

**INTER - UNIVERSITY ACCELERATOR CENTRE
(An Autonomous Centre of UGC)**

Aruna Asaf Ali Marg, New Delhi -110067

NOTICE INVITING E – TENDER

Tender Number: IUAC/NIT/57/IS/2019-20

Dated: 14/02/2020

Inter-University Accelerator Centre (IUAC) invites online bids through e-procurement Portal under two bid system, viz., Technical and Financial bids, from eligible / experienced parties for the “**Supply, Installation & Commissioning of Atomic Force Microscope (AFM) with Confocal Raman Spectrometer**”.

Tender Documents may be downloaded from Central Public Procurement (CPP) Portal <https://eprocure.gov.in/eprocure/app> and www.iuac.res.in

Aspiring Bidders who have not enrolled / registered in e-procurement portal should enroll / register before participating through the website <https://eprocure.gov.in/eprocure/app>.

Bids shall be submitted online only at CPPP website: <https://eprocure.gov.in/eprocure/app>. Tenderers / Contractors / Bidders are advised to follow the instructions provided in the e-procurement portal. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned documents.

IUAC reserves the right to accept/reject any/all tenders in part/full without assigning any reason whatsoever and the decision of the IUAC in this regard will be binding on all the bidders.

Bidder has to select the payment option as "**offline**" to pay the tender fee and EMD as applicable. The Earnest Money Deposit (EMD) and tender fee shall be in the form of demand draft issued in favour of "Inter University Accelerator Centre, New Delhi" and it should be deposited in IUAC before the bid opening. Bidders registered with MSME /

NSIC and foreign bidders quoting directly are exempted from payments of EMD and tender fee. Copy of valid registration certificate should be uploaded.

Bidders are requested to note that they should necessarily submit their financial bids in the standard .XLS BOQ 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 and submit online without modifying the format. If the BOQ file is found to be modified by the bidder, the bid will be rejected.

Any Corrigendum / Amendments in respect of above tender shall be issued on the website <https://eprocure.gov.in> only. Bidders should take into account any corrigendum published on the tender document before submitting their bids.

Prequalification of the Bidder

The bidders must be an internationally reputed company / firm / manufacturer or supplier, who have supplied minimum three (03) numbers of such integrated set-up to institutions and research laboratories in India. The supplier must provide the details of the above users viz. their name, e-mail address, Institute address, contact numbers and model / make along with the copy of work orders with the technical bid.

E - TENDER DOCUMENT

Name of Work / Supply	Supply, Installation & Commissioning of Atomic Force Microscope (AFM) with Confocal Raman Spectrometer
Tender Number	IUAC/NIT/57/IS/2019-20
Tender Value (Estimate only)	USD 2,00,000/Euro 180000 (~INR 14,500,000/-)
Earnest Money Deposit	Rs. 2,90,000/- (Two lakhs ninety thousand)
Tender Document Fee	Rs. 500/- (Five hundred)
Date & Venue of Pre-Bid Meeting/Conference:	24/02/2020 Council/committee Room, IUAC, New Delhi

Bid Submission End Date and Time	March 12, 2020 at 3.00 p.m.
Technical Bid Opening Date (Part - A)	March 13, 2020 at 3.30 p.m.
Price bid Opening Date (Part - B)	To be intimated later onto the technically qualified bidders
Address for submission of Tenders	Administrative Officer (S&P) E-mail: joseph@iuac.res.in Phone: 011-24126018, 24126022

General Terms and Conditions of the Tender:

- 1) **Submission of Tender:** Tenders should be uploaded on CPP portal in two Parts i.e. “Technical bid” (Part-A) and Price bid/BOQ (Part-B).

2. Technical Bid (Part - A):

In this bid, the bidder shall upload the following documents required for technical qualifications. No deviation in respect of NIT conditions are acceptable.

- (a) Documents showing the company profile, organizational setup, credentials and copies of successfully executed work orders for reputed laboratories / institutes in India during the last five years. The same quoted system (Raman-AFM) or equivalent category system should have **at least 3 numbers** of installations in India. Copies of work orders and completion certificates of these installations should be uploaded.
- (b) Drawings, catalogues and other technical specifications of the products indicating its ability to meet the technical specifications as per Annexure - A.
- (c) Compliance certificate in the following format against the technical specifications should be provided.

S.No	Para of technical specification item-wise (As per annexure A)	Specification of Item offered	Compliance – whether YES/NO	In case of non-compliance, Deviation to be specified in unambiguous terms

- (d) Details of After Sales Service / Technical support available in India.

- (e) Tender Acceptance Letter on letter head fully signed and stamped.

Note: Technical bids which are not conforming to the technical specifications will be disqualified.

Pre-Bid Conference:

A Pre-bid Conference shall be held on 24/02/2020 at 11.00 a.m. in the committee room of IUAC. In order to facilitate IUAC for the proper conduct of the Pre-bid Conference, all prospective bidders are requested to kindly submit their queries through E-mail to joseph@iuac.res.in so as to reach us, on or before **21/02/2020** before 4.00pm

IUAC shall answer the queries during the pre-bid conference, which would become a part of the proceedings of the Pre-bid Conference. These proceedings will, in turn, become a part of clarifications/amendments to the bidding documents and would become binding on all the prospective bidders. These proceedings would also be hosted on IUAC website www.iuac.res.in for the benefit of all prospective bidders. Before formulating and submitting their bids, all prospective bidders are advised to surf through the IUAC website after the Pre-bid Conference, in order to enable them to take cognizance of the changes made in the bidding document.

Any Statement made at the pre-bid conference shall not modify the terms of the bidding documents unless such statement is made part of clarification in the proceeding of Pre-Bid Conference.

3. Price Bid / BOQ (Part - B) :

In this bid, the bidder is required to quote the rates on Standard .XLS BOQ format which is part of this tender. The BOQ format is to be downloaded and then filled and submitted online without modifying the format. The prices should be on FOB basis and unconditional.

4. **Earnest Money:** An earnest money of Rs. 2,90,000/- has to be deposited at IUAC before the tender opening. The EMD shall be only in the form of Bank Draft in favour of “Inter-University Accelerator Centre” payable at New Delhi. No Cheques/Cash shall be accepted as EMD. The EMD of technically disqualified tenderers will be returned within 15 days from the date of evaluation of the technical bids. The refund of EMD to all other tenderers except the lowest tenderer shall be made within 15 days from the

date of opening of price bid. The refund of EMD of the successful tenderer shall be made after completion of works and acceptance of system by IUAC.

5. Validity of Tender:

Tender shall be valid for our acceptance without any change in the rates and NIT conditions for a period of three months (90 days) from the date of opening the technical bid. No escalation of cost will be acceptable in any condition after opening of tender.

6. Escalation / Deviation:

No escalation or deviation shall be allowed till execution of order / contract.

7. Pre-Installation Requirements: Pre installation requirements like Power Supply, arrangement of rack, cooling requirement, temperature or humidity control or any other essential requirements which are to be kept ready / completed by IUAC before supply and installation of equipment, must be informed by the bidder clearly in their quotation to avoid any delay in Installation & Commissioning of equipment. Operating conditions and environment should clearly be mentioned.

8. Inspection:

The consignment shall be opened in presence of company's representative and inspection of the system will be done by IUAC technical experts/scientists. In case of receipt of the material in damaged or defective condition, the supplier will have to arrange the replacement of goods free of cost.

9. In-factory Training: The bidder should provide in-factory training to two Scientists/Engineers of IUAC for a period of one week at manufacturing site. IUAC will borne the cost of travel, lodging and boarding.

10. Installation / Commissioning:

The equipment should be installed/commissioned and demonstrated by the supplier at IUAC's site within a suitable time period on a mutually agreed basis after the delivery of goods at IUAC and the same will be put under operation. It is expected that during the initial performance test of the equipment, the vendor should help IUAC personnel, if required.

11) Terms of Payment:

90% payment will be made through Letter of Credit against complete shipping documents and remaining 10% payment will be released upon successful installation / commissioning at IUAC against a Bank Guarantee of an amount equal to remaining 10% of total value valid for 12 months.

12) Guarantee/ Quality Assurance:

- i) The bidder should guarantee for the equipment supplied and installed by him from the manufacturing/engineering defect and bad material/workmanship for a period of three years from the date of successful commissioning at IUAC. During this period if any replacement of items and/or repairs/rectification is needed, supplier shall make the same free of cost.
- ii) All units and parts of the equipment shall be properly packaged.

13) Documents and Manuals:

- i) Upon delivery the vendor should provide the guarantee documents mentioning all the terms and conditions in details.
- ii) All the information along with all the test results, technical descriptions, and data sheets shall be supplied in a bound design and operations manual.
- iii) Set of documents must include operating manuals, safety manuals, periodic maintenance, troubleshooting manuals and maintenance procedure.
- iv) Any other documentation necessary for safe and reliable operation of the equipment should also be supplied. Two sets of the manual should be provided without additional cost.

14) Software and applications:

All the application and analysis software including OS, drivers etc. with required license with installable media (if applicable) should be supplied.

15) Final Acceptance:

The final acceptance of the system is defined as successful completion of shipment, installation and commissioning at IUAC to substantiate compliance with the specification

mentioned in annexure A. Complete system with all the accessories and spare parts should reach to IUAC safely with all the mentioned warranty intact.

16) Post Warranty Period:

The company must guarantee to supply the spares for a period of at least 10 years.

17) Delivery Period:

The time shall be of essence for this contract and entire work as detailed in the tender document is to be completed and supplied to IUAC within a period of 180 days from the date of issue of purchase order. Any delay in completion of the work for reasons attributable to the vendor / manufacturer is liable for liquidated damages as per clause 18 of NIT. However, under the force-majeure conditions as per clause 18 of NIT, IUAC may grant suitable time extension for which vendor has to request along with the justification / reasons well in advance to the Director, IUAC for approval without any prejudice or price escalation.

18) Liquidated damages:

In case the delivery of the listed items is delayed beyond the specified delivery period for reasons attributable to the supplier, deductions on account of liquidated damages @ 1% per week of the total order value will be deducted subject to maximum 5% of the total order.

19) Force Majeure:

IUAC may grant an extension of time limit set for the completion of the work in case timely completion of the work is delayed by force majeure beyond the supplier's control. Force majeure is defined an event of effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, tsunami etc.), the direct and indirect consequences of wars (declared or undeclared), national emergencies, civil commotions and strikes (only those which exceeds a duration of ten continuous days) at successful Tenderer's factory. Apart from the extension of the time limit, force majeure does not entitle the successful Tenderer to any relaxation or to any compensation of damage or loss suffered. The decision of the Director, IUAC will be final and binding for the bidder.

20) Correspondence:

All the correspondence in respect of tender / contractual obligation shall be made to The Administrative Officer (S&P), Inter University Accelerator Centre, Aruna Asaf Ali Marg, New Delhi - 110067. E-mail : joseph@iuac.res.in, Phone : 011-24126018, 24126022.

21) Tender Rejection:

- (a) IUAC reserves the right to accept/reject any/all tenders in part/full without assigning any reason whatsoever and the decision of the IUAC in this regard will be binding on all the bidders.
- (b) Only complete bids will be considered and incomplete bids will be rejected.
- (c) If BOQ file is found to be modified by the bidder, the bid will be rejected.
- (d) Tenders not complying with any of the provisions stated in this tender document are liable to be rejected.
- (e) If the General Terms and conditions are not accepted and not signed by the bidders, then the tender will be rejected.

22) The contract shall be governed by the Indian Laws. Any dispute arising out of this contract will be subjected to jurisdiction of New Delhi / Delhi.

Annexure - A

Technical specifications of the Atomic Force Microscope (AFM) with confocal Raman Spectrometer to be procured.

S.No.	ITEM	Details
	ATOMIC FORCE MICROSCOPE	<p>The scanner should be same and compatible for use for all listed modes of operation including AFM and Raman.</p> <ul style="list-style-type: none"> • Piezo-driven scanner: one large ~ 90-100 μm and one small ~ 5-10 μm • Position accuracy: <1 nm in x and y direction and <0.2 nm in the z direction. • Noise level: xy with closed loop: ≤ 1.2 nm, z with closed loop: ≤ 0.1 nm • Automated sample to tip approach • Acoustic hood/enclosure for AFM with proper platform • Pixel density 4000\times4000 or more • Active Vibration Isolation Platform; active range ~0.7-1000Hz, passive >1000Hz • Following standard AFM modes: <ul style="list-style-type: none"> ❖ Contact mode, ❖ Tapping mode, ❖ Force distance Curves, ❖ Phase imaging, ❖ AC mode ❖ 50 tips for each mode of the above standard. • Instrument should also be capable of performing following optional modes <ul style="list-style-type: none"> ❖ Magnetic Force Microscopy, ❖ Electrostatic Force Microscopy, ❖ Kelvin Force Microscopy
	AFM CONTROL AND ANALYSIS SOFTWARE AND COMPUTER	<ul style="list-style-type: none"> • AFM data processing software should be part of the licensed AFM control software and should not be a freeware. And the licensed AFM software should be capable of scanning the optional modes as well. • The controller should enable all AFM modes of operation as listed above. • A suitable desktop computer for acquisition and operation with updated specifications available in the market. • Analysis Software license for additional computer.
	RAMAN SPECTROMETER	<ul style="list-style-type: none"> • High throughput spectrometer with focal length ~250 mm and above. • Spectrometer with high transmission @ 532nm • Spectral resolution: Better than 0.5 cm^{-1} for VIS-NIR region • Scan to scan repeatability should be better than 0.05cm^{-1} • Raman Spectral range ~ 100 cm^{-1} - 4000 cm^{-1} or better • Spectrometer Range: ~200nm- 1000 nm or more

		<ul style="list-style-type: none"> • Suitable filters for cut-off: 100 cm^{-1} or better for 532 nm • Spatial Resolution for Raman Imaging: Diffraction limited spatial resolution 250 nm or better in lateral with 532nm laser • Depth resolution 1 micron or better with 532 nm laser • Calibration source: the system should be supplied with calibration sources for spectral calibration of spectrometer OR should have option for inbuilt calibration.
	EXCITATION LASER FOR RAMAN SPECTROMETER	<ul style="list-style-type: none"> - All the lasers should be air cooled for maximal confocal performance and TEM00 mode. - The laser intensity of all lasers should be controllable to change the intensity from ~0 to 100 % using neutral density filters or other mechanism with minimal of 16 steps or more. - Excitation Diode (DPSS) LASER 532 nm, 50 mW or more - Excitation Diode LASER 633-785 nm with 50mW or more
	CCD DETECTOR FOR RAMAN SPECTROMETER	<ul style="list-style-type: none"> - Minimal 1024 x 200 pixel or equivalent format with pixel size of $16\text{ }\mu\text{m} \times 16\text{ }\mu\text{m}$ or more. - Peltier cooling down to -55 degree Celsius or better - Peak Quantum Efficiency $>40\%$,

	MICROSCOPE	<p>Confocal Microscope platform - branded research grade with colour camera for viewing. The vendor should clearly specify the model and make of the microscope. Microscope should include:</p> <ul style="list-style-type: none"> • Upright microscope for sample viewing • Integrated Colour camera for optical image • Standard Objectives –10x, 50x and 100x (Additional objectives as recommended for different modes as required and recommended as per system configuration should be included as per Manufacturer design). • Auto-focus and auto-contrast of bright field image
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Note: Additional Features (S.No. 3 to 6 of Annexure B) must be offered separately: These optional items will be purchased only if the price falls within the budget available. However, the vendors must state/certify that the AFM +Raman system provided will be compatible with these attachments in case these are purchased separately now or in the future and the priced offer should be made including the price of these optional modules /capabilities.

Name & Signature of Tenderer Company with Seal

Annexure - B

BOQ/ PRICE BID FORMAT

(Prices should be quoted in the BOQ/Price bid section only, given separately)

Name of Work/Supply: **“Supply, Installation & Commissioning of Atomic Force Microscope (AFM) with Confocal Raman Spectrometer”**.

S No.	Description	Quantity	Unit	Price on FOB basis
1	Atomic Force Microscope (AFM) with Confocal Raman Spectrometer as per specifications mentioned in Annexure A.	1	No	
2	Installation & Commissioning charges.	1	No	
3	Essential spares and consumables for two years after warranty period such as AFM tips etc.	1	Lot	
4	Hardware and software required for the following optional modes: <ul style="list-style-type: none">• Magnetic Force Microscopy and Electrostatic Force Microscopy	1	Lot	
5	Hardware and software required for Kelvin Force Microscopy	1	Lot	
6	In-factory training for two Scientists/Engineers of IUAC at manufacturing site for a period of one week. IUAC will borne the cost of travel, lodging and boarding	1	No	
7	Packing and Forwarding charges (if any)	1	No	

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

Date: _____

To

The Administrative Officer (S&P)
Inter-University Accelerator Centre
Aruna Asaf Ali Marg
New Delhi-110 067.

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No: IUAC/NIT/57/IS/2019-20

Name of Tender / Work: **Supply, Installation & Commissioning of Atomic Force
Microscope (AFM) with Confocal Raman Spectrometer**

Dear Sir,

1. 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. We hereby certify that 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 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 have also been taken into consideration, while submitting this acceptance letter.
4. We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.
5. We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/ Public sector undertaking.
6. 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)