

UNIVERSITY OF DELHI

Delhi-110007



Atomic Force Microscope

e-Tender Document

E-procurement Tender Notice

Ref.No.: DU/PURSE/Physics/AFM /2017-18/

Date: 12-04-2017

Tenders containing technical and commercial bids are invited under e-procurement scheme for the following item as per the specifications given in Annexure B. Your quotation should be submitted latest **by 5.00 p.m. on 9th May, 2017.**

S.No.	Description of items	Qty.
1.	Atomic Force Microscope: (Annexure B)	01

Important Information:

(i) All details regarding the subject tender are available on our websites www.du.ac.in and <https://eprocure.gov.in/eprocure/app>. Bidders are therefore, requested to visit the mentioned websites regularly to keep themselves updated.

Tender Type	Open
Product Category	Equipment
Tender Fee	1000
EMD Amount	Rs,2,00,000
Bid Validity Duration	90 Days
Completion Period	120 Days
Bid Document Download start Date:	13.04.2017, 5.30p.m.
Bid Submission start date	13.04.2017, 5.30p.m.
Bid Submission end date	09.05.2017, 5:30 p.m.
Bid Opening Date	10.05.2017, 6:00 p.m.

(ii) **Manual bids shall not be accepted.**

(iii) For submission of E-Bids, bidders are required to get themselves registered with **<http://eprocure.gov.in/eprocure/app>**.

(iv) Clarifications/ queries, if any, can be addressed to **Prof. Sanjay Jain**, Professor of Physics, Department of Physics and Astrophysics, University of Delhi,

Thanking you,

Sincerely yours

Sanjay Jain, HOD

Information and Instruction for Bidders

1. Vendors may be invited for presentation and clarification to the technical evaluation committee on short notice.

2. BID SUBMISSION

The instructions for Online bid submission are available in Annexure A

Bids shall be submitted online only at CPP portal:
<https://eprocure.gov.in/eprocure/app>.

Tenderer/contractor are advised to follow the instructions provided in the 'Instructions to the Tenderer/ Contractor for the e-submission of the bids online through the Central Public Procurement Portal for e-procurement at <https://eprocure.gov.in/eprocure/app>.

Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.

Tenderer who has downloaded the tender from the University website www.du.ac.in and Central Public Procurement Portal (CPPP) <https://eprocure.gov.in/eprocure/app>, shall not tamper/modify the tender form including downloaded price bid template in any manner. **In case if the same is found to be tempered/modified in any manner, tender will be completely rejected and tenderer is liable to be banned from doing business with Delhi University.**

Intending tenderers are advised to visit again University website www.du.ac.in and CPP Portal <https://eprocure.gov.in/eprocure/app> at least 3 days prior to closing date of submission of tender for any corrigendum / addendum/ amendment.

Instructions for Technical bid submission (As per Annexure B):

(a) Quotation should be directly from Original equipment manufacturer (OEM) or authorized sales agent.

(b) Sole agency certificate (if applicable) and its validity from Foreign Principals (in case of foreign manufacturer).

(c) Pre-installation requirements must be specified clearly.

(d) Any optional accessory advised for better functioning of equipment must be specified and quoted separately.

(e) Details on installation, commissioning and **training** must be specified and should be free of cost at user site and must be included in the quotation. On-site training (minimum 2 days) must be given to the users during the installation of equipment. Additional on-site training sessions may also be required at later stages, the cost for which may be included in the quotation.

(f) Vendor should quote for the equipment strictly as per tender specifications including complete technical details along with make, version, and complete specifications. **Detailed compliance sheets** along with supporting documents to be attached with Technical Bid for evaluation. Without detailed compliance sheet, offer shall be summarily rejected

(g) **Original brochures and original specification sheets** directly obtained from the principal developer of the quoted equipment must be enclosed **along with supporting data**.

(h) User list with address, e-mail & Phone No. must enclosed.

(i) Institute reserves the right to order equipment with better quality over lower price and to accept or reject any or all the quotations without assigning reasons thereof.

Instructions for Financial Bid submission (as per Annexure C):

(a) Prices must be quoted on both FOB and FOR (Delhi) basis. All charges including all taxes should be clearly indicated.

(b) Guarantee or warranty conditions must be clearly specified.

(c) Service charges per visit and/or AMC after warranty period must be specified.

(d) Validity of quotation must be at least 4 months from the date of quotation.

(e) Mode of payment is through Wire transfer/LC for foreign purchases. Name and address of the company on whose name the LC is to be opened should be clearly mentioned.

(f) Supplier must submit TIN number / PAN number as applicable.

3. FINAL DECISION MAKING AUTHORITY

The University reserves the right to accept or reject any bid and to annul the process and reject all bids at any time, without assigning any reason or incurring any liability to the bidders. No claim whatsoever will be entertained/paid by the university to the bidder(s).

4. AMENDMENT OF TENDER DOCUMENT:

Before the deadline for submission of tender, the University may modify the tender document by issuing addendum/corrigendum. Any addendum/corrigendum thus issued shall be a part of the tender document and shall be uploaded on the University website (www.du.ac.in) and CPP portal <https://eprocure.gov.in/eprocure/app>. Prospective bidders must visit the website before filling and submission of Tender Document for such information.

5. ARBITRATION AND SETTLEMENT OF DISPUTES:

In the event of any question, dispute or difference arising under this agreement or in connection therewith (except as to matter the decision of which is specifically provided under this agreement), the same shall be referred to sole arbitration of the Registrar or any other person as approved by the Vice-Chancellor, University of Delhi. There will be no objection for any such appointment on the ground that the arbitrator is an Employee of University of Delhi or that he/she has to deal with the matter to which the agreement relates or that in course of his/her duties as University of Delhi Employee he/she has express views on all or any of the matter under dispute. The award of the arbitrator shall be final and binding on the parties.

The arbitrator may from time to time with the consent of parties change the time for making and publishing the award. Subject to India Arbitration and Conciliation Act 1996 and the Rules made there under, any modification thereof for the time being in force shall be deemed to apply to the arbitration proceeding under this clause.

Annexure A

INSTRUCTIONS FOR ONLINE BID SUBMISSION

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>.

REGISTRATION

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “**Online bidder Enrolment**” on the CPP Portal which is free of charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.

2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.

3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. **Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.**

4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use “My Space” or “Other Important Documents” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF BIDS

1) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.

3) Bidder has to select the payment option as “offline” to pay the tender fee / EMD as applicable and enter details of the instrument.

4) Bidder should prepare the EMD as per the instructions specified in the tender document. The last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.

5) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

- 6) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- 7) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 125 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 8) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 9) Upon the successful and timely submission of bids (ie after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 10) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

- 1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- 2) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.

TECHNICAL BID

1. Name of the Company
2. Address (with Tele No. fax No. & E-mail)
3. Contact person Name and mobile number
4. (a) The number of years of experience in dealing with software business _____
(b) Total value per year of Business during the last three years
(Attested certificate from Chartered Accountant should be attached.)
5. (a) Registration Number _____
VAT number
(b) PAN Number _____
(c) Service Tax Number _____
6. Technical details of equipment (AFM) as per details given below:

Specification for Atomic Force Microscope:

1. Modes required:
 - i) AFM Contact mode both in air and liquid
 - ii) Non Contact AFM mode/Intermittent contact mode/tapping mode
 - iii) Lateral Force Microscopy (LFM)
 - iv) Phase Imaging
 - v) Provision for delicate soft samples
 - vi) Imaging under liquid environments
 - vii) Force spectroscopy
 - viii) Point and shoot force mapping
 - ix) Nano Lithography and Manipulation/Indentation
 - x) Magnetic force microscopy (MFM)
 - xi) Piezo Response Force Microscopy (PFM) with option of voltage bias +/- 150 V or higher.
 - xii) Electrostatic force microscopy (EFM)
 - xiii) High-speed imaging > 15Hz.
 - xiv) Conductive AFM (CAFM)
 - xv) Scanning Tunneling Microscopy (STM)
 - xvi) Kelvin Probe Microscopy (Amplitude and frequency modulation)
2. CAFM should have capability to perform IV measurements while scanning as well as at user-specified locations and in user-defined wave forms
3. STM attachment should fit directly onto existing scanner assembly for measurements in both air and liquid. The tip sample approach / engagement at small currents should be ~ 1

nA or lower. It should be capable of stable imaging with tunnel current setpoint in the range 1 nA/V or better. The sample/tip bias should be user selectable in the range few mV to ± 10 V with smallest step size preferably ~ 5 mV

4. Large Scanner: XY scan range $90\text{ }\mu\text{m} \times 90\text{ }\mu\text{m}$ or better
5. Large Scanner: Z scan range $5\text{ }\mu\text{m}$ or better with noise level 0.03 nm or lower.
6. Small Scanner: XY scan range $8\text{ }\mu\text{m} \times 8\text{ }\mu\text{m}$ or better
7. Small Scanner: Z scan range $2\text{ }\mu\text{m}$ or better with noise level 0.03 nm or lower.
8. Maximum Image pixel resolution: 4096×4096 and above
9. Sample size $10\text{ mm} \times 10\text{ mm} \times 5\text{ mm}$ or larger with motorized XY and Z stage.
10. Microscope optics should have 5 Megapixel or better camera connected with computer
11. System (Z) noise better than 35 pm RMS , in typical imaging bandwidth.
12. User selectable image resolution up to 4096×4096 or better
13. Tuning of the cantilever resonance up to 2 MHz
14. At least 20 probe tips for conventional mode and five each of different modes to be provided additionally with the system.
15. Simultaneous display and capture of up to eight images
16. 16 bit or higher digital signal processor
17. 9 or more 16 bit or higher ADCs
18. 3 or more 16 bit or higher DACs
19. 3 or more lock-in amplifiers for simultaneous measurements
20. End of the line, end of the frame, and TTL outputs for synchronizing with other equipments
21. Realtime adjustable scan rate, size, offset, bias voltage, current etc.
22. A high end Computer with Windows-7 Operating System having 2 GHz , i7 processor or better, 4 GB RAM or higher, Internal hard drive space of 500 GB or higher.
23. Image processing software must have the common image processing features like surface roughness, cross section, grain size, depth, power spectral, histogram, fractal, fourier, image mixing, auto correlation, enhanced image filtering, force distance curve, 2D fast fourier, plane fit, high pass and low pass, zoom in/out, variable shading and display angle tilt, 2D and 3D height representation.
24. At least five additional Labview drivers for custom programming and interfacing for analysis.
25. Provision of data export to ascii, bmp, jpg, tiff, Matlab etc.
26. System has to be delivered with an active air -filled anti-vibration table with pneumatic assembly.

All the specifications quoted should be authenticated by instrument brochure.

Annexure C

FINANCIAL BID

S.no.	Description of Items	Quantity	Unit Cost	Total Cost
1.	Atomic Force Microscope	01		
Taxes (applicable if any) CIP New Delhi including Air Freight (INR) & FOR University of Delhi, Delhi				

Authorized signatory
With Seal of Company

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

To,

Sub: Acceptance of Terms & Condition of Tender.

Tender Reference No: _____

Name of Tender / Work:-

Dear Sir,

1. I/We have downloaded/obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:

As per your advertisement, given in the above mentioned website(s).

2. I/We hereby certify that I/we have read the entire terms and conditions of the tender documents from Page No. ____ to ____ (including all documents like annexure(s), schedule(s), etc.), which form part of the contract agreement and I/we shall abide hereby by the terms / conditions/ clauses contained therein.

3. The corrigendum(s) issued from time to time by your department / organization too has also been taken into consideration, while submitting this acceptance letter.

4. I/we hereby unconditionally accept the tender conditions of above mentioned tender document(s)/corrigendum(s) in its totality/entirely.

5. I/we do hereby declare that our firm has not been blacklisted/debarred by any Govt. Department/Public Sector undertaking.

6. I/we certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours faithfully,

(Signature of the Bidder, with Official Seal)