



SAVITRIBAI PHULE PUNE UNIVERSITY

Global / Open Tender Notice

NOTICE INVITING TENDER

Savitribai Phule Pune University, Pune 411 007 (Maharashtra), invites sealed tenders on two bids system basis from manufacturers, their distributors or Indian Agent of Foreign principles, for procurement of (1) FESEM (2) FT NMR 400 MHz.

Tender should be submitted in two parts

1. Technical bid: TB 1-FESEM, TB 2- FT NMR 400 MHz

2. Price bid : PB 1 - FESEM, PB 2 - FT NMR 400 MHz


Sr. No.	Brief Details of Item	Qty.	EMD(in RS.)
1.	FESEM	One	1,00,000/-
2.	FT NMR 400 MHz	One	1,30,000/-

Tender Documents with complete terms and conditions, technical specifications etc. can be downloaded from the Savitribai Phule Pune university Website <http://www.unipune.ac.in>

The tenders should reach to 'The Head, Department of Chemistry, Savitribai Phule Pune University, Pune 411 007' on or before 15th December, 2014 up to 05.00 p.m.

Advt. No. 56
Date : 23/ 11/2014

Dr. Narendra M. Kadu
Registrar


22.11.14

Savitribai Phule Pune University invites tenders for the purchase of FESEM, FTNMR 400 MHz instruments separately. Savitribai Phule Pune University, Pune hereinafter is referred as "BUYER" / "purchaser" and Tenderer is referred as "BIDDER"/ "supplier."

1. Technical specifications of the instrument are as per the attached ANNEXURE A1(FESEM), A2 (FTNMR 400 MHz).
2. The BIDDER should submit offers into two parts – Part A should include the technical offer and Part B should be financial offer.
3. The supplier shall pay and bear all other liabilities, taxes and duties not specifically agreed by the Purchaser in the commercial offer.
4. The leaflets catalogue, etc. should be sent invariably so that a proper evaluation of the equipment and Items offered is possible.
5. Pre installation requirements for the instrument (power specifications, space required etc) should be mentioned clearly.
6. Two separate sealed envelopes containing 'Technical Bid' and 'Financial Bid' shall be put in another large envelope superscripting Tender number / due date and 'Offer for A1(FESEM) / A2 (FTNMR 400 MHz)'
7. All communications are to be addressed to "The Head, Department of Chemistry", University of Pune, Pune -411 007 . In case due date happens to be holiday the tender will be accepted and opened on the next working day.
8. The quantity of items is in the discretion of BUYER.
9. Accessories and item procured in India should be quoted in Indian rupees.
10. VAT/Other Govt. Taxes: Excise Duty (ED), other taxes, levies, like Service Tax (ST), Education Cess, etc., are to be indicated separately. BIDDER should mention Central and State Sales Tax/VAT Registration, PAN Number are to be necessarily indicated in the offer.
11. DELIVERY: The successful BIDDER should deliver the material as per tender document/purchase order within 180 days from the date of acceptance of the purchase order.
12. BUYER will evaluate technical and commercial acceptable offers in its approved Technical Committee and/or Purchase Committee. Technical Committee/ Purchase Committee will have right to accept or reject the BIDDER. The Technical Committee Purchase Committee will decide to accept the required configuration, items and other requirements in its discretion.
13. SUPPLEMENTARY OFFER/MODIFICATION OF ORIGINAL OFFER: Tender submitted against Notice Inviting Tender (NIT) shall not be returned in case the tender opening date is extended/postponed. In case, BIDDER desirous to modify (or asked to modify) their offer/terms may submit their revised/ supplementary offer (s) within the extended Tender Opening Date (TOD) by clearly stating to the extent of updation done to the original offer. The BUYER reserves the right to open the original offer along with the revised offer.


Head

Department of Chemistry

Savitribai Phule Pune University

Pune - 411 007



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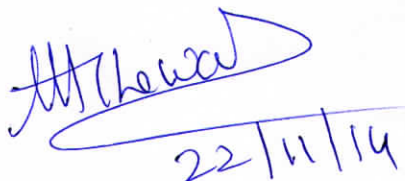
14. CANCELLATION OF TENDER: Not withstanding anything specified in this tender document, BUYER in its sole discretion, unconditionally and without having to assigned any reasons, reserves the rights:
 - a) To accept OR reject lowest tender or any tender or all the tenders.
 - b) To accept any tender in full or in part.
 - c) To reject the tender offer not confirming to the tenders terms.
15. TERMS OF PAYMENT : Payment terms should be mentioned clearly. It is in the discretion of the BUYER to accept, modify or reject the payment terms offered by BIDDER. Octroi exemption certificate will be provided.
16. In case any BIDDER is silent on any clauses mentioned in this tender documents, BUYER shall construe that the BIDDER had accepted the clauses as per the invitation to tender. No further claim will be entertained. Vendor is allowed to split the payment in foreign currency and in Indian Rupees (for items or services being procured and provided locally).
17. Revision in the terms and conditions quoted in the offer will be entertained in the Technical committee and Purchase Committee.
18. Date and time of opening of Price Bid shall be intimated to technically qualifying bidders only.
19. LIQUIDATED DAMAGES: Timely delivery is essence of the contract and hence if any consignment be delayed, liquidated damages at the rate 0.5% of the price of the delayed consignment, for each week or part whereof shall be levied and recovered subject to maximum of 5% of total purchase order value.
20. GUARANTEE/WARRANTY : The term of Guarantee / Warranty is separately mentioned in the Annexures applicable for each and every item. Supplier will follow the term mentioned in the respective Annexure of the item.
21. SUPERVISION OF ERECTION & COMMISSIONING: Successful BIDDER shall depute concerned specialist for supervision of erection & commissioning of the machine/instrument. The successful BIDDER shall make necessary arrangement at their own expenses for stay, transport and other expenses of their specialist during their stay in Pune which also includes imparting training to Savitribai Phule Pune University personnel.
22. TRAINING : The BIDDER shall submit training proposal for the operation and maintenance to the personnel of Savitribai Phule Pune University. General training session for staff and students should be conducted by the BIDDER. Clause of training is separately mentioned in the Annexure applicable for each and every item. Bidder will follow the term mentioned in the respective Annexure of the item.
23. LEGAL MATTER : All Domestic and International disputes are subject to Pune Jurisdiction Only.
24. If BIDDER is not quoting directly, name and address of agents and representatives in India should be disclosed.


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25. The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.
26. While submitting bid, the BIDDER shall deposit an amount mentioned in tender document as Earnest Money, with the BUYER through : Bank Draft/ Pay Order / Bank Guarantee in favour of The Registrar, Savitribai Phule Pune University.
27. The Earnest Money shall be valid up to a period of 180 days or the complete conclusion of the contractual obligations to the complete satisfaction of both the BIDDER and the BUYER, including warranty period, whichever is later.
28. No interest shall be payable by the BUYER to the BIDDER on Earnest Money for the period of its currency.
30. In case of successful BIDDER, EMD will be returned within 30 days from the date of submission of Performance Guarantee Bond.
31. The BIDDER undertakes that it has not supplied/is not supplying similar product/systems or subsystems with similar terms and conditions, at a price lower than that offered in the present bid in respect of any other Ministry/ Department of the Government of India or PSU and if it is found at any stage that similar product/system or subsystem was supplied by the BIDDER to any other Ministry/Department of the Government of India or PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to the BUYER, if the contract has already been concluded.


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Annexure A1 (FE-SEM) Technical Specifications for High Resolution FE-SEM

Savitribai Phule Pune University is intending to procure High Resolution FE-SEM with EDS. The system should be capable for characterization and elemental analysis of all kinds of Nano scale Material, viz. Metal/Semiconductor/Metal oxide nanostructures, & alloys, Ceramics, Magnetic materials and Magnetic nanostructures, Polymers, Composites, Films/coatings, Geological, minerals, Particles, porous materials, fibers etc.

The system should be capable of analyze fracture, failure. It should have High-Vacuum, suitable capabilities for analyzing conductive, non-conductive materials.

Technical requirements:

- 1) **Electron Gun:** High Resolution FE-SEM with high stability Schottky Gun with a long filament life. It should be optimized for brightness and probe current to obtain desired resolution. Estimated gun life should be mentioned.
- 2) **Resolution:** 2.0 nm @ 15kV or better (With SE Detector); 3.0 nm or better @ 1 kV in normal SE mode.
- 3) **Acceleration Voltage:** 100 V - 30 kV, continuously variable in both normal and deceleration mode.
- 4) **Probe Current:** Maximum possible probe current 100 nA or better; continually variable probe current with probe current measurement unit.
- 5) **Magnification:** Maximum possible magnification up to 1000000X compatible with the desired resolution.
- 6) **Electron Optics:** Electron beam deceleration & Beam booster optics, High resolution imaging at Low kV and Low probe current, low beam noise, high stability.
- 7) **Illumination Lens System:** Fully aligned lens system ensuring stable probe current for imaging and analysis applications. Accessories for Active Electrostatic & Magnetic lens assembly or equivalent for rejecting stray magnetic fields in order to image magnetic materials.
- 8) **Imaging Lens system:** High Resolution Objective Lens to observe large specimen with high resolution.
- 9) **Detectors:** The system must be equipped with , a)High Efficiency Standard In-lens/on column Secondary Electron detector and b) Chamber mounted secondary electron detector, c) High Resolution chamber mounted Back Scattered Electron (BSE) Detector along with controlled signal mixing [pure SE, pure BSE and combined SE & BSE] for ultra high resolution compositional contrast imaging and d) additional detector like STEM for detection in transmission mode.
- 10) **Chamber:** Chamber should be large enough to accommodate all the above detectors with a size of 250 mm or more.

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- 11) **Specimen holder:** 150 mm diameter (or better) along with specimen handling & preparation tools, materials and required seals and conductive tapes as well as Multi (> 12) Specimen / Sample holders. Silver paste and TEM grids, multiple tweezers for handling specimen including specimen grids. Specimen stubs 100, 5 cross section holders
- 12) **Specimen stage:** 5-axes or more eccentric Motorized Specimen Stage having with X/Y/Z/T/R movements as X = 100 mm or more, Y = 100 mm or more, Z = 50 mm or more, T = (-10) to + 60 Degrees or more, R = 360 Degrees (continuous). Specimen current monitor and Standard Specimens should be provided.
- 13) **Cryogenic cooling stage:** a) Peltier Cooling b) Cryo Stage, with the monitoring and indication of temperature range. Quote the separate cost for 13(a) and 13(b).
- 14) **Imaging of non-conductive samples:** Active Charge Compensation mode for imaging semiconductive and non-conductive samples is required. Capable of imaging magnetic samples with good resolution.
- 15) **Specimen Exchange Device:** Integrated Air lock Mechanism.
- 16) **Evacuation system:** The instrument must provide high-vacuum, low-vacuum modes, without compromising the High-vacuum UHR performance. The system must have suitable vacuum for handling of different types of samples. Automatic control and seamless switching of vacuums stem from one mode to another without the necessity of venting the chamber should be offered. Gun and column should always stay in vacuum during power off mode. The vacuum system must be complete oil free and must contain: Sufficient nos. of Turbo Molecular Pump (TMP), oil free rotary pump for attaining required vacuum and hassle free operations. The column should have separate dry pumps for pumping the column and the electron gun for minimizing column contamination. The electron column must be equipped with suitable pumping arrangement for keeping the column free from contamination at all the times. This is to prevent contamination in the column area and thus increase the life of the filament
- 17) **Image Processing:** Suitable image processing software, Noise reduction, Image histogram and measurement software.
- 18) **System Controls :** State of the art PC with pre loaded software on the Hard disk of suitable capacity, mouse, keyboard, at least 6 USB ports, with multiple flat panel LCD displays with high resolution image acquiring and image processing as well as noise reduction software (Please specify). On board joystick control panel. Color laser printer with one spare set of cartridges.
- 19) **Water cooling system:** Required system and its components must be supplied and fully installed by the vendor. Please mention the water flow requirements and provide a tank with capacity > 1.5 times the specified minimum size.
- 20) **Electrical Mains supply :** 220 V, 50 Hz.
- 21) **Tool kits:** Suitable & essential Tool Kit is to be supplied with the system for the required maintenance.

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- 22) **Safety Devices:** All necessary safety devices against power/water/vacuum failures including the most important automated Schottky Field Emission filament Safety device
- 23) **Manual:** One set of operating manual and service manual (Both Hard and Soft Copy in English) should be provided with the equipment.
- 24) **Technical Training:** Necessary technical training should be provided to the user without any additional costs as and when required.
- 25) **Spares:** Complete List of essential spares for 5 years including all important PCBs, control electronics and microprocessors and imaging accessories, accessories for detectors and electron source, hoses, pumping accessories, electrical and switching accessories should be provided.
- 26) **Warranty:** Minimum three years of comprehensive warranty including all replacement parts, labor charges and services as required without any additional cost from the date of successful installation and commissioning of the Equipment. Free two years technical support after the warranty is over.
- 27) **Delivery:** Within three months from the date of issuing Purchase Order.
- 28) **Users List of Schottky FE-SEM in India:** Vendors must provide the List of recent installations in India with names, addresses and contact information of the end users in various Indian universities/ institutes / laboratories. Vendor must have installed at least Three installations of quoted model.
- 29) **Technical Certificates:** Factory Test certificates and compliance to various national and international standards should be enclosed with the system.
- 30) **Pre-Installation Requirements:** Complete technical details of pre-installation requirements should be furnished along with the technical bid. Savitribai Phule Pune University will only provide the installation room, air conditioning units and required electrical outlets and water connections. Vendors are expected to supply all other installation accessories, infrastructures, facilities and services required for successful installation and smooth operation of the equipment. Vendors must specify the requirements for vibration isolation, acoustic isolation and EMI spectrum of the instrument room and the building floor. Vendors must conduct the site survey before installation at no additional cost.

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Additional Accessories Required for FE-SEM

1) EDS Detector for Elemental Composition

- i) **EDS** : Liquid Nitrogen Free, Peltier cooled Silicon Drift Detector (SDD) system for Energy Dispersive X-Ray Spectroscopy (EDS), Active area SDD > 30 mm², and resolution 129 eV at Mn K alpha and Carbon Resolution better than 52 eV conforming to ISO 15632 /2002 or better capable to detect from boron to Uranium
 - ii) **EDS System/software**: User interface should be friendly and capable of Multi element mapping, line scan. Quantitative, Qualitative, Digital X-ray Mapping, Multipoint Area, Line Analysis & Phase Mapping, Peak deconvolution, 2D elemental mapping and 2D compositional contrast mapping software.
 - iii) **Calibration Standards**: Please also provide standard sample calibration accessories like resolution standards, magnification standards and EDS single/multi element standards.
- 2) **Sample Preparation Equipments**: Turbo molecular pump based Sputter Coater with 1) Carbon, Gold, Platinum and Rhodium coating facility along with the required target materials (2 each of C, Au, Pt and Rh targets).

Please Note that the additional accessories can be quoted by vendors who market these independently.


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Annexure A2

University of Pune invites Tender for FTNMR 400 MHz

1. Latest version of 400 MHz spectrometer FTNMR.
2. Shielded Magnet specifications:
 - a. Should have 300 days or more hold time for Helium.
 - b. Refill time should be more than 8 months for Helium.
 - c. Liquid He & Liquid N₂ level meter should be provided with magnet.
 - d. Minimum 20 room temperature shims and 5 crayo shims are required.
 - e. Liquid He and Liquid N₂ transfer lines must be provided with the instrument.
 - f. Total height requirement to install the instrument should not be more than 11 ft 6 inch.

Optional: Vibration damping system for magnet.

3. Latest work station with high resolution 22 inch or more wide LCD/LED monitor, having at least 32 GB RAM, 2TB X 2 HDD, Graphics adapter etc. with Internet connectivity
4.
 - a. Suitable / compatible software to run the NMR instrument.
 - b. At least 5 NMR data processing license software should be included which can work on windows based terminal.
5. Networked heavy duty laser printer with Auto dual side printing.

Probe

1. **5 mm** Broadband observe probe ¹⁵N to ³¹P with 1H, including Z gradient coil and compact automatic tuning and matching set up.

Optional : 5 mm Dual probe for H¹ & C¹³ with Z gradient

Console:

1. Console with suitable RF system.
2. High band (H1/F19) amplifier min. 50 watts and Low (or Broad) band (X) amplifier min 100 watts power.
3. Automated Gradient Shimming for 1D and 3D.
4. Should have higher and lower variable temperature controller.

Auto sampler :

Optional 1: Full function Auto sampler with capacity of handling at least 15 samples.

Optional 2: Full function Auto sampler with capacity of handling at least 60 samples.

Compressor :


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1. Best quality compressor suitable to run all the accessories of the FTNMR instrument with five years warranty should be provided with the instrument.

Terms and conditions :

1. Commercial quote should include the taxes, packing and forwarding charges and insurance up to the site Department of Chemistry, Savitribai Phule Pune University, Pune 411007 and any other miscellaneous requirements, if any.
2. Delivery period should not be more than six months from placing the order.
3. Cost of all the consumables for installation will be borne by the vendor.
4. FT NMR instrument should have warranty for three years and free service support for five years from the date of installation.
5. Liquid Helium refill for five years from the date of installation is the responsibility of the supplier.
6. General training session for staff and students should be conducted by the vendor.
7. Maintenance training for one person and advance operation training for two persons at principles overseas lab should be provided at free of cost including all the expenses like local and international travel, local hospitality, accommodation etc .
8. At least one set of manuals should be provided in the form of hard copy and soft copy.
9. Vendor is allowed to split the payment in foreign and in Indian rupees.


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