



भारतीय प्रौद्योगिकी संस्थान तिरुपति

Indian Institute of Technology Tirupati

Yerpedu – Venkatagiri Road, Yerpedu Post, Tirupati District, Andhra Pradesh.
Pincode - 517619. Telephone: 0877- 2503572,

Email: purchase@iittp.ac.in

Tender No. IITT/CI/2023-24/23

16th February 2024.

NOTICE INVITING TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF ATOMIC FORCE MICROSCOPE

(E-PROCUREMENT MODE ONLY)

Indian Institute of Technology Tirupati (IIT Tirupati) invites online bids (e-tender) in Two bid system from eligible **Class-I / Class-II / Non local suppliers** in line with Government Public Procurement Order No. P-45021/2/2017-BE-II dated: 04.06.2020 for the following:

Item Description	Quantity
Supply, installation, testing and commissioning of Atomic Force Microscope	01 No.
Total	

The Tender Document can be downloaded from Central Public Procurement (CPP) Portal <http://eprocure.gov.in/eprocure/app> and bid is to be submitted online only through the same portal up to the last date and time of submission of tender.

Critical Dates of Tender:

1	Date and time of Online Publication/Download of Tenders	16.02.2024	18.00 hrs
2	Pre Bid Details	28.02.2024	11.30 hrs
3	Bid submission start date & time	02.03.2024	18.00 hrs
4	Bid submission close date & time	12.03.2024	15.00 hrs
5	Closing date & time for submission	12.03.2024	15.00 hrs
6	Opening of Technical bids	13.03.2024	15.00 hrs

- **Pre-Bid Date & Time: Pre-Bid Meeting is conducting on Hybrid Mode, which means bidder can participate both online and offline.**
 - **For offline the venue address as follows:**

**Indian Institute of Technology Tirupati
Yerpedu – Venkatagiri Road, Yerpedu Post,
Tirupati District, Andhra Pradesh.
Pincode - 517619.**

- **For Online Link Meeting: <https://meet.google.com/ftv-txte-fip>**

1. About IIT TIRUPATI:

Indian Institute of Technology Tirupati (IIT Tirupati) is an Autonomous Institute under Ministry of Education, Govt. of India.

2. Technical Specifications: Schedule of requirement

S N	Item Description			
1	Supply, installation, testing and commissioning of Atomic Force Microscope. Atomic Force Microscope for multidisciplinary applications including soft matter and biomolecule topology characterization and material science applications			
Technical Specifications:				
	Sl. No.	Description	IIT TIRUPATI Specifications	Essential (or) Specify
	1.	Operational modes with AFM (all modes must operate in both air and liquid)	The below operational modes with AFM must operate in both Air and Liquid and should be included: <ul style="list-style-type: none"> • Contact Mode • Lateral Force Mode (LFM) • Force Mapping Mode (Force Volume) • Tapping Mode • Tapping Mode with Q-control • Phase Imaging 	Essential
	2.	Application Modes	The below application modes should be included: <ul style="list-style-type: none"> • Force Modulation Microscopy • Two frequency mode - Amplitude and phase response at a second frequency (often a higher mode) to provide useful additional image contrast while the primary topographic feedback loop runs at the fundamental frequency. In order to optimize signal-to-noise the second frequency must be driven simultaneously with the fundamental resonance. • Electrostatic Force Microscopy (EFM) • Kelvin Probe Force Microscopy (KPFM) • Magnetic Force Microscopy (MFM) • Resonance tracking mode - Operating on resonance to improve the measurement signal to noise for operating modes like piezo response force microscopy and contact resonance imaging. • Piezoresponse Force Microscopy (PFM) <ol style="list-style-type: none"> 1. Vertical PFM 2. Lateral PFM 3. Switching Spectroscopy PFM 4. PFM Lithography 	Essential

			<ul style="list-style-type: none"> • Conducting AFM – the system allows conductive measurements while scanning as well as at user-specified locations (I-V) Curves. A sample bias of -10V to 10V is possible. The software allows user-specified wave forms for I/V spectroscopy (square, sine, triangle, pulse, or user defined). The current sensing range is 1 pA to 20 nA. • Extensive and integrated Nanolithography/ Nanomanipulation Module. The Nanomanipulation software should allow the user to specify the path (freehand or line), the amount of force used, as well as velocity. • Nano-Mechanical property mapping (generate quantitative nanoscale maps of storage and loss modulus,) - tapping mode imaging technique which has the following minimal capabilities: <ul style="list-style-type: none"> ❖ When combined with faster cantilevers, it should acquire nanomechanical data much faster than force curve-based techniques and should be able to achieve speeds up to 20 Hz line rate). ❖ A wide range of sample elastic moduli (MPa to GPa) can be imaged with the same type of cantilever since the mechanical properties are extracted from frequency shifts instead of cantilever deflection. ❖ An overall range of 100 kPa to 100 GPa should be possible to be measured. ❖ In addition to the elastic modulus (E'), the loss tangent which is the ratio of the loss modulus (E'') over the elastic modulus (E') should be measured. The viscoelastic response (expressed as either loss tangent or loss modulus) is an important design parameter for polymers and elastomers. ❖ Contact Resonance Mode for quantitative measurements of elastic and viscoelastic modulus should also be provided to allow working with samples with high storage modulus. 	
3.	Laser Source/Detector		<ul style="list-style-type: none"> • The instrument optical lever arm must use a low coherence laser source (a super luminescent diode) to reduce artefacts from optical interference effects. • <u>Laser spot positioning and photodetector centering must be motorized and controlled through software. Laser spot positioning and Photodetector alignment must allow automated centering and controlled through software. Manual adjustment of photo detector is not acceptable.</u> 	Essential

		<ul style="list-style-type: none"> System must support the use of small cantilevers. Laser Spot size at the cantilever must be 10 μm or smaller (using $1/e^2$ irradiance contour, the standard metric for laser spot sizes). The microscope must have an optical sensing detector bandwidth of at least DC to 7 MHz. <u>The system must include separate laser source for photothermal cantilever excitation / equivalent technology with justification to excite the cantilever resonance in all AC modes with a drive frequency up to at least 7 MHz. The focal plane and cantilever plane must be parallel to allow simple spot positioning. Spot positioning of laser used for photothermal excitation must be motorized and under software control, with the spot location being controlled and aligned on cantilever with a single mouse click.</u> 	
4.	Stages (XYZ are completely automatic and synchronized) sample movement	<ul style="list-style-type: none"> System must include a sample chuck at least 210 mm in diameter, with mechanical access for working with samples up to > 150 x 180 mm. The chuck must include wafer locating pins and vacuum rings for a variety of wafer sizes. The chuck must also include magnetic mounting points for conveniently mounting samples prepared on standard 10-15 mm diameter AFM discs. The system must include a motorized sample stage, with stage travel of at least > 150 x 180 mm, with a minimum step size of <500 nm. The maximum stage velocity must be at least 40 mm/sec. Motorized stage (XY) should be programmable for multi-site measurements with integrated stage control for fast sample navigation. The Z stage and focus/optics stage should also be motorized. The system must include motors for automatically approaching and engaging the sample. 	Essential
5.	Sample Size	<ul style="list-style-type: none"> Opaque, transparent, insulating, conducting, and biological samples will be able to image. The stage must accommodate a sample size of up to 210 mm dia and 35 mm thickness. 	Essential
6.	Sample piece Permissible Load	The sample stage should accommodate sample weights up to ≥ 500 grams.	Specify
7.	Scanners: The instrument design should allow the use of two or more scanners to cover a large area and high-resolution imaging.	<p>A single scanner must be compatible with all supplied scan modes and for Fast Imaging.</p> <ul style="list-style-type: none"> Each axis of motion is independently actuated using its own piezo stack and flexure stage. The XY scanner should be separate from the Z scanner to eliminate the “bowing” artefact commonly seen in Piezo-tube based (XYZ scanners) AFM systems. System must scan the sample in XY and the tip in Z. 	Essential

		<ul style="list-style-type: none"> The instrument must use single scanner to cover large area and high-resolution imaging. The instrument should demonstrate atomic lattice resolution in AC mode and contact mode imaging. It should be done with the large scan-range scanner that should also image up to (XY) 100μm x 100μm in closed loop. Allows large survey scans with the ability to zoom-in to get high resolution images at a region of interest. System must include a closed-loop XY scanner with a range of at least 100 μm, and XY sensor noise <150 pm average deviation (ADev) in a 0.1 Hz to 1 kHz bandwidth at the center of the scanner range. Scanner noise specifications and representative high-resolution imaging examples must be available for inspection in publicly available brochures, datasheets or websites. This one scanner must be compatible with all supplied scan modes. System must include a Z scanner with a range of at least 12 μm, and capable of both open-loop and closed-loop operation. Noise on the Z sensor must be <35 pm Adev in a 0.1 Hz to 1 kHz bandwidth at the center of the scanner range. Scanner noise specifications and representative high resolution imaging examples must be available for inspection in publicly available brochures, datasheets or websites. The scanner must be compatible with all supplied scan modes. System must be capable of high speed closed-loop imaging. In particular, it must support 100 μm scan sizes at >2 Hz, and 5 μm scan sizes at >40 Hz, with no loss in image resolution for typical samples (< 50 nm topography). Proposals without appropriate data will be rejected. Should not be based merely on algorithms and the technique used should not result in loss of image quality / resolution. 	
8.	Tip-sample viewing / System Optics	<ul style="list-style-type: none"> The system must include a camera and optical assembly that provides an optical field of view of the sample of at least 930 μm x 1240 μm, with an optical resolution better than 1.5μm. The optics must include an objective lens with an NA of at least 0.30. Software control of the optics must include digital pan and zoom. The built-in optics must include software-controlled intensity, and software-controlled field and aperture diaphragms. 	
9.	Probe / Sample holder	Appropriate sample holders which are compatible with all modes for mounting the probe and sample should be provided and it should be user fuser-friendly cantilever/probe holder must be compatible with most commercial cantilevers.	
10	Performance /	<ul style="list-style-type: none"> System must use at least 24-bit digital-to-analog converters (DACs) in order to generate the XY and 	Essential

		<p>Controller Electronics</p>	<p>Z piezo scan signals. At both 100 μm and 10-nm scan sizes, the corresponding bit resolution must be sub-Angstrom ($<0.1\text{nm}$). Note that this specification applies to the generation of the scanner drive signals, not the sampling of the scanner position sensors.</p> <ul style="list-style-type: none"> • The AFM control electronics must provide 100% digital operation. • The electronics must include digitally controlled switches for user-defined signal routing. • The system provides thermal tunes of the cantilever up to 7 MHz. • The system must include software-controlled relays for the X, Y and Z high voltage supplies and the laser power. • Floating point DSP running should be at 80MHz and Dual-core NIOS in FPGA. • Four Field Programmable Gate Arrays running should be up to 667 MHz. • The electronics provides access to all major signals on BNC connectors on the controller front panel including deflection (A-B), sum (A+B), amplitude, phase, lateral force, X, Y and Z sensors, three user inputs, three user outputs, X, Y and Z piezo drive voltages, and user X, Y and Z modulation voltage inputs compatible with external hardware. • The data acquisition system must be capable of recording individual image sizes of 8000x8000 pixels or greater. • Heads, scanners, probe holders and optional environmental control cells must be "plug and play", meaning that the software automatically recognizes them and configures the software appropriately (for example, by loading the appropriate calibration parameters). • System must include a feature that automatically calibrates the cantilever sensitivity (deflection sensitivity/INVOLS) and spring constant by simply selecting the probe type and clicking a button. To avoid tip damage, at no point during the calibration may the tip touch the sample. The feature must actually calibrate the probe. It must not use nominal tabulated values for the sensitivity and spring constant. • System must include the ability to track a changing resonance frequency during operating modes like piezoresponse force microscopy and contact resonance imaging. Phase-locked loops (PLL) do not offer sufficient stability to satisfy this specification. <u>Solutions that require third-party</u> 	
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		<u>electronics and software are acceptable with relevant publications.</u>	
11.	Computer and Software	<ul style="list-style-type: none"> • Latest computer with OS with single 32" wide or 24" dual monitor. • Preferably Intel i5 or higher / equivalent processor. • 8 GB RAM or higher. • Internal hard drive space of 1 TB HDD or 256 SSD or higher capacity. • Multiple USB drive and CD/DVD burner for backup-storage of image data. • PC should be preloaded with AFM software and other necessary software required to run the system. • Software must support both the thermal and Sader methods for spring constant calibration at resonances up to at least 7 MHz. The techniques must be entirely contained within the AFM hardware and software, proposals requiring external or third-party hardware and software are not acceptable. • The software must include drift compensation software. Software must allow a region of interest to be tracked in real-time, to within 1 nm of precision, while eliminating any scan distortion in the image. Drift compensation must be able to be applied to any imaging, spectroscopy or advanced characterization mode, and in conjunction with sample heating and cooling options. • Software must include a feature that automatically optimizes the imaging gain and setpoint for AC Mode (tapping mode) operation. The feature must use a predictive algorithm such that operation is stable and producing high quality data within the first few scan lines. Features based on other operating modes besides AC mode (tapping mode) are not acceptable. • The software must allow user-specified wave forms for electrical modes like while doing I/V spectroscopy etc (square, sine, triangle, pulse, or user defined). 	Essential
12.	Accessories	<ul style="list-style-type: none"> • Calibration standards sample for system calibration must be included. • Supporting tools - General supporting tools for operation and maintenance of AFM system must be included. • Appropriate communication cables and power cables to be provided. 	Essential
13.	Active Anti vibration Platform with	<ul style="list-style-type: none"> • System must include an acoustic enclosure and vibration isolation table that provides isolation 	Essential

	environment enclosure.	from both vibrational and acoustic noise. Acoustic isolation must be >20 dB.	
14.	Environmental Control Requirement	<ul style="list-style-type: none"> • Acoustic noise in the lab should be less than 50 dB. • Floor accelerations below 1 mm/s² (A_{Dev}, 0.1 Hz-1 kHz BW) will allow very good AFM performance. • Required relative humidity: 30 - 70%, non-condensing. • Required temperature: 15°C - 35°C • Compressed air source is required for vibration table. House air (i.e., compressed air plumbed into the lab) is preferred. • Vacuum source (of <0.2 Bar) is required for sample stage. House vacuum (i.e. vacuum plumbed into the lab) is preferred where available. 	Specify
15.	Power Supply	<ul style="list-style-type: none"> • The power requirement for the main facility and for the accessories must be as per Indian standards. • Requirements of space, electricity, and other auxiliaries for the equipment should be specified. 	Essential
16.	Acceptance Criteria	<p>Should meet all requirements of specifications satisfactorily as given in the enclosed Acceptance Criteria and the Scope of Supply as per purchase order enclosure.</p> <p>Customer Acceptance Tests / Pre dispatch inspections/Post advance training will be conducted for a period of around 1 week at the supplier's place. (Note: All expenses are to be borne by the supplier for two or more persons).</p> <p>Final acceptance is based on acceptance tests conducted at IIT TIRUPATI as per the enclosed Acceptance Criteria.</p> <p><u>Note: Should be demonstrable on standard samples with autofocusing capability. The same instrument or better should be installed about 5 numbers in National / International Premier Institutes in previous 3 years with references.</u></p>	Essential
17.	Manuals	Hard and Soft copies of all manuals (System manual, Operational manual including all supplied modes, and Software user manual) should be provided.	Essential
18.	Installation & Commissioning	Installation & Commissioning should be done free of cost at IIT TIRUPATI by the trained engineers	Essential
19.	Service Support	Service support with spare parts availability for a period of 10 years is essential	Essential

	20.	Training	Complete training for the operation of imaging and all other application modes to at least two staff + 3phd students. The vendor should be provided with 2 engineers for a minimum of 5 man-days at IIT TIRUPATI.	Essential
	21.	Performance Warranty	The equipment should have a warranty for a standard 36 months including all types of spares along with service engineers from the date of installation at IIT TIRUPATI	Essential
02	Warranty: 3-year Onsite warranty by OEM/ OEM Authorised partner from the date of acceptance of material by IIT Tirupati.			
03	Spares and service support: Minimum 10 years from the instrument's acceptance by IIT Tirupati.			
04	<ul style="list-style-type: none"> • Optional Item No 1: Heating Stage: Variable temperature stage covering a range from Ambient to 300 deg C should also be offered Optionally. There should be an option to purge gas to the heating stage to minimize oxidation while heating. • Optional Item No 2: Sample Stretching Stage for AFM – The Accessory should be quoted optionally with a high-strain, high-travel manual stretching stage that should provide two-axis stress control of tensile loaded sample and should allow control of the sample image region under different loads. The stage should be compatible with a wide variety of imaging techniques. Sample Size: 12mm wide max x 41mm long min x 6mm thick. · Maximum range of motion should be 110mm (30mm relaxed to 147mm fully stretched). · Force sensors: +/- 65 N (0.16 N true bit resolution) and +/- 17 N (0.04 N). 			

- **L1 will be arrived only based on main equipment price alone. Optional item will not be considered for L1 status.**
- **Pre-Bid Date & Time: Pre-Bid Meeting is conducting on Hybrid Mode, which means bidder can participate both online and offline.**
 - **For offline the venue address as follows:**

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Yerpedu – Venkatagiri Road, Yerpedu Post,
Tirupati District, Andhra Pradesh.
Pincode - 517619.**

- **For Online Link Meeting: <https://meet.google.com/ftv-txte-fip>**
- **The Technical bid should contain unpriced Bill of Material (BOM) with quantities of each line item.**
- **All offered products Technical Specifications and Brochures are to be submitted along with the Technical Bid.**
- **The detailed scope of coverage of the Warranty shall be provided in the compliance statement -Annexure-VII.**
- The Bidder shall furnish, as part of its bid, documents establishing the conformity of the Equipment that the Bidder proposes to supply under the Contract to the requirements of the Purchaser, as given in the Tender Document.
- The documentary evidence of conformity of the Equipment to the Tender Document may be in the form of written descriptions supported by Brochure / literature / diagrams /

certifications, including: (a) A detailed description of the essential technical, functional and performance characteristics of the Equipment that the Bidder is proposing to supply; (b) Technical details of the major subsystems/components of the Equipment.

3. BID SECURITY DECLARATION DETAILS:

3.1 Bid Security Exemption:

I) **Micro and Small Enterprises (MSEs):**

Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) **for goods produced and services rendered**, are exempted from Bid Security. However, they have to enclose **valid self-attested registration certificate(s)** along with the tender to this effect.

Accordingly, MSEs shall be required to submit valid **Udyam Registration Certificate** for availing benefit under MSE Procurement Policy.

The benefit as above to MSEs shall be available only for Goods produced and services rendered by MSEs. However, traders are excluded from the purview of MSE Procurement Policy.

II) **Startup(s):**

Startup(s) as recognized by **Department for Promotion of Industry and Internal Trade (DPIIT)**, Govt. of India, are exempted from Bid Security. However, they have to enclose **valid self-attested registration certificate(s)** along with the tender to this effect.

Eligible MSE and startup bidders who seeks exemption from Bid Security as per clause no. (c) above, if they withdraw or modify their bids during the period of validity, or if they are awarded the contract and they fail to sign the contract, or to submit a performance security before the deadline defined in the request for bids document, they will be suspended for the period of three years or as decided by the competent authority from being eligible to submit bids for contracts with the entity that invited the bids.

3.2 Other than eligible MSE and Startup bidders, Bid Security Declaration:

Bidders should have to submit the Bid Security Declaration (As per the format attached in annexure-II) in duly filled and signed condition.

4. ELIGIBILITY CRITERIA

4.1 Other Important Documents (OIDs)

Firm Incorporation Certificate, PAN details, GST details are to be provided.

4.2. Statutory Documents:

- I) The Bidder should give self-declaration certificate for acceptance of all terms & conditions of tender documents. A duly completed certificate to this effect is to be submitted as per the Annexure-I.
- II) The firm should not be in the active debarred list by any Central / State Government / Public Undertaking / Institute and no criminal case registered / pending against the firm or its owner / partners anywhere in India. A duly completed certificate to this effect is to be submitted as per Annexure-III.

III) Experience and Past Performance:

The bidder/OEM should have supplied similar system during past three financial years **i.e., during 2019-20 to 2021-22 or 2020-21 to 2022-23** in India to Central/state Govt/PSU/CPSEs/Educational R&D Institutions. Vendor should provide satisfactory installation certificates with product details as proof with customer contacts email and phone number as per the **Annexure-IV**.

- IV) The Annual Turnover should be at least Rs. **3 Crores** and be profitable during each of the previous three financial years **i.e., during 2019-20 to 2021-22 or 2020-21 to 2022-23**. Audited financial Statements or Financial Statements showing turnover duly signed by a Chartered Accountant are to be submitted as per the **Annexure-V**.
- V) **In case the bidder is a Class-I / Class-II/ Non-Local Supplier in line with the Public Procurement (Preference to Make in India) Order 2017 No. P-45021/2/2017-PP (BE-II) dated 04 Jun 2020 as amended from time to time. A Self-Declaration Certificate regarding “Class-I/Class-II/Nonlocal Supplier” for the tendered items as per the Annexure-V is to be submitted.**

As per the OM of Department of Promotion for Industry and Internal Trade No. P-45021/102/2019-BE-II-Part (1) dated: 04.03.2021. The bidders can't claim themselves as Class-I local suppliers/Class-II local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition.

- a. ‘Local Content’ means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of

imported content in the item (including all custom duties) as a proportion of the total value, in percent.

- b. 'Class-I local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50% as defined under this order.
- c. 'Class-II local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has minimum local content of 20% but less than 50%, as defined under this order.
- d. 'Non-local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than 20%, as defined under this order.
- e. Complaint redressal mechanism: In case any complaint received by the procuring agency or the concerned Ministry/Department against the claim of a bidder regarding local content/domestic value addition in an electronic product, the same shall be referred to STQC.
- f. The bidder shall be required to furnish the necessary documentation in support of the domestic value addition claimed in an electronic product to STQC. If no information is furnished by the bidder, such laboratories may take further necessary action, to establish the bonafides of the claim.
- g. A complaint fee of Rs. 2 lakh or 1% of the value of the domestically manufactured products being procured (subject to a maximum of Rs.5 lakh), whichever is higher, to be paid by Demand Draft to be deposited with STQC. In case, the complaint is found to be incorrect, the complaint fee shall be forfeited. In case, the complaint is upheld and found to be substantially correct, deposited fee of the complainant would be refunded without any interest.
- h. False declarations will be in breach of the Code of Integrity under Rule 175 (1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

VI) The bidder should be OEM or OEM authorized Dealers / Channel partners / Distributors of reputed brand having authorization for sales and after sales support. Valid OEM authorization letter is required to participate in this tender.

VII) **Prior Registration and / or Screening of bidders:**

Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder registered with the competent authority. **The concerned bidder(s) are required to attach the relevant valid Registration Certificate along with the bid for consideration.**

“Bidder” (including the term ‘tenderer’, consultant or service provider in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of

bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

“Bidder from a country which shares a land border with India” for the purpose of this Order means:-

- An entity incorporated, established or registered in such a country; or
- A subsidiary of an entity incorporated, established or registered in such a country or
- An entity substantially controlled through entities incorporated, established or registered in such a country; or
- An entity whose beneficial owner is situated in such a country; or
- An Indian (or other) agent of such an entity; or
- A natural person who is a citizen of such a country; or
- A consortium of joint venture where any member of the consortium or joint venture falls under any of the above.

The detailed terms & conditions issued from time to time in this regard by Government of India will be applicable.

VIII) **Authorized Representatives:**

Bids of bidders quoting as authorised representative of a principal manufacturer would also be considered to be qualified, provided:

- (i) Their principal manufacturer meets all the criteria above without exemption, and
- ii) The principal manufacturer furnishes a legally enforceable tender-specific authorisation assuring full guarantee and warranty obligations as per the general and special conditions of contract;
and
- iii) The bidder himself should have been associated, as authorised representative of the Principal Manufacturer for same set of services as in present bid (supply, installation, satisfactorily commissioning, after sales service as the case may be) for same or similar item for past three years ending on bid opening date.

4.3 TECHNICAL CRITERIA

Bidders should comply the specification of the tendered item in all respect. The detailed format is attached at Annexure-VII. The bidder is to complete the same in all respect and submit accordingly.

5. FINANCIAL BID DETAILS

- 5.1 Financial bid i.e. BOQ given with tender (in **Excel format**) to be downloaded first and uploaded after filling all relevant information strictly as per the format failing which the offer is liable for rejection. Kindly quote your offer on FOR IIT Tirupati (inclusive of all

taxes and charges) for indigenous bidders. CIP Chennai airport for foreign bidders. **Vendor should quote prices in BOQ only, offers indicating rates anywhere else shall be liable for rejection.**

- 5.2 IIT Tirupati is registered DSIR, Govt of India and eligible for exemption for payment of customs duties in terms of Government of India Notification No. 51/96-customs dated 23/07/1996. Necessary certificate in this regard will be issued as per requirement and on request of the successful bidder.

6. BID PRICES

- 6.1 Prices must be quoted separately for each equipment/item identified.
- 6.2 Price quoted for equipment must include all costs associated with packing, transportation, insurance, all duties and levies, delivery of equipment, loading and unloading on **DOOR DELIVERY** basis to the **Indian Institute of Technology Tirupati, IIT Tirupati campus, Venkatagiri Road, Yerpedu Mandal, Pin: 517619, Tirupati District, Andhra Pradesh, India** including its installation, commissioning, integration and validation.
- 6.3 In case of equipment originating in other countries, prices shall be quoted on CIP (Port of Destination – Chennai Airport/ Seaport). The comparable prices will be arrived based on CIP basis. In the case equipment originating in other countries, the bidder shall provide the following at the time of supply, within 24 hours of dispatch: a) Supplier's Invoice giving full details of the goods including quantity, value, etc.; b) Packing list; c) Certificate of country of origin; d) Manufacturer's guarantee and Inspection certificate; e) Inspection certificate issued by the Purchaser's Inspector; f) Insurance Certificate upto destination, IIT Tirupathi g) Name of the Vessel/Carrier; h) Bill of Lading/Airway Bill; i) Port of Loading; j) Date of Shipment; k) Port of Discharge & expected date of arrival of goods and l) Any other document(s) as and if required in terms of the contract.

7. Bid Currency:

- 7.1 Prices of indigenous equipment/items shall be quoted in **Indian Rupees**.
- 7.2 Prices of equipment/items originating in other countries shall be quoted in the **currency of the country of origin** and the portion of allied work and services, which are to be undertaken in India, are to be quoted in the Indian Currency. The comparison of financial bids would be done after converting the currency value in INR based on RBI rates applicable on the date of opening of the tender.
- 7.3 As per Tender Clause No.5, for Indigenous bidders the quote should be FOR IIT Tirupati (inclusive of all taxes and charges) and for foreign bidders the quote should be upto CIP Chennai Airport. In order to match with Indigenous bidders for arriving L1, the cost towards concessional customs duty, IGST, clearance and onward transmission upto IIT Tirupati will be loaded for the foreign bidders, by adding 30% of the quoted CIP value.

8. TIME SCHEDULE:

1	Date and time of Online Publication/Download of Tenders	16.02.2024	18.00 hrs
2	Pre Bid Details	28.02.2024	11.30 hrs
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9. AVAILABILITY OF TENDER

The tender document can be downloaded from <http://eprocure.gov.in/eprocure/app> and be submitted only through the same website.

10. BID VALIDITY PERIOD

The bid will remain valid for 120 days from the date of opening as prescribed by IIT Tirupati. A bid valid for a shorter period shall be rejected, being non-responsive.

11. BID SUBMISSION

11.1 Instruction to Bidder

- I) Bidders are required to enrol 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. **The registration is completely free of charge.**
- II) Possession of a valid Class II/III DSC in the form of smart card / e-token is a prerequisite for registration and participating in the bid submission activities. DSCs can be obtained from the authorised certifying agencies recognized by CCA India (e.g. Sify/TCS/nCode/eMudhra etc).
- III) 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.
- IV) 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 DSCs to others which may lead to misuse.

- V) The Bidders are required to log in to the site through the secured log-in by entering their respective user ID / password and the password of the DSC.
- VI) The CPP portal also has user manuals with detailed guidelines on enrolment and participation in the online bidding process. The user manuals can be downloaded for reference.

11.2 TENDER CLARIFICATION

- I) In case the bidders require any clarification regarding the tender documents, they are requested to contact our office Ph. no: 0877-2503572, Email ID: purchase@iittp.ac.in on or before due date.
- II) Technical and Specifications related Clarifications contact our Email ID: evmrs@iittp.ac.in on or before due date.
- III) 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.

11.3 ONLINE BID SUBMISSION PROCEDURE

Cover-1: The file should be saved in a PDF version numbered sequentially and should comprise of the following items:

Packet-1:

Duly Completed Scanned PDF copy of, PAN, GST, Firm Registration certificate and Annexure-I to VIII with relevant supporting documents

Only the relevant documents as per the tender clauses are to be uploaded along with duly completed checklist as per the annexure-X. Uploading of other than the required documents may liable for rejection of the bid.

Cover-2:

A standard BOQ format has been provided in excel format. Bidders are required to download the BOQ excel file and fill their financial offer on the same BOQ format. After filling the same, submit it online in excel format, without changing the financial template format.

Note:

If the bid is incomplete and / or non-responsive it will be rejected during technical evaluation. The bidder may not be approached for clarifications during the technical evaluation. So, the bidders are requested to ensure that they provide all necessary details in the submitted bids.

12. BID OPENING

12.1 Technical Bids will be opened on **12.03.2024 @ 15.00 Hrs.**

12.2 Financial Bids of the eligible bidders will be opened on a later date. The date and time for opening of Financial Bids will be announced later.

12.3 Bids should be summarily rejected, if tender is submitted other than through online or original Bid security declaration are not submitted within stipulated date / time.

13. BID EVALUATION

Based on results of the Technical evaluation IIT Tirupati evaluates the Commercial Bid of those Bidders who gets qualify in the Technical evaluation. The Commercial Bid with the lowest price will be the highest evaluated bid.

13.1 Purchase Preference

I) Micro and Small Enterprises (MSEs):

Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) for goods produced and services rendered, may be provided following purchase preference:

Item wise Quantity	Price Quoted by MSE	How the tender shall be finalized
Cannot be split	L1	Full Order on MSE
Cannot be split	Not L1 but within L1 + 15%	Full Order on MSE subject to matching L1 Price

II) Preference to Make in India

- a) In procurement goods or works which are covered under by para 3(b) of the extant Public Procurement (Preference to Make in India) Order 2017 dated 04 June 2020 and which are **divisible** in nature, the “Class-I Local Supplier” shall get purchase preference over “Class-II Local Supplier” as well as “Non-Local Supplier” as per following procedure:
 - i) **Among all qualified bids, the lowest bid will be termed as L1. If L1 is “Class-I Local Supplier”,** the contract for full quantity will be awarded to L1.
 - ii) **If L1 bid is not a “Class-I Local Supplier”,** 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the “Class-I Local Supplier” will be invited to match L1 price for the remaining 50% quantity subject to the Class-I Local Supplier’s quoted price falling within the margin of L1 + 20%, and contract for that quantity shall be awarded to such “Class-I Local Supplier” subject to matching the L1 price. In case such lowest eligible “Class-I Local Supplier” fails to match L1 price or accepts less than the offered quantity, the next higher “Class-I Local Supplier” within the margin of L1 + 20% shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is

still left uncovered on Class-I local suppliers, then such quantity may be ordered on the L1 bidder.

b) In procurement goods or works which are covered under by para 3(b) of the extant Public Procurement (Preference to Make in India) Order 2017 dated 04 June 2020 and which are **not divisible** in nature, and in procurement of services where the bid is evaluated on price alone, the “Class-I Local Supplier” shall get purchase preference over “Class-II Local Supplier” as well as “Non-Local Supplier” as per following procedure:

i) **Among all qualified bids, the lowest bid will be termed as L1.**

If L1 is “Class-I Local Supplier”, the contract will be awarded to L1.

ii) **If L1 is not a “Class-I Local Supplier”, the lowest bidder among the Class-I Local Supplier, will be invited to match the L1 price subject to Class-I Local Supplier’s quoted price falling within the margin of L1 + 20%, the contract shall be awarded to such Class-I Supplier subject to matching the L1 price.**

iii) **In case such lowest eligible Class-I Local Supplier fails to match the L1 price, the “Class-I Local Supplier” with the next higher bid within the margin of L1 + 20% shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the of Class-I Local Supplier within the margin of L1 + 20%, the contract may be awarded to the L1 bidder.**

iv) **Class-II Local Supplier/Non local supplier will not get purchase preference.**

14. PAYMENT TERMS

For Indian bidders:

No advance payment will be made in any case. Bills in Duplicate should be sent and the payment shall be released generally within 30 days, only after it is ensured that the items / quality of the items supplied are to the entire satisfaction of IIT Tirupati and completed the entire work within the stipulated delivery schedule. If any item is found defective, or not of the desired quality etc., the same should be replaced by the firm(s) immediately for which no extra payment shall be made.

For Foreign bidders:

For imported items payment will be made through irrevocable Letter of Credit (LC). 90% of LC will be opened on **CIP Chennai airport value** and will be released against the proof of despatch documents and balance 10% will be released through wire transfer after the

successful installation, commissioning and demonstration, training of the equipment at IIT Tirupati site.

Bank charges on LC within India to applicant account and outside India to beneficiary account.

The charges for any LC amendments requested by the vendor will have to be paid by the vendor.

15. WARRANTY OF QUALITY AND QUANTITY

15.1 The awardee shall give **3-year onsite warranty** on successful completion of supply, and acceptance of supplied items.

15.2 The awardee shall give warranty that all items are as per specification(s), conforming to the specified design and there are no defects in the process of manufacturing, packaging, transportation and delivery.

15.3 Upon receipt of notice from IIT Tirupati for defective material, the firm shall **within 15 days** of receipt of the notice, replace the defective material, free of cost at the destination. The firm shall take over the defective material at the time of their replacement. No claim whatsoever shall lie on IIT Tirupati for the replaced goods thereafter. If the firm fails to replace the defective goods within a reasonable period, IIT Tirupati may proceed to take such remedial actions as may be necessary, at the company's risk and expense.

16. LIQUIDATED DAMAGES

In case of delay in Supply by the stipulated date, IIT Tirupati reserves the right of imposing penalty @0.5% per week on the value of the undelivered items subject to maximum 10% of the cost of undelivered items.

17. DELIVERY SCHEDULE

17.1 The successful bidder should execute the order successfully i.e. Supply, Installation of ordered items within **16 weeks** at IIT Tirupati from the date of issue of the purchase order. In case of any damage/Broken/Expired items found, the item(s) should be replaced **within 15 days** at IIT Tirupati. The bidder has to make own arrangement for unloading and positioning of items at the desired location of IIT Tirupati.

18. PERFORMANCE SECURITY DETAILS

18.1 The successful tenderer will have to deposit the performance security valid **for 36 Months** in the form of DD / TDR / FDR / Bank Guarantee **@5% of the total order value** at the earliest from the date of issue of the award letter. No interest will be paid by IIT Tirupati on the deposit.

- 18.2 Performance Security will be refunded to the supplier, after it duly performs and completes the contract/warranty period in all respects.
- 18.3 Performance Security will be forfeited if the firm fails to perform/abide by any of the terms or conditions of the contract.
- 18.4 In case, the firm fails to execute the order successfully, within specified delivery period, the same goods/items will be procured from open market and the difference of cost, if any, will be recovered from Performance Security or from pending bill(s) of the defaulting firm or from both in case the recoverable amount exceeds the amount of Performance Security.

19. INTEGRITY PACT:

- a. The integrity pact (IP) envisages an agreement between the prospective bidders/vendors with the buyer committing the persons/ officials of both the parties with the aim not to exercise any corrupt influence on any aspect of the contract. **Only those bidders/ vender who are willing to enter into such an integrity pact with the purchase would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification. The bidder should give self-declaration certificate for acceptance and compliance with the Integrity Agreement as per Annexure XI.**
- b. Any violation of the Integrity Pact would entail disqualification of the bidders and exclusion from future business dealings, as per the existing provisions of GFR, 2017, PC Act, 1988, and other Financial Rules/Guidelines, etc. as may be applicable to the organization concerned
- c. The integrity pact would be effective from the date of invitation of bids till the complete execution of the contract.
- d. The model format of Integrity Pact(IP) is at **Annexure-XII**
- e. As per the directives of the Central Vigilance Commission, IIT Tirupati appointed Independent External Monitors (IEMs). The details of the same are mentioned below.
 - 1) Shri Aditya Prakash Mishra,
Flat No.24, ASTER-1, Vatika City,
Sohna Road, Sector-49, Gurgaon-122003.
Email Id: apmishra53@gmail.com
 - 2) Shri Debal Kumar Gayen,
Tower-5, Flat 5E, South City Garden,
61.B.L.Saha Road, Kolkata-700053 (W.B)
Email Id: gayen.dk@gmail.com

20. TERMS AND CONDITIONS

20.1 Termination for Insolvency

- I) The IIT Tirupati may at any time terminate the Contract by giving a written notice to the awarding firm, without compensation to the firm, if the firm becomes bankrupt or otherwise insolvent as declared by the competent Court, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the department.
- II) IIT Tirupati and/or the firm are entitled to withdraw/cancel the rate contract by serving one-month notice on each other. However, once a purchase order is placed on the supplier for supply of a definite quantity in terms of the rate contract during the validity of the rate contract, that purchase order becomes a valid and binding contract.
- III) The courts of Tirupati alone will have the jurisdiction to try any matter, dispute or reference between the parties arising out of this purchase. It is specifically agreed that no court outside and other than Tirupati Court shall have jurisdiction in the matter

20.2 Force Majeure

- I) Should any force majeure circumstances arise, each of the contracting parties be excused for the non-fulfilment or for the delayed fulfilment of any of its contractual obligations, if the affected party within 15 days of its occurrence informs in a written form the other party.
- II) Force Majeure shall mean fire, flood, natural disaster or other acts such as war, turmoil, sabotage, explosions, epidemics, quarantine restriction, strikes, and lockouts i.e. beyond the control of either party.

20.3 Arbitration

- I) All disputes of any kind arising out in connection with the executing the order shall be referred by either party (IIT TIRUPATI or the bidder) after issuance of 30 days' notice in writing to the other party clearly mentioning the nature of dispute to a single arbitrator acceptable to both the parties. The venue for arbitration shall be IIT TIRUPATI India. The jurisdiction of the courts shall be Tirupati, Andhra Pradesh, India.

20.4 Other Conditions

- I) The bidder has to upload the relevant & readable files only as indicated in the tender documents. In case of any irrelevant or non-readable files, the bid may be rejected.

- II) IIT Tirupati will not be liable for any obligation or supplies made unless the Official Purchase Order has been placed by the Purchase Department.
- III) IIT Tirupati reserves the right to accept or reject any or all the tenders in part or in full or may cancel the tender, without assigning any reason thereof.
- IV) IIT Tirupati reserves the right to relax / amend / withdraw any of the terms and conditions contained in the Tender Document without assigning any reason thereof. Any inquiry after submission of the quotation will not be entertained.
- V) IIT Tirupati reserves the right to modify/change/delete/add any further terms and conditions prior to issue of purchase order.
- VI) In case the bidders/successful bidder(s) are found in breach of any condition(s) at any stage of the tender, Performance Security shall be forfeited.
- VII) False declaration/documents will be in breach of the Code of Integrity under Rule 175(1) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.
- VIII) Repeat Order: IIT Tirupati reserves the right to place repeat order up to 100% of the quantities within a period of 12 months from the date of successful completion of purchase order at the same rates and terms subject to the condition that there is no downward trend in prices.
To take care of any change in the requirement during the currency of the contract, a plus/minus option clause for 25 per cent is incorporated in the tender document, reserving purchaser's right to increase or decrease the quantity of the required goods up to that limit without any change in the terms and conditions and prices quoted by the tenderers.
- IX) Disclaimer: The near relatives of employees of IIT Tirupati are prohibited from participation in this tender. The near relatives for this purpose are defined as:
 - (a) Members of a Hindu undivided Family.
 - (b) Their spouses
 - (c) The one related to the other in the manner as father, son(s), Son's wife (daughter-in-law), daughter(s) and daughter's husband (sons-in-law) brother (s) and brother's wife, sister(s) and sister's husband, brother(s)-in-law.
- X) Conditional tenders will not be considered in any case.
- XI) In case of doubt in material, the expenditure on testing of equipment will be borne by the tenderer.
- XII) Institute reserve the right to increase/decrease the order quantity at any period of times during the validity of the contract.
- XIII) **IIT Tirupati may issue amendment/corrigendum to tender documents before due date of submission of bid. Any amendment/corrigendum to the tender document if any, issued by IIT Tirupati will be posted on CPP Portal. For the bidders, submitting bids on downloaded tender document, it is 'bidders' responsibility to check for any amendment/corrigendum on the website of IIT Tirupati or check for the same CPP Portal before submitting their duly completed bids.**

UNDERTAKING

To
The Registrar,
Indian Institute of Technology Tirupati
Yerpedu – Venkatagiri Road, Yerpedu Post,
Tirupati District, Andhra Pradesh.
Pincode - 517619.

Tender No. IITT/CI/2023-24/23 dated: 13.02.2024.

Name of the Tender/Supply: Notice Inviting Tender for Supply, installation, testing and Commissioning of Atomic Force Microscope.

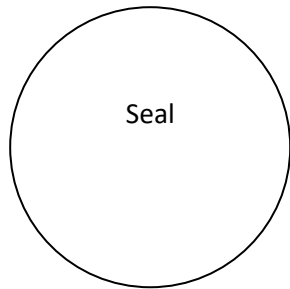
Sir,

I /we hereby submit our bid for Supply, installation, testing and Commissioning of Atomic Force Microscope.

I / We hereby reconfirm and declare that I / We have carefully read, understood & complying the above referred tender document including instructions, terms & conditions, scope of work, schedule of quantities and all the contents stated therein. I / We also confirm that the rates quoted by me / us are inclusive of all taxes, duties etc., applicable as on date.

1. I /we have gone through all terms and conditions of the tender document before submitting the same.

Date:
Place:



Authorized Signatory

Name:

Designation:
Contact No:

On Company Letter Head

Bid Security Declaration

To
The Registrar,
Indian Institute of Technology Tirupati
Yerpedu – Venkatagiri Road, Yerpedu Post,
Tirupati District, Andhra Pradesh.
Pincode - 517619.

Tender No. IITT/CI/2023-24/23 dated: 13.02.2024.

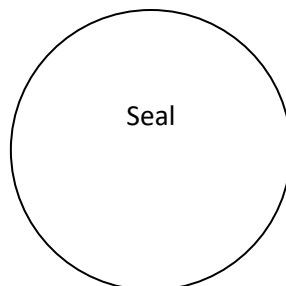
Name of the Tender/Supply: Notice Inviting Tender for Supply, installation, testing and Commissioning of Atomic Force Microscope.

Sir,

We, the undersigned declare that

1. We understood that, according to the tender conditions, bids must be supported by a Bid Security Declaration.
2. We accept that we will automatically be suspended from being eligible for bidding in any contract with the Institute for the period of **3 years** starting from the bid closing date, if we are in breach of our obligation(s) under the bid conditions, because we;
 - (a) have withdrawn our bid during the period of bid validity specified in the letter of bid; or
 - (b) having been notified of the acceptance of our bid by the institute during the period of bid validity, (i) fail or refuse to execute the contract, if required, or (ii) fail or refuse to furnish the performance security, in accordance with the tender conditions.

Date:
Place:



Authorized Signatory

Name:

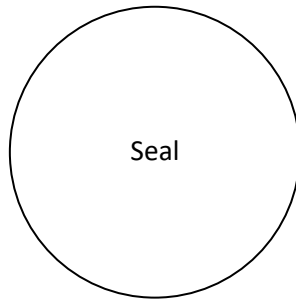
Designation:
Contact No:

CERTIFICATE
(To be provided on letter head of the firm)

I hereby certify that the above firm is not in the active debarred list by IIT Tirupati/ Ministry of Education [MoE] nor is any criminal case registered / pending against the firm or its owner / partners anywhere in India.

I also certify that the above information is true and correct in every respect and in any case at a later date it is found that any details provided above are incorrect, any contract given to the above firm may be summarily terminated and the firm may be blacklisted.

Date:



Authorized Signatory

Place:

Name:

Designation:

Contact No.:

ANNEXURE – IV

a) Experience: (As per tender Clause No.4.2 (III))

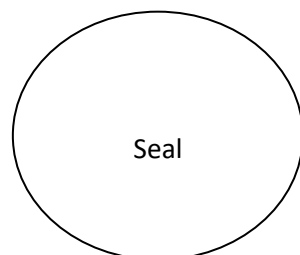
Year	Name of the Item with Specification (Technical specification brochure to be attached)	Purchase Order No. & Date (Copy of the Orders to be attached)	Date of successfully completion of SITC of ordered Item (copy of report from client to be attached)	Contact Details of Client
2019-20				
2020-21				
2021-22				
2022-23				

b) Past Performance: (As per tender Clause No.4.2 (III))

Year	Purchase Order No. & Date (Copy of the Orders to be attached)	Quantity	Date of successfully completion of SITC of ordered Item (copy of report from client to be attached)	Whether supplied item(s) is in successful operation for at least one year (Certificate from client to be attached)	Contact Details of Client [email and phone no]
2019-20					
2020-21					
2021-22					
2022-23					

Date :

Place :



Authorized Signatory

Name:

Designation:

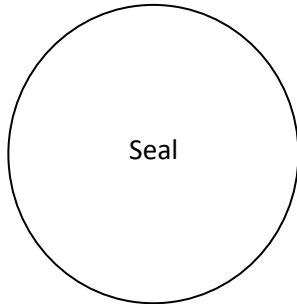
Contact No.:

ANNEXURE – V

Annual Turnover and Profit Details:

Evaluation Criteria				Remark	Specific page no. where the proof of documents are enclosed
Bidder's Annual Turnover and Profit for last three financial years	Financial Year	Turnover in Rs.	Annual Profit in Rs.	-	
	2022-23			Supporting Documents are to be attached along with the Annexure-V [i.e. Audited financial Statements or Financial Statements showing turnover duly signed by a Chartered Accountant are to be submitted]	
	2021-22				
	2020-21				
	2019-20				

Date:



Place:

Authorized Signatory:

Name:

Designation:

Contact No.:

Format for Self-Declaration under preference to make in India order

In line with Government Public Procurement Order No. P-45021/2/2017-BE-II date. 15.06.2017 & P-45021/2/2017-PP (BE-II) dated: 04 June 2020. We hereby certify that we M/s. _____ (supplier name) are **CLASS-I/Class-II/Non-local (Please specify clearly)** supplier for the material against Enquiry No. IITT/CI/2023-24/23 dated: 13.02.2024

Details of location at which local value addition will be made as follows: (Complete address to be mentioned)

Percentage of Local Content: _____

(As per the OM of Department of Promotion for Industry and Internal Trade No. P-45021/102/2019-BE-II-Part(1) dated: 04.03.2021. The bidders can't claim themselves as Class-I local suppliers/Class-II local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition)

We also understand, false declarations will be in breach of the Code of Integrity under rule 175 (1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

Seal and signature of Supplier

Date :

Place :

Technical Compliance statement

Sl. No.	Item Description & Technical Specification [Supply, installation, testing and commissioning of Atomic Force Microscope for multidisciplinary applications including soft matter and biomolecule topology characterization and material science applications]	Essential (or) Specify	Complied (Yes/No)	Remarks (if any)	Offered Make & Model	% of Local Content as per Tender Clause No.4.2 (V)	Country of Origin
1.	<p>Operational modes with AFM (all modes must operate in both air and liquid)</p> <p>The below operational modes with AFM must operate in both Air and Liquid and should be included:</p> <ul style="list-style-type: none"> • Contact Mode • Lateral Force Mode (LFM) • Force Mapping Mode (Force Volume) • Tapping Mode • Tapping Mode with Q-control • Phase Imaging 	Essential					
2.	<p>Application Modes</p> <p>The below application modes should be included:</p> <ul style="list-style-type: none"> • Force Modulation Microscopy • Two frequency mode - Amplitude and phase response at a second frequency (often a higher mode) to provide useful additional image contrast while the primary topographic feedback loop runs at the fundamental frequency. In order to optimize signal-to-noise the second frequency must be driven simultaneously with the fundamental resonance. • Electrostatic Force Microscopy (EFM) • Kelvin Probe Force Microscopy (KPFM) • Magnetic Force Microscopy (MFM) • Resonance tracking mode - Operating on resonance to improve the measurement signal to noise for operating modes like piezo response force microscopy and contact resonance imaging. • Piezoresponse Force Microscopy (PFM) <ul style="list-style-type: none"> 5. Vertical PFM 6. Lateral PFM 7. Switching Spectroscopy PFM 8. PFM Lithography • Conducting AFM – the system allows conductive measurements while scanning as well as at user-specified locations (I-V) Curves. A sample bias of -10V to 10V is possible. The software allows user-specified wave forms for I/V spectroscopy (square, sine, triangle, pulse, or user 	Essential					

	<p>defined). The current sensing range is 1 pA to 20 nA.</p> <ul style="list-style-type: none"> • Extensive and integrated Nanolithography/ Nanomanipulation Module. The Nanomanipulation software should allow the user to specify the path (freehand or line), the amount of force used, as well as velocity. • Nano-Mechanical property mapping (generate quantitative nanoscale maps of storage and loss modulus,) - tapping mode imaging technique which has the following minimal capabilities: <ul style="list-style-type: none"> ❖ When combined with faster cantilevers, it should acquire nanomechanical data much faster than force curve-based techniques and should be able to achieve speeds up to 20 Hz line rate). ❖ A wide range of sample elastic moduli (MPa to GPa) can be imaged with the same type of cantilever since the mechanical properties are extracted from frequency shifts instead of cantilever deflection. ❖ An overall range of 100 kPa to 100 GPa should be possible to be measured. ❖ In addition to the elastic modulus (E'), the loss tangent which is the ratio of the loss modulus (E'') over the elastic modulus (E') should be measured. The viscoelastic response (expressed as either loss tangent or loss modulus) is an important design parameter for polymers and elastomers. ❖ Contact Resonance Mode for quantitative measurements of elastic and viscoelastic modulus should also be provided to allow working with samples with high storage modulus. 					
3.	<p>Laser Source/Detector</p> <ul style="list-style-type: none"> • The instrument optical lever arm must use a low coherence laser source (a super luminescent diode) to reduce artefacts from optical interference effects. • <u>Laser spot positioning and photodetector centering must be motorized and controlled through software. Laser spot positioning and Photodetector alignment must allow automated centering and controlled through software. Manual adjustment of photo detector is not acceptable.</u> 	Essential				

	<ul style="list-style-type: none"> • System must support the use of small cantilevers. Laser Spot size at the cantilever must be 10 μm or smaller (using 1/e² irradiance contour, the standard metric for laser spot sizes). • The microscope must have an optical sensing detector bandwidth of at least DC to 7 MHz. • <u>The system must include separate laser source for photothermal cantilever excitation / equivalent technology with justification to excite the cantilever resonance in all AC modes with a drive frequency up to at least 7 MHz. The focal plane and cantilever plane must be parallel to allow simple spot positioning. Spot positioning of laser used for photothermal excitation must be motorized and under software control, with the spot location being controlled and aligned on cantilever with a single mouse click.</u> 					
4.	<p>Stages (XYZ are completely automatic and synchronized) sample movement</p> <ul style="list-style-type: none"> • System must include a sample chuck at least 210 mm in diameter, with mechanical access for working with samples up to > 150 x 180 mm. The chuck must include wafer locating pins and vacuum rings for a variety of wafer sizes. The chuck must also include magnetic mounting points for conveniently mounting samples prepared on standard 10-15 mm diameter AFM discs. • The system must include a motorized sample stage, with stage travel of at least > 150 x 180 mm, with a minimum step size of <500 nm. The maximum stage velocity must be at least 40 mm/sec. • Motorized stage (XY) should be programmable for multi-site measurements with integrated stage control for fast sample navigation. • The Z stage and focus/optics stage should also be motorized. • The system must include motors for automatically approaching and engaging the sample. 	Essential				
5.	<p>Sample Size</p> <ul style="list-style-type: none"> • Opaque, transparent, insulating, conducting, and biological samples will be able to image. The stage must accommodate a sample size of up to 210 mm dia and 35 mm thickness. 	Essential				
6.	<p>Sample piece Permissible Load</p> <p>The sample stage should accommodate sample weights up to ≥ 500 grams.</p>	Specify				

7.	<p>Scanners: The instrument design should allow the use of two or more scanners to cover a large area and high-resolution imaging.</p> <p>A single scanner must be compatible with all supplied scan modes and for Fast Imaging.</p> <ul style="list-style-type: none"> • Each axis of motion is independently actuated using its own piezo stack and flexure stage. • The XY scanner should be separate from the Z scanner to eliminate the “bowing” artefact commonly seen in Piezo-tube based (XYZ scanners) AFM systems. System must scan the sample in XY and the tip in Z. • The instrument must use single scanner to cover large area and high-resolution imaging. The instrument should demonstrate atomic lattice resolution in AC mode and contact mode imaging. It should be done with the large scan-range scanner that should also image up to (XY) 100µm x 100µm in closed loop. Allows large survey scans with the ability to zoom-in to get high resolution images at a region of interest. • System must include a closed-loop XY scanner with a range of at least 100 µm, and XY sensor noise <150 pm average deviation (ADev) in a 0.1 Hz to 1 kHz bandwidth at the center of the scanner range. Scanner noise specifications and representative high-resolution imaging examples must be available for inspection in publicly available brochures, datasheets or websites. This one scanner must be compatible with all supplied scan modes. • System must include a Z scanner with a range of at least 12 µm, and capable of both open-loop and closed-loop operation. Noise on the Z sensor must be <35 pm Adev in a 0.1 Hz to 1 kHz bandwidth at the center of the scanner range. Scanner noise specifications and representative high resolution imaging examples must be available for inspection in publicly available brochures, datasheets or websites. The scanner must be compatible with all supplied scan modes. • System must be capable of high speed closed-loop imaging. In particular, it must support 100 µm scan sizes at >2 Hz, and 5 µm scan sizes at >40 Hz, with no loss in image resolution for typical samples (< 50 nm topography). Proposals without appropriate data will be rejected. Should not be based merely on algorithms and the technique used should not result in loss of image quality / resolution. 	Essential					
8.	<p>Tip-sample viewing / System Optics</p> <ul style="list-style-type: none"> • The system must include a camera and optical assembly that provides an optical field of view 						

	<p>of the sample of at least 930 μm x 1240 μm, with an optical resolution better than 1.5μm. The optics must include an objective lens with an NA of at least 0.30. Software control of the optics must include digital pan and zoom.</p> <ul style="list-style-type: none"> The built-in optics must include software-controlled intensity, and software-controlled field and aperture diaphragms. 						
9.	<p>Probe / Sample holder Appropriate sample holders which are compatible with all modes for mounting the probe and sample should be provided and it should be user friendly cantilever/probe holder must be compatible with most commercial cantilevers.</p>						
10	<p>Performance / Controller Electronics</p> <ul style="list-style-type: none"> System must use at least 24-bit digital-to-analog converters (DACs) in order to generate the XY and Z piezo scan signals. At both 100 μm and 10-nm scan sizes, the corresponding bit resolution must be sub-Angstrom (<0.1nm). Note that this specification applies to the generation of the scanner drive signals, not the sampling of the scanner position sensors. The AFM control electronics must provide 100% digital operation. The electronics must include digitally controlled switches for user-defined signal routing. The system provides thermal tunes of the cantilever up to 7 MHz. The system must include software-controlled relays for the X, Y and Z high voltage supplies and the laser power. Floating point DSP running should be at 80MHz and Dual-core NIOS in FPGA. Four Field Programmable Gate Arrays running should be up to 667 MHz. The electronics provides access to all major signals on BNC connectors on the controller front panel including deflection (A-B), sum (A+B), amplitude, phase, lateral force, X, Y and Z sensors, three user inputs, three user outputs, X, Y and Z piezo drive voltages, and user X, Y and Z modulation voltage inputs compatible with external hardware. The data acquisition system must be capable of recording individual image sizes of 8000x8000 pixels or greater. Heads, scanners, probe holders and optional environmental control cells must be "plug and play", meaning that the software 	Essential					

	<p>automatically recognizes them and configures the software appropriately (for example, by loading the appropriate calibration parameters).</p> <ul style="list-style-type: none"> • System must include a feature that automatically calibrates the cantilever sensitivity (deflection sensitivity/INVOLS) and spring constant by simply selecting the probe type and clicking a button. To avoid tip damage, at no point during the calibration may the tip touch the sample. The feature must actually calibrate the probe. It must not use nominal tabulated values for the sensitivity and spring constant. • System must include the ability to track a changing resonance frequency during operating modes like piezoresponse force microscopy and contact resonance imaging. Phase-locked loops (PLL) do not offer sufficient stability to satisfy this specification. <u>Solutions that require third-party electronics and software are acceptable with relevant publications.</u> 					
11.	<p>Computer and Software</p> <ul style="list-style-type: none"> • Latest computer with OS with single 32" wide or 24" dual monitor. • Preferably Intel i5 or higher / equivalent processor. • 8 GB RAM or higher. • Internal hard drive space of 1 TB HDD or 256 SSD or higher capacity. • Multiple USB drive and CD/DVD burner for backup-storage of image data. • PC should be preloaded with AFM software and other necessary software required to run the system. • Software must support both the thermal and Sader methods for spring constant calibration at resonances up to at least 7 MHz. The techniques must be entirely contained within the AFM hardware and software, proposals requiring external or third-party hardware and software are not acceptable. • The software must include drift compensation software. Software must allow a region of interest to be tracked in real-time, to within 1 nm of precision, while eliminating any scan distortion in the image. Drift compensation must be able to be applied to any imaging, spectroscopy or advanced characterization mode, and in conjunction with sample heating and cooling options. 	Essential				

	<ul style="list-style-type: none"> Software must include a feature that automatically optimizes the imaging gain and setpoint for AC Mode (tapping mode) operation. The feature must use a predictive algorithm such that operation is stable and producing high quality data within the first few scan lines. Features based on other operating modes besides AC mode (tapping mode) are not acceptable. The software must allow user-specified wave forms for electrical modes like while doing I/V spectroscopy etc (square, sine, triangle, pulse, or user defined). 						
12.	Accessories <ul style="list-style-type: none"> Calibration standards sample for system calibration must be included. Supporting tools - General supporting tools for operation and maintenance of AFM system must be included. Appropriate communication cables and power cables to be provided. 	Essential					
13.	Active Anti vibration Platform with environment enclosure. <ul style="list-style-type: none"> System must include an acoustic enclosure and vibration isolation table that provides isolation from both vibrational and acoustic noise. Acoustic isolation must be >20 dB. 	Essential					
14.	Environmental Control Requirement <ul style="list-style-type: none"> Acoustic noise in the lab should be less than 50 dB. Floor accelerations below 1 mm/s² (A_{Dev}, 0.1 Hz-1 kHz BW) will allow very good AFM performance. Required relative humidity: 30 - 70%, non-condensing. Required temperature: 15°C - 35°C Compressed air source is required for vibration table. House air (i.e., compressed air plumbed into the lab) is preferred. Vacuum source (of <0.2 Bar) is required for sample stage. House vacuum (i.e. vacuum plumbed into the lab) is preferred where available. 	Specify					
15.	Power Supply <ul style="list-style-type: none"> The power requirement for the main facility and for the accessories must be as per Indian standards. 	Essential					

	<ul style="list-style-type: none"> Requirements of space, electricity, and other auxiliaries for the equipment should be specified. 						
16.	<p>Acceptance Criteria</p> <p>Should meet all requirements of specifications satisfactorily as given in the enclosed Acceptance Criteria and the Scope of Supply as per purchase order enclosure.</p> <p>Customer Acceptance Tests / Pre dispatch inspections/Post advance training will be conducted for a period of around 1 week at the supplier's place. (Note: All expenses are to be borne by the supplier for two or more persons).</p> <p>Final acceptance is based on acceptance tests conducted at IIT TIRUPATI as per the enclosed Acceptance Criteria.</p> <p><u>Note: Should be demonstrable on standard samples with autofocusing capability. The same instrument or better should be installed about 5 numbers in National / International Premier Institutes in previous 3 years with references.</u></p>	Essential					
17.	<p>Manuals</p> <p>Hard and Soft copies of all manuals (System manual, Operational manual including all supplied modes, and Software user manual) should be provided.</p>	Essential					
18.	<p>Installation & Commissioning</p> <p>Installation & Commissioning should be done free of cost at IIT TIRUPATI by the trained engineers</p>	Essential					
19.	<p>Service Support</p> <p>Service support with spare parts availability for a period of 10 years is essential</p>	Essential					
20.	<p>Training</p> <p>Complete training for the operation of imaging and all other application modes to at least two staff + 3phd students. The vendor should be provided with 2 engineers for a minimum of 5 man-days at IIT TIRUPATI.</p>	Essential					
21.	<p>Performance Warranty</p> <p>The equipment should have a warranty for a standard 36 months including all types of spares along with service engineers from the date of installation at IIT TIRUPATI</p>	Essential					
22.	<p>OPTIONAL ITEM 1:</p> <p>Heating Stage: Variable temperature stage covering a range from Ambient to 300 deg C should also be offered Optionally. There should</p>	Optional					

	be an option to purge gas to the heating stage to minimize oxidation while heating.						
23.	<p>OPTIONAL ITEM 2:</p> <p>Sample Stretching Stage for AFM – The Accessory should be quoted optionally with a high-strain, high-travel manual stretching stage that should provide two-axis stress control of tensile loaded sample and should allow control of the sample image region under different loads. The stage should be compatible with a wide variety of imaging techniques. Sample Size: 12mm wide max x 41mm long min x 6mm thick. · Maximum range of motion should be 110mm (30mm relaxed to 147mm fully stretched). · Force sensors: +/- 65 N (0.16 N true bit resolution) and +/- 17 N (0.04 N).</p>	Optional					

COMPANY DETAILS

Name of the bidder		
Date of Incorporation / Establishment		
PAN Number		
GST Registration Number		
Bidder's Bidding Capacity for the tendered items (As a Manufacturer/ Trader/ dealer / channel partner / system integrator, etc.)		
Bank Details	Account Number	
	IFS Code	
	Bank Name	
	Branch Name	
Registered Office Address		
Authorized Signatory Details (Company/Firm Authorization by the competent authority, to be attached)	Name	
	Designation	
	Email	
	Phone	
Details of Contact other than Authorized Signatory	Name	
	Designation	
	Email	
	Phone	

Date:

Signature and Seal of the Tenderer:

Place:

Name in Block Letter:

Designation:

Contact no.

**PRICE REASONABILITY CUM FALL CLAUSE CERTIFICATE
(ON THE LETTER HEAD OF THE COMPANY)**

It is certified that the rate quoted against the IIT Tirupati tender numberdated _____for the supply, installation and commissioning of, is not more than the rates charged to any other Institutions, for similar supplies made by our firm, during past 1 year. If at any stage, it has been found that the quoted rate to IIT Tirupati is higher than the rates charged to other Institutions, then in such a situation / condition, IIT Tirupati shall have the right to take legal action against us, for recovery of excess rates.

Yours faithfully,

Authorized signatory of Bidder with Seal

Name.....

Designation.....

INTEGRITY PACT

To,
The Registrar,
Indian Institute of Technology,
Tirupati.

Sub: Submission of Tender for the _____ at Indian
Institute of Technology, Tirupati.

Sir/ Madam,

I/We acknowledge that the Indian Institute of Technology, Tirupati is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that **THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE** of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by Indian Institute of Technology, Tirupati. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, Indian Institute of Technology, Tirupati shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid in accordance with terms and conditions of the tender/ bid.

Yours faithfully,

(Duly authorized signatory of the Bidder)

INTEGRITY PACT

This **INTEGRITY PACT** is made and executed at..... on this day of..... , 2022

BETWEEN

The Registrar, Indian Institute of Technology Tirupati, an autonomous body of the Department of Higher Education, Ministry of Education, Govt, of India having its office located at Yerpedu – Venkatagiri Road, Yerpedu Post, Tirupati District, Andhra Pradesh - 517619 (hereinafter referred to as “**The Principal**” which terms or expression shall, unless excluded by or repugnant to the subject or context, mean and include its successor-in-office, administrators or permitted assignees) of the **First Part**;

And

M/s..... a company incorporated under the Companies Act,..... through its representative/authorized signatory (insert name and designation of the officer) vide resolution dated passed by the Board of Directors, having its office at(hereinafter referred to as “**The Bidder/Contractor**” which term or expression shall, unless excluded by or repugnant to the subject or context, mean and include its successor-in-office, administrators or permitted assignees) of the **Second Part**.

Preamble

The Principal intends to award, underlaid down organizational procedures, contract/s for _____ The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness / transparency in its relations with its Bidders) and / or Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitors (IEMs) who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 - Commitments of the Principal

(1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

- a. No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
- b. The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
- c. The Principal will exclude from the process all known prejudiced persons.

(2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there is a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition, can initiate disciplinary actions.

Section 2 - Commitments of the Bidder(s)/ Contractor(s)

(1) The Bidder(s)/ Contractor(s) commit themselves to take all measures necessary to prevent corruption. The Bidder(s)/ Contractor(s) commit themselves to observe the following principles during participation in the tender process and during the contract execution.

a. The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

b. The Bidders(s)/ Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

c. The Bidder(s)/ Contractor(s) will not commit any offense under the relevant IPC/PC Act; further the Bidders(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

d. The Bidder(s)/ Contractor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly, the Bidder(s)/Contractors(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s)/Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent/representative have to be in Indian Rupees only

e. The Bidder(s)/ Contractor(s) will, when presenting their bid, disclose any and all payments made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

f. Bidder(s) /Contractor(s) who have signed the Integrity Pact shall not approach the Courts while representing the matter to IEMs and shall wait for their decision in the matter.

(2) The Bidders)/ Contractors) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2, above or in any other form such as to put their reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process or take action as per the procedure mentioned in the "Guidelines on Banning of business dealings.

Section 4 - Compensation for Damages

(1) If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/Bid Security.

(2) If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amount equivalent to Performance Bank Guarantee.

Section 5 - Previous transgression

(1) The Bidder declares that no previous transgressions occurred in the last three years with any other Company in any country conforming to the anti-corruption approach or with any Public Sector Enterprise in India that could justify his exclusion from the tender process.

(2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in “Guidelines on Banning of business dealings”.

Section 6 - Equal treatment of all Bidders / Contractors / Subcontractors

(1) In the case of Sub-contracting, the Principal Contractor shall take the responsibility for the adoption of the Integrity Pact by the Sub-contractor.

(2) The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.

(3) The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate this provisions.

Section 7 - Criminal charges against violating Bidder(s) / Contractors) / Subcontractor(s)

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Section 8 - Independent External Monitor

(1) The Principal appoints a competent and credible Independent External Monitor for this Pact after approval by Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

(2) The Monitor is not subject to instructions by the representatives of the parties and performs his/her functions neutrally and independently. The Monitor would have access to all Contract documents, whenever required. It will be obligatory for him/her to treat the information and documents of the Bidders/Contractors as confidential. He/she reports to Secretary, MoE.

(3) The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his/her request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to Sub-contractors.

(4) The Monitor is under contractual obligation to treat the information and documents of the Bidders)/ Contractor(s)/ Sub-contractor(s) with confidentiality. The Monitor has also signed declarations on

‘Non-Disclosure of Confidential Information and of ‘Absence of Conflict of Interest’. In case of any conflict of interest arising at a later date, the IEM shall inform Secretary, D/o Higher Education.

(5) The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

(6) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he/she will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

(7) The Monitor will submit a written report to the Secretary, D/o Higher Education within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

(8) If the Monitor has reported to the Secretary, D/o Higher Education, a substantiated suspicion of an offence under relevant I PC/ PC Act, and the Secretary, MoE has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.

(9) The word ‘**Monitor**’ would include both singular and plural.

Section 9 - Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealing.

If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by Secretary, D/o Higher Education.

Section 10 - Other provisions

(1) This agreement is subject to Indian Law. The place of performance and jurisdiction is the Office of the Principal, i.e. New Delhi.

(2) Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

(3) If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

(4) Should one or several provisions of this Pact turn out to be invalid, the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement with their original intentions.

(5) Issues like Warranty / Guarantee etc. shall be outside the purview of IEMs.

(6) In the event of any contradiction between the Integrity Pact and its Annexure, the Clause in the Integrity Pact will prevail.

(7) The actions stipulated in this Integrity Pact are without prejudice to any other legal action(s) that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

IN WITNESS WHEREOF, the parties hereunto set their hands and seals and executed this INTEGRITY PACT as of the day/month/year first above written:

For and on behalf of

**THE REGISTRAR,
Indian Institute Technology Tirupati (First Party)**

SIGNED, SEALED, AND DELIVERED by

Name:.....

Designation:.....

Address:.....

Authorized Signatory

For and on behalf of

M/s.....(Second Party)

SIGNED, SEALED AND DELIVERED by

Name _____

Designation:.....

Address:.....

Representative/authorized signatory

Vide resolution dated..... passed by the Board of Directors

In the presence of Witness:

- 1.
- 2.

CHECKLIST FOR BIDDERS TO BE SUBMITTED IN DULY FILLED AND SIGNED

Tender Clause No.	Name of the Document	Complied (Yes/No)	Submitted (Yes/No)	Page No. of the attached Document
3.4	Bid security Declaration (Annexure-II)			
4.1.	PAN Card			
	Incorporation/Registration certificate of company			
	GST Registration copy			
4.2.(I)	Tender acceptance letter (Annexure I)			
4.2.(II)	Non-Blacklisting undertaking (Annexure III)			
4.2.(III)	The bidder/OEM should have supplied similar system during past three financial years i.e., during 2019-20 to 2021-22 or 2020-21 to 2022-23 in India to Central/state Govt/PSU/CPSEs/Educational R&D Institutions. Vendor should provide satisfactory installation certificates with product details as proof with customer contacts email and phone number as per the Annexure-IV .			
4.2.(IV)	The Annual Turnover should be at least 3 Crores and be profitable during each of the previous three financial years i.e., during 2019-20 to 2021-22 or 2020-21 to 2022-23 . Audited financial Statements or Financial Statements showing turnover duly signed by a Chartered Accountant are to be submitted as per the Annexure-V .			
4.2.(V)	In case the bidder is a <u>Class-I / Class-II/ Non-Local Supplier</u> in line with the Public Procurement (Preference to Make in India) Order 2017 No. P-45021/2/2017-PP (BE-II) dated 04 Jun 2020 as amended from time to time. A Self-Declaration Certificate regarding “Class-I/Class-II/Non local Supplier” for the tendered items as per the Annexure-V is to be submitted.			
4.2.(VI)	The bidder should be OEM or OEM authorized Dealers / Channel partners / Distributors of reputed brand having authorization for sales and after sales support. Valid OEM authorization letter is required to participate in this tender.			
4.2.(VII)	Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder registered with the competent authority. The concerned bidder(s) are required to attach the relevant valid Registration Certificate along with the bid for consideration.			
4.3	Technical Compliance Statement : Annexure-VII.			

13.1 (I)	Purchase Preference: (if applicable) Micro and Small Enterprises (MSEs):			
13.2 (II)	Purchase Preference: Make in India			
14	Payment Term: Within 30 days after SITC for Indian bidders & 100 % (90+10) through irrevocable letter of credit for foreign bidders.			
2.11	Warranty: 3-year Onsite warranty by OEM/ OEM Authorised partner from the date of acceptance of material by IIT Tirupati.			
2.15	Spares & Service support availability: Minimum 10 years.			
17	Delivery: FOR IIT Tirupati within 16 weeks.			
10	Bid validity: 120 days from the date of opening of the tender			
	Unpriced Bill of Materials (BOM) with quantities			
	Make & Model of the item			
	Company details: Annexure-VIII			
	Price reasonability cum Fall clause Certificate: Annexure-IX			
	Integrity pact: Annexure-XI			
	Purchase Order to be placed on:			

Note:

- 1) **Submission of tender without the above-mentioned documents will lead to rejection/disqualification of the tender.**
- 2) **It is mandatory for the bidder to assign page numbers to the tender documents and the same has to be mentioned in the above checklist.**

Signature of the bidder with stamp