

MAHARSHI DAYANAND UNIVERSITY, ROHTAK

Aryabhata Central Instrumentation Laboratory

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STANDARD BIDDING DOCUMENT FOR PURCHASE OF Field Emission Gun-Scanning Electron Microscope (FEG-SEM) with EDS

PART1: COMPLETE BIDDING DOCUMENT

Name of Work: **Purchase of Field Emission Gun-Scanning Electron Microscope (FEG-SEM) with EDS**

in Aryabhata Central Instrumentation Laboratory, M. D. University, Rohtak.

PRESS NOTICE

M.D. UNIVERSITY, ROHTAK Notice Inviting E-tender	
Name of Work	Purchase of <u>Field Emission Gun-Scanning Electron Microscope (FEG-SEM) with EDS</u> in Aryabhata Central Instrumentation Laboratory, M. D. University, Rohtak.
Tender Docs Fee+ E Service Fees	Rs. 4,000/- + Rs. 1180/- (non-refundable)
Earnest Money Deposit	2% of Estimated value (Rs. 5.0 lakhs)
Online tenders to be received till : 08.03 2023	
i) The tenders will be received only through E-tendering for further details visit website https://etenders.hry.nic.in & www.mdu.ac.in	
ii) Cost of Bid document is Rs. 4,000/- (non refundable) for each bid to be deposited through online mode only.	
iii) Earnest Money, Tender Document Fees and E-Service Fees (as mentioned above) will be deposited through online mode only.	
iv) The contractors / agencies will keep in touch with the University Web Site www.mdu.ac.in and http://www.etenders.hry.nic.in for any amendment / addendum till the last date / revised last date of submission of tender and may incorporate such changes in the tender bids, if required.	

REGISTRAR
MDU, Rohtak

NOTICE INVITING TENDER

e-Tender is invited for purchase of below mentioned items in single stage two cover system i.e. Request for Pre-Qualification / Technical Bid (online Bid under PQQ / Technical Envelope) and Request for Commercial Bid (comprising of price bid Proposal under online available as BOQ) :

Sr. No	Name of Item	Appx. Total Cost (Rs. in lacs)	EMD to be deposited by Bidder (Rs.)	Tender Document Fee & eService Fee (Rs.)	Start Date & Time of Bid Preparation & Submission	Expiry Date & Time of Bid of EMD Submission
1.	Field Emission Gun-Scanning Electron Microscope (FEG-SEM) with EDS	-	2% of Estimated value (Rs. 5.0 lakhs)	Rs 4,000/- for Tender Document fee & Rs. 1180/-for e-Service fee	Date: 15.02.2023 Time: 5.30 pm	Date: 08.03.2023 Time: 12.00 Noon

1. Detailed notice inviting tender can be seen in the office of the undersigned during office hours.
2. Bidding documents available on website <http://mdurohtak.ac.in>
3. The bidders would submit bid through e-tendering only on the website i.e. <http://www.etenders.hry.nic.in>

Under this process, the Pre-qualification/ Technical online bid Application and online Price Bid shall be invited at single stage under two covers i.e. PQQ/Technical & Commercial Envelope. Eligibility and qualification of the Applicant will be first examined based on the details submitted online under first cover (PQQ or Technical) with respect to eligibility and qualification criteria prescribed in this Tender document. The Price Bid under the second cover shall be opened for only those Applicants whose PQQ/ Technical Applications are responsive to eligibility and qualifications requirements as per Tender document.

1. **The payment for Tender Document Fee and e-Service Fee shall be made by eligible bidders through online mode only and the payment for EMD can also be made online.**
2. Intending bidders will be mandatorily required to online sign-up (create user account) on the website <https://etenders.hry.nic.in> to be eligible to participate in the e-Tender. **He/She will be required to make online payment of EMD fee. The intended bidder failing to pay EMD fee under the stipulated time frame shall not be allowed to submit his / her bids for the respective event / Tenders.**
3. The interested bidders must remit the funds at least T+1 working day (Transaction day + One working Day) in advance i.e. **on or before 08.03 2023 ; and make payment through online mode only and submit their bids on or before the expiry date & time of the respective events/Tenders at <https://etenders.hry.nic.in>.**

The interested bidders shall have to pay mandatorily e-Service fee of Rs. 1180/-(Rupee One Thousand Only), and Tender Document Fees (Non refundable) of Rs.4,000/- (Rupees Four thousand only) through online mode only.

The Bidders can submit their tender documents (Online) as per the dates mentioned below :

Key Dates

Sr. No.	Department Stage	Bidder's Stage	Start date and time	Expiry date & time
1		Tender Document Download and Bid Preparation/Submission	Date: 15.02.2023 Time: 5.30 pm	Date: 08.03 2023 Time: 12.00 Noon
2	Technical Bid Opening *		Date: 09.03.2023 Time: 2.00 pm	
3	Commercial Bid Opening		After evaluating the Technical Bids	

Important Note:

- 1) The Applicants/bidders have to complete 'Application / Bid Preparation & Submission' stage on scheduled time as mentioned above. If any Applicant / bidder failed to complete his / her aforesaid stage in the stipulated online time schedule for this stage, his / her Application/bid status will be considered as 'Applications / bids not submitted'.
- 2) Applicant/Bidder must confirm & check his/her Application/bid status after completion of his/her all activities for e-bidding.
- 3) Applicant/Bidder can rework on his/her bids even after completion of 'Application/Bid Preparation & submission stage' (Application/Bidder Stage), subject to the condition that the rework must take place during the stipulated time frame of the Applicant/Bidder Stage.
- 4) In the first instance, the online payment details of tender document fee + e-Service and EMD & PQQ/Technical Envelope shall be opened. Henceforth financial bid quoted against each of the item by the shortlisted bidder/ Agency wherever required shall be opened online. The bidders can submit their bids through online as per the dates mentioned in the schedule/Key Dates above.

The bids shall be submitted online in two separate envelopes:

Envelope 1: Technical Bid

The bidders shall upload the required eligibility & technical documents online in the Technical Bid.

Envelope 2: Commercial Bid

The bidders shall quote the prices in price bid format under Commercial Bid.

CONDITIONS :

1. DNIT & prequalification criteria can be seen on any working day during office hours in office of the undersigned.
2. Conditional tenders will not be entertained & are liable to be rejected.
3. In case the day of opening of tenders happens to be holiday, the tenders will be opened on the next working day. The time and place of receipt of tenders and other conditions will remain unchanged.
4. The undersigned reserves the right to reject any tender or all the tenders without assigning any reason.
5. The societies shall produce an attested copy of the resolution of the Co-operative Department for the issuance of tenders.
6. The tender without earnest money/bid security will not be opened.
7. The Jurisdiction of court will be at **Rohtak**, Haryana.
8. The tender of the bidder who does not satisfy the qualification criteria in the bid documents is liable to be rejected summarily without assigning any reason and no claim whatsoever on this account will be considered.
9. The bid for the work shall remain open for acceptance during the bid validity period to be reckoned from the last date of 'Manual submission of BS. If any bidder/aspitant withdraws his bid/tender before the said period or makes any modifications in the terms and conditions of the bid, the earnest money shall stand forfeited. Bids shall be valid for 180 days from the date of bid closing i.e. from last date of manual submission of EMD. In case the last day to accept the tender happens to be holiday, validity to accept tender will be the next working day.

For & on behalf of
Registrar, MDU, Rohtak

Director, ACIL
M. D. University, Rohtak

TERMS AND CONDITIONS GOVERNING THE TENDERS FOR THE SUPPLY

1. Every e-tender shall be accompanied by the Earnest Money (Fixed amount) of Rs. 2% of Estimated value (Rs. 5.0 lakhs) and Rs. 4,000/- as tender fee and Rs. 1,180/- for e-services fee should be deposited **through online mode only**.
2. The e-tender received without earnest money or after the due date shall not be entertained (except with the special approval of the competent authorities for MSME only).
3. **The e-tenders shall be opened in the office of Director ACIL, M.D. University, Rohtak on 09.03.2023 at 2.00 pm....by the Purchase Committee.**
4. The goods shall be supplied by the Supplier within the time limit specified in the supply order. **In case, the material is not supplied within the delivery period, the supplier shall be liable to pay compensation amount equivalent to 1% (one percent) of the cost of material each day to the University or such other amount as the University may decide till the supply remains incomplete, provided that the total amount of compensation shall not exceed 10% (ten percent) of the total amount of the cost of material supplied.** Appeal against these orders shall, however, lie with the Vice-Chancellor, M.D. University, Rohtak whose decision shall be final.
5. **Only the firms having GST No. can quote their rates for required items.**
6. **HSN Code must be entered in the hard copy while quoting the rates.**
7. FOR shall be ACIL, M.D. University, Rohtak.
8. **All the charges including packing, forwarding and installation, taxes and other levies should be specified in the tender. The charges etc. not specified in the tender shall not be paid.**
9. **The EMD tender fee etc. exemption be allowed for those MSMEs registered with Govt. of India (Ministry of Micro, Small and Medium Enterprises) and located in State of Haryana only (as per Haryana State Public Procurement Policy for MSMEs 2016 vide G.O. No. 02/02/2016-41B11(1) dated 20/10/2016).**
10. The quantity of material/supplies shall be subject to increase or decrease on the tendered rates. This increase or decrease shall be communicated by the University within 180 days of acceptance of the tender.
11. Supplies shall be made as per the schedule and within such time as is indicated in the supply
12. order.
13. The rates accepted by the University shall be applicable up to 180 days and the supplier shall have to make supply during the period as and when required.
14. The University is situated within the Municipal Limits. As such, Octroi, if any, shall be payable. In case, the material is supplied through a Transport Company by road, the Transport Company's charges, labour charges and octroi charges shall be borne by the supplier. It may be mentioned specifically as to whether the material will be sent by rail or by road through a Transport Company.
15. Guarantee/warranty of items must be mentioned.
16. **Performance Guarantee @ 5% of the contract cost shall be deposited** by the firm to whom the contract would be awarded, in the form of Bank Guarantee or fixed deposited (FD) in the name of Finance Officer, M. D. University, Rohtak and shall be valid for the warranty period plus 3 months thereafter.
17. No tender documents will be issued separately and rates are to be offered on company's letter pad.
18. If a holiday occurs on the opening day, the tenders will be opened on the next working day.
19. The packing, forwarding, freight, insurance charges etc. may be quantified in terms of amount. These charges will not be payable against any vague

statement such as “packing, forwarding, freight and insurance charges etc. extra”.

20. In case, the supplier/contractor fails to execute the supply order/contract on the rates, and terms and conditions as contained in the supply order within the stipulated period, they shall be liable to such action as blacklisting, debarring from having any business with this University, forfeiture of earnest money/security, besides any other action as may be deemed proper by the University.
21. As a general policy, the University tries to make 100% payment within 30 working days of the receipt of material subject to proper installation, wherever applicable, and satisfaction of the Inspection Committee. **No advance payment or payment against documents negotiated through Bank shall be made.**
22. The acceptance of the material shall be subject to satisfactory report of this Office’s Inspection Committee/Technical Committee/Experts Committee.
23. The acceptance of the tender shall rest with the Registrar who does not bind himself to accept the lowest tender and reserves the right to reject any or all items of tender without assigning any reason thereof. The Registrar also reserves the right to accept tender in part i.e. any item or any quantity and to reject it for the rest.
24. It may be certified that you have not been debarred/blacklisted for any reason/period by DGS&D, DS&D (Haryana) or any other Central/State Govt. Dept./University/PSU etc. If so, particulars of the same may be furnished. Concealment of facts shall not only lead to cancellation of the supply order, but may also warrant legal action.
25. In case, any other information/clarification is required, the undersigned may be contacted at Telephone No. 9896294630 on any working day (Monday to Friday) during office hours (9 a.m. to 5.00 p.m.) or by sending e-mail at : dir.cil@mdurohtak.ac.in.
26. The Sub Committee reserves the right for negotiation thereafter if considered necessary.
27. The items be purchased from the firm(s) on the basis of quality and not merely on the lowest rates.
28. The rates should be quoted for required specifications. The technical specifications of machineries & equipments required must accompany the tender. The decision of the University will be final with regard to the quality of material to be purchased.
29. The tender should be submitted only if the material is readily available in your stock or can be supplied within 180 days or as per negotiations, after the order is placed.
30. Terms and conditions printed on tender/Invoice of the firm, if any, shall not be binding on the University, except those mentioned specifically on the supply order of MDU, Rohtak, and your acceptance of the order shall be construed as your agreement to all the terms and conditions contained in the order.
31. The dispute, if any, shall be subject to the jurisdiction of Courts at Rohtak. Any other jurisdiction mentioned in the tender or invoices of the manufacturers/distributors/ dealers/suppliers etc. shall be invalid and shall have no legal sanctity.

Signature _____

Name of the firm with seal/stamp _____

Affix Rubber Stamp of the firm

For & on behalf of
Registrar, MDU, Rohtak

Director, ACIL
M. D. University, Rohtak

TECHNICAL DOCUMENT

Sr. No.	Description	Bidders Response (Yes/No)	Remarks
1.	Copy of PAN Card		
2.	Copy of Income Tax Return for the last 3 years		
3.	Copy of GST Number of the firm		
3.	List of institutions where similar machines have been supplied, if any		
4.	Satisfactory report/Installation report regarding the supply of items from institution		
5.	Copy of Annual Turnover (last 03 years)		
6.	E mail ID and Contact details of Authorized person of the firm / company		
7.	The bidder should submit a proof of having the turn-over of Rs. 10 crores over the period of last three years relating to manufacturing/supply of these items. Proof to be duly certified by a registered chartered account is required.		

Specifications for Field Emission Gun-Scanning Electron Microscope (FEG-SEM) with EDS:

S. No	Features	Specifications
1.	Electron Gun and electron optics	High brightness Field Emission Schottky Emitter; The system should have Beam De acceleration mode / Gentle Beam mode/ Tandem decal mode (or equivalent technology). Automatic focus, Automatic stigmator, Automatic contrast and brightness Gun should be covered in the warranty period, it has to be supplied as and when required in the warranty period.
2.	Resolution	with SE detector 1 nm or better at 15 kV with SE detector 1.6 nm or better at 1 kV
3.	Magnification	10,00,000 X or higher compatible with the desired resolution
4.	Accelerating Voltage	Lower Limit 200 eV or less Upper Limit 30 KeV or higher
5.	Probe current	100 nA or higher
6.	Specimen stage	5 axis motorized stage with motorized eucentric/compucentric stage movements, X = 70 or better, Y = 50 mm or better, Z = 40 mm or better Tilt: -3 deg to 70 deg or better Rotation: 360 degree continues Multi-sample holder Stage movements must be fully Software controlled for absolute or relative co-ordinate movements, storing of positions, resorting to saved positions, moving to pre-set specimen positions, mouse click to center moving, drag with the mouse, WD & Z movement synchronization
7.	Specimen Chamber	Chamber ports 7 or more with ports for future upgradation like EDS, WDS, EBSD, etc. Chamber must be suitable for future system up-gradation to accommodate additional detectors. Multi specimen holder (1 No.) should be supplied in addition to the standard specimen holder.

8.	Vacuum System	Fully automated microprocessor-controlled vacuum system comprising of Ion Pump, Turbo Molecular Pumps (TMP) backed by rotary pump, pneumatic valves for attaining required vacuum and hassle-free operations. Air Compressor (if required)
9.	Detectors	<p>The system must be equipped with: In column detector /Upper detector /In-lens Secondary Electron Detector or equivalent detector technology to provide high-resolution images.</p> <p>Secondary electron detector, Back Scattered Electron Detector</p> <p>IR Chamber scope: Chamber view camera (IR CCD)</p>
10.	EDS detector	<ul style="list-style-type: none"> • The specifications of EDS must be compatible with Electron Microscope. • The detector must be Liquid Nitrogen free with integrated Peltier cooling system. • Typical resolution of 129 eV, measured at Mn Kα. • The EDS should detect energy of element starting from Be (4) to Am (95). • Detector area 30 mm² or higher. • Detector window should be made by Silicon Nitride/polymer window material and with honeycomb grid structure supporting grid, to increase X ray transmissivity and increase light element sensitivity. (Documentary evidence needs to be shared for the window material used). • EDS must be plasma cleaner compatible and Low vacuum operation compatible. • Capable of handling Input count rates of 1M icps or more and OCPS of 300K or more. • Multiple amp times available. • Vacuum encapsulated module: better low energy sensitivity, lower power draw. • 10 eV/channel resolution for spectral collection. • A software package for fast and accurate elemental analysis with an easy-to-use user interface for EDS data collection and analysis, software functions like point ID, elemental mapping, Line Scan, analysis and reporting option must be provided. • Separate PC with monitor for the operation of EDS.

11.	Work Station and Software	Intel® Core i5 processor, RAM 8 GB, HDD 1 TB, Windows 10 Pro 64-bit with sufficient USB ports and windows compatible operating system to operate FESEM and all attachments and suitable 24" or better HD LED/LCD monitor. Complete software for image analysis, topography, morphology, dynamic picture recording and image manipulation for separation of different images, superposing and subtraction. Line width measurement capability must be included. Size distribution software should be included. Image file in JPEG, TIFF & BMP formats. Backup software must be provided on optical media. Any further version of the software and updates must be provided free of cost.
12.	User Interface, Control Panel and Joystick	Focus remains constant while changing probe current, Fully computer controlled system with window based software for operating the Microscope along with keyboard, mouse, Control panel including multifunction keys/ knobs for control and adjustment of SEM parameters (focus, magnification etc) and manual joystick/ track ball control for stage in X, Y, Z, Tilt and Rotation directions
13.	Power Backup	FESEM should have a power supporter back up of 72 hrs for Emitter section and suitable UPS (~10 KV) with at 1h power back facility for the complete system
14.	Accessories	Color Laser Printer, Necessary Chiller (if required), Tweezers/ gripper for holding different kind of sample holder, suitable and essential tool kit is to be supplied with the equipment for the required maintenance.
15.	Anti-vibration support:	SEM Chamber and Electron Gun Should have a built in, fully integrated self-leveling pneumatic vibration isolation.
16.	Sample preparation instruments	(i) Sputter Coater Rotary pumped sputter coater, suitable for coating specimens with noble metals, such as gold/palladium alloys, Should be combined/separated with carbon coater, using carbon fiber/ rod to coat SEM specimens. Two-stage rotary pumps with oil mist filter (if required) Should include all consumables including gold target and carbon fiber/rod for one year of

		<p>operations.</p> <p>(ii) Critical point dryer or equivalent for bacterial/fungal etc. sample processing, along with all necessary accessories</p>
17.	Accessories	<p>20 number of conductive double-sided carbon adhesive tape (8 mm x 20 m)</p> <p>4 number of specimen Subs</p> <p>2 number of cross-section holders</p> <p>2 number of multiple sample holder</p> <p>5 number of conducting silver paint</p> <p>standard to verify the resolution</p>
18.	Warranty and Maintenance	<p>The instrument and chiller (if required) excluding consumables should be under warranty for a period of 3 years from the date of installation. 3 years warranty period should cover FE Emitter, As many FE-Emitter required in warranty period has to be supplied Free of cost basis as and when required</p> <p>In case of a breakdown during the warranty period, a competent service engineer of the supplier should make as many visits as are necessary to rectify the problem and replace the faulty parts</p>
19.	Installation and Training	<p>Manufacturer/supplier must ensure to install FESEM and all its accessories supplied,</p> <p>The manufacturer needs to provide a full-time operator (to be placed in Rohtak) for work on the instrument (at the cost of the company) for a minimum period of 01 year. The operator must also ensure sufficient training of the technical staff of ACIL to operate the instrument.</p>
20.	Optional Items	<p>The manufacturer should quote for the following optional items separately to ensure broader use of the instrument:</p> <ul style="list-style-type: none"> • Tissue processor for processing animal/plant tissues samples, along with all necessary accessories <p>In addition, the manufacturer should quote any additional accessory, to ensure wider applications of the instrument</p>

21.	Pre-requisites	The manufacturer should give detailed information of the pre-requisites (lab area, working bench, electrical requirements, etc) for smooth installation and working of the instrument.
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The University would prefer NO ADVANCE PAYMENTS. All payments would be made, via SITE DRAFT/ LETTER OF CREDIT or any other financial instrument (mutually agreed). Final payments to be made within 30 working days of the receipt of satisfactory installation report.

For & on behalf of

Registrar, MDU, Rohtak

(Prof. Arun Nanda)
Director

COMMERCIAL DOCUMENTS/ (BOQ)



[Item Wise BoQ](#)

Tender Inviting Authority: Registrar, Maharshi Dayanand University Rohtak

Name of Work: Supply of Laboratory Equipment: Field Emission Gun-Scanning Electron Microscope (FEG-SEM) with EDS

Contract No:

Name of the Bidder/ Bidding Firm / Company :

PRICE SCHEDULE

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	NUMBER	TEXT#	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	TEXT	TEXT	NUMBER	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Estimated Rate in Rs. P	Currency Conversion against each Item	Quoted Currency in INR / Other Currency	BASIC RATE In Figures To be entered by the Bidder in Rs. P	Excise Duty in Rs. P	GST in Rs. P	Freight Charges (Unloading & Stacking) in Rs. P	Any Other Taxes/Duties/Levies in Rs. P	Other Taxes in Rs. P	Third Party i.e DGS&D / RITES etc Inspection Charges @0.34%+Service Tax in Rs. P	Less for Cenvat Credit, if any respect of Supplies Under full Excise Duty Category in Rs. P	TOTAL AMOUNT, It will be converted based on colour in L value in Rs. P	TOTAL TAXES It will be converted only if you choose Full Conversion, Until than it is treated as INR in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	6	11	12	13	14	15	16	17	18	19	20	53	54	55
1	Laboratory Equipment																	

1.01	Field Emission Gun-Scanning Electron Microscope (FEG-SEM) with EDS	item 1	1.0000	1	-	Partial Conversion	USD							0.0000	0.0000	USD Zero Only
Total in Figures														0.0000	0.0000	Zero Only
Quoted Rate in Figures				Select										0	0	Zero Only
Quoted Rate in Words																

For & on behalf of

Registrar, MDU, Rohtak

**Director, ACIL
M.D.U., Rohtak**