>● High Definition 5 Segment Back Scattered Electron Detector</li> <li>● Colour Chamber scope for viewing inside the specimen chamber</li> </ul>
12	Computer system & Image Processor:	<p>High-end Computer system with high capacity Hard disk (1TB or more) and CD/DVD writer drive, 24" TFT Color monitor, Keyboard, mouse should be provided.</p> <p>The PC should be equipped with latest licensed windows operating system.</p> <p>The Image Processor should have image Frame store of resolution at least 32 k x 24 k pixels.</p>
13	Auto features	<p>Auto image processing, Auto focus, Auto stigmator, Auto gun alignment, Auto filament adjustment, Auto brightness, Auto contrast, single touch switching from high vacuum mode to low vacuum mode</p>

14	ECO Mode	ECO mode facility to close electron beam automatically when no sample images are doing with Timer facility (Optional).
15	Live 3D	Offered SEM should have Live 3D imaging function
16	Software:	Complete software for the SEM and related accessories for data acquisition, analysis and interpretation should be included in the system configuration.  Software for 3-D surface modelling must be included.
17	Sputter Coater:	<ul style="list-style-type: none"> <li>• The sputter coater unit should be suitable for coating biological specimen with Gold (Au).</li> <li>• High vacuum inside the coating unit should be achieved with a rotary pump.</li> <li>• Sputter vacuum range: Between <math>2 \times 10^{-2}</math> mbar – <math>1 \times 10^{-1}</math> mbar for Au.</li> <li>• A disc-style 57mm Ø, 0.1mm thick gold (Au) target should be fitted in the coater unit.</li> </ul>
18	Accessories & Consumables for SEM:	<ul style="list-style-type: none"> <li>• 2 rolls of carbon tape.</li> <li>• Specimen stub: 20 nos.</li> <li>• Tungsten Filaments: 50 nos.</li> <li>• Desiccator for reducing moisture in vent air: 1 no.</li> <li>• Multiple specimen holder: 1 no.</li> </ul>
19	Upgradability:	The system is ready for up gradation with Cryo-Stage, Co-relative microscopy module, Beam-Deceleration etc. in future.
20	Installation, Commissioning & Training	The installation, commissioning and demonstration of complete system should be carried out by the supplier at free of cost.  After successful installation and commissioning, on-site operational training for the deputed personnel to be provided for required days at no additional cost.
21	Service Facility	The supplier must have sufficient nos. of service engineers in India and in East region as well to provide prompt service. The vendor should have demo lab in India with a similar instrument or better and must analyze the samples free of cost during instrument breakdown under warranty period, so that research works should not stop.

22	Pre-Installation requirement	<p>Pre-installation details, such as, room, floor plan, size, electrical requirement, EM field&amp; vibration levels etc. should be sent immediately after the placement of the order and the installation site should be surveyed physically to check its suitability by the vendor. A copy of the pre-installation requisites should be enclosed along with the technical bid.</p> <p>Necessary environmental requirements, i.e., temperature, humidity etc. during the operation (and unused hours) of SEM &amp; EDS should be specified clearly.</p>
23	Qualification Criteria	<ul style="list-style-type: none"> <li>• The manufacturers must have installed at least 10 nos. of SEM in India including at least 1 no. of installation in N-E India during last 3 years. Necessary documentary proof with contact details of the end-user should be enclosed.</li> <li>• 5 Nos. of Performance Certificates from the end user in India is must to prove the credibility especially the service support capability of the vendor.</li> <li>• During the technical evaluation University may ask the vendor to arrange a physical demonstration of the similar model (with similar parameters mentioned in the specification) to a nearest location preferably in Eastern part of India.</li> <li>• Bidders should give point by point compliance w.r.t. the tender specifications. Bidders should also provide technical literature and brochure of the offered model. All the important technical parameters should be clearly mentioned in the OEM brochure/data sheet and should be available in public domain (e.g., global website). Bids without technical literature will be summarily rejected.</li> </ul>
24	Warranty	<p>The system should be under 1 year of comprehensive warranty from the date of installation and commissioning of the equipment.</p>
25	Tentative Brand	<p>Zeiss /Jeol / Thermofisher / Hitachi / Tescan</p>

## RESPONSE FORM

The form should be typewritten in uppercase (or written in capital letters) and completed clearly and accurately ensuring that all questions are answered. The numbers below correspond to item numbers on the registration form.

### **SECTION 1: COMPANY DETAILS AND GENERAL INFORMATION**

**1. NAME OF COMPANY/INSTITUTION:**

**2. STREET ADDRESS:**

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**3. P.O. BOX and MAILING ADDRESS:**

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**4. TEL NO:** \_\_\_\_\_ **6. E-MAIL ADDRESS:** \_\_\_\_\_

**8. CONTACT NAME AND TITLE:**

**9. PARENT COMPANY (Full legal name):**

**10. SUBSIDIARIES, ASSOCIATES AND/OR OVERSEAS REPRESENTATIVE(S):**  
(Attach list, if necessary)

**11a. NATURE OF BUSINESS (Tick one box only):**

**Manufacturer:**      **Traders:**      **Authorized Agent:**      **Consulting Company:**

**Other (specify):** \_\_\_\_\_

**11b. TYPE OF BUSINESS:**

**Corporate/Limited:**      **Partnership:**      **Government Agency:**      **University:**

**Other (specify):** \_\_\_\_\_

**12. YEAR ESTABLISHED:** \_\_\_\_\_ **13. NUMBER OF FULL-TIME EMPLOYEES:** \_\_\_\_\_

**14. TRADE LICENCE NUMBER:** \_\_\_\_\_

## TERMS AND CONDITIONS :-

### GENERAL INFORMATION

The tender bids duly complete in all respects, along with the necessary documents should be submitted to the Registrar, Bodoland University. The Technical Bids so received, shall be opened on 28/12/2022 at 12.00 noon in the Office of the Registrar, Bodoland University in the presence of the representatives of the bidders. The Financial bid of the Bidders shall be opened on the same date or at a later date to be intimated to the bidders whose Technical Bids are found to be valid. Right to reject any or all Tenders, without assigning any reason thereof is reserved by the authority of Bodoland University.

#### Terms and Conditions of Supply:

1. All the manufacturers/ distributors should also give a brief profile about their company and the facilities available with them of the quoted items. Their turnover and important firms/ Government Institutes/ P.S.U. etc. to which they are supplying quoted items, should also be mentioned.

1. The last date and time for the acceptance of the bids is 28/12/2022 up-to 12:00 noon.
2. Suppliers should be submitted the following documents along with their quotations:

**a. Technical Bid:**

**Cover-I**

- (a) Unconditional Covering Letter,
- (b) The contractor's experience of successful execution of similar works having value mentioned in the N.I.T. The details of work order and work completion certificate from the executing officers may be furnished for establishing eligibility.
- (c) **PAN, GST Registration, ESI certificate, EPF certificate, Labour License, Trade License, Bank balance sheet, experience certificate Income Tax Clearance Certificate, GST Registration Certificates etc.**
- (d) Tender documents.
- (e) Tender fee deposited receipt.
- (f) Non black listed certificate in stamp paper.

b. **Financial Bid :** The Tender document with Bill of Quantities, duly priced and the **Cover-II** enclosed set of Tender Drawings duly signed.

- (c) Technical specifications offered by the Supplier.
- (d) Technical compliance table

(e) Technical literature regarding the offered products including diagrams.

3. The rates should be mentioned in the Schedule attached with the Tender Document. Each page of the tender shall be signed in full and stamped with the seal by the supplier. The supplier must clearly state in what capacity he or she is signing the Tender.
4. The supplier shall submit the tender in two envelopes. The first envelope (Technical Bid) shall contain all the documents referred to in above and sealed. The second envelope (Commercial Bid) shall contain the Schedule, in which the supplier shall register the rates of supply. The second envelope shall also, likewise, be sealed. Both the envelope then should be put together, and should be sealed in an envelope on which the cut out slip provided as part of the tender document should be pasted, and should prescribe time and date. The Technical Bid shall be opened first to ensure that suppliers have submitted all the requisite documents. If the Technical Bids are not in order or are deficient in some respect, the commercial bids in respect of such tenders shall not be opened. The date and time of opening the financial bids shall be announced one day after opening all the Technical bids.
5. Supplier should read carefully all the instructions and terms and conditions, etc before registering rates in prescribed schedule of the tender. Taxes and duties etc. should be shown separately.
6. The Technical Documents shall be opened, at 12:30 P.M. on 28/12/2022 or on the next working day if the offices of the University remain closed due to any reason.
7. Technical specifications of the instruments/equipments are given separately.
8. The delivery and installation should be completed within 45 (forty five) days or as specified from placing of the order. No extension shall be granted to the contractors/suppliers for the period of delivery, under any circumstances.
9. If the supplier fails to deliver the article as per the delivery schedule, the University shall be free to procure the balance/undelivered supply, at the risk and cost of the supplier, from other such suppliers.
10. The goods, articles, materials supplied by the supplier shall be accepted after inspection by an officer authorized by the competent authority. No articles/materials which do not conform to the specifications laid down in the terms and conditions or damaged in transit shall be accepted.
11. The bills of the suppliers shall be paid by the University after all the materials/articles/equipments have been received and installed, inspected.
12. Supplier/Vendor must submit Compliance statement in tabular form comparing each specification of the quoted item with that given in the Tender Document
13. The bidder has to install all the required applications provided by the user and also has to provide at least 1 (one) day training to the user including their group.



14. This tender document is not transferable.
15. In the event of any breach of the terms and conditions of the supply, the University may terminate the contract placed with the supplier and forfeit the security deposit of the supplier.
16. The Bidder shall have to be an Original Equipment Manufacturer (OEM) certificate of the products.
17. The bidder should have average annual sales turnover of Rs.50.00 lakh or more during the last three financial years ending 31<sup>st</sup> March, 2022. Attach firm's last 3 years audited profit and loss Account balance sheet duly audited by C.A.
18. The quantity as mentioned may be increased or decreased at the time of placing Order as per requirement.
19. Bidders are advised to study all technical and commercial aspects, instructions, forms, terms and specifications carefully in the tender document. Failure to furnish all information required in the Tender Document or submission of a bid not substantially responsive to the Tender document in every respect will be at the bidder's risk and may result in the rejection of the bid.
20. If the Supplier/Firm could not meet up the standard of the work or not up to the satisfaction of the authority during execution and supply, the authority would not liable to release the payment for partially or whole of the work, as desired, whose decision would be the final. The Supplier/Firm should be bound to accept the decision without any claim thereof.
- 21. The payment of bill against the supply work would be paid directly to the concerned firm by the NEC, Government of India or by the University, if the fund would be deposited by the NEC to the University. The University shall not be responsible in any manner for the payment against bill by the NEC, Govt. of India. The Supplier/Contractor/Firm should be bound to accept the decision without any claim thereof.**
22. Any dispute between the Parties on matters concern shall be resolved by mutual discussion and legal recourse shall be only as last resort, in which case the matter shall be submitted for Arbitration subject to Kokrajhar Jurisdiction only.
23. Note:
  1. (a) Bidders are advised to read carefully the Terms and Conditions of supply before recording the rates in this Schedule. Bidder should sign all the relevant documents along with Tender documents and should be submitted with the technical bid. Before submission of the Tender, Bidder shall sign each page of the tender form/document and all of its relevant papers with date. The additional alternative and or subtractive clause (if any) shall also to be signed by the bidder, otherwise Bid documents may be treated as cancelled.  
  
(c) No erasures or overwriting shall be allowed, unless they are authenticated under the full signature and the seal of the bidder.

(c) The University reserves the right to:

(i) Accept/reject any/all tenders without assigning any reason thereof.

(ii) Revise the quantities at the time of placing the order without change in the rate quoted by the bidder.

(iii) Add/modify/relax or waive any of the conditions stipulated in the tender document whenever deemed necessary.

(iv) Award the contract to one or more bidders for the items covered by the tender.

## Declaration

1. I declare that all the terms and conditions stated in the Notice Inviting Tender are acceptable to me/us and I/We shall abide by the same in case the contract is awarded to me/us.
2. I also declare that the specification given would strictly be maintained by me/us.
3. I/we understand that non-fulfillment and/or partly fulfillment of specification as made is liable for penalty as deemed fit and necessary by the University authority.
4. All the particulars furnished by me/us in the bid are true to the best of my/our knowledge.
5. I/We will also abide by the conditions that should be stipulated during the period of contract.
6. The decision of the authority will be accepted by me/us during and after the bid evaluation process, without any assigning reason thereof.
7. The payment of bill against the supply work would be paid directly to the concerned firm by the NEC, Government of India or by the University, if the fund would be deposited by the NEC to the University. The University shall not be responsible in any manner for the payment against bill by the NEC, Govt. of India. The Supplier/Contractor/Firm should be bound to accept the decision without any claim thereof.

Date:

(Signature of the Bidder)

Name:

Place:

Contact Number:

Address:

# Financial bid:-

Sl. No	Particulars	Quantity	Rate	Amount in Rs. Including all taxes.
1	Supply, Installation and Commissioning of Scanning Electron Microscope (SEM) and other its accessories	1 set		

Signature of supplier with seal

Registrar