

# KANNUR UNIVERSITY (PMU D SECTION)

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PMU-D/DIII/7290/2025

24.05.2025

## NOTICE INVITING RE-TENDER

The Registrar, Kannur University invites e-tender(s) in **Two Bid System (Two cover)** for the **Supply, Installation, Testing and Commissioning of Scientific/ Laboratory equipment at the Department of Chemistry Swami Anandatheertha Campus, Payyanur, Kannur University** under PM USHA Scheme from original equipment manufacturers (OEMs) or authorized distributors/dealers as per the technical specifications and schedule given below. The rate quoted should be inclusive of all taxes, installation charges and other charges. The Registrar, Kannur University reserves the right to accept or reject the tenders without assigning any reason thereof. The list of equipment/accessories proposed to be purchased, including its quantity and specifications are furnished in the schedule of items given below. Since this is an e-tender, only those bidders who have enrolled in The <http://etenders.kerala.gov.in> portal with their own Digital Signature Certificate (DSC) can participate in the tender. E-Tender document and other details can be obtained from the above e-portal.

NAME OF EQUIPMENT	QUANTITY
FT-IR Spectrometer	1
Zeta Potential and Particle Size analyser	1
BET surface area Analyser	1

## TENDER SCHEDULE

Tender ID	2025_KnrU_765345
Name of work	<b>Supply, Installation, Testing and Commissioning of Scientific/ Laboratory equipment</b>
Last date for receipt of Tender	12/06/2025, 11 AM
Date and time of opening tender	13/06/2025, 3.00 PM
EMD	Rs: <b>1,10,000/-</b> NB: EMD is required to be paid only for the items which bidder compete as mentioned in the tender notice, utilising the EMD exemption option of e-procurement portal.

Tender fee	19588/-(16600+2988) NB: Tender fee is required to be paid only for the items which bidder compete as mentioned in the tender notice, utilising the EMD exemption option of e-procurement portal.
Address of the officer to whom tenders are to be submitted	Registrar, Kannur University, Thavakkara Campus, Civil Station P.O Kannur- 670002
Place of supply and installation	<b>Department of Chemistry</b> Swami Anandatheertha Campus, Payyanur, Kannur University

For further details logon to <http://etenders.kerala.gov.in>.

#### SPECIFICATION OF INSTRUMENTS

Sl. No	EQUIPMENT NAME & QUANTITY (Nos.)	SPECIFICATIONS
		<p>The instrument must be Sealed and desiccated optical unit. Vibration isolated base plate having the following specification. Instrument should be capable to operate without any purging gas</p> <ul style="list-style-type: none"> <li>• Wavelength range : Must be minimum 8,000cm<sup>-1</sup> to 350 cm<sup>-1</sup></li> <li>• Spectral resolution : Must be minimum 0.5 cm<sup>-1</sup></li> <li>• Wavelength precision : 0.01 cm<sup>-1</sup> at 3,000 cm<sup>-1</sup></li> <li>• Wavelength accuracy : 0.1 cm<sup>-1</sup> at 3,000 cm<sup>-1</sup></li> <li>• Signal to Noise Ratio : Minimum 50000:1 peak-peak, 1 minute</li> <li>• Interferometer : Rotary Michelson interferometer for fast scanning, self-compensating for dynamic alignment changes due to a tilt and shear, incorporating high-reflectivity.</li> <li>• Source : Long-life source with hot-spot stabilization.</li> </ul> <p>Must be User replaceable.</p> <ul style="list-style-type: none"> <li>• Detector- DTGS or Equivalent</li> <li>• Beam splitter : Multilayer KBr for the study of metal oxides and metal Halides</li> <li>• Instrument must have Optics Guard system for extended</li> </ul>

1  
FT-IR Spectrometer

Quantity : 1

- desiccant life and additional optical component protection.
- Instrument must have Atmospheric Compensation to minimize effect of atmospheric water and CO<sub>2</sub> on the sample spectra without the need for reference or calibration spectra.
- The instrument must have provision to attach the third party PIKE, SPECAC etc..accessories ATR , HATR etc..
- Instrument should not use with any purge gas.
- Software: A single software platform incorporates all of the functions required for infrared analyses, Such as spectral comparison algorithm and Euclidean searching instrument control, data manipulation and analysis, and flexible report utilities, Spectral searching against commercially available or customer developed libraries (20,000 Library match)
- Upgrade Options- Instruments should be able to upgrade with Microscope(MCT based) , TGA- GCMS Hyphenation systems in future.
- Users list must be provided along with quotation.
- Warranty: 5 Year for the main instrument and 10 year for Source, Laser & Interferometer**
- Installation & demonstration: Free of Cost.
- Instrument must be quoted with ATR with Diamond Crystal**
- Transmission accessories to be quoted for powders and liquids like KBr die, KBr Powder, KBrPellette Holder Universal demountable cell mount, rectangular spaces, rectangular cell window.**
- Branded Computer with i5 configuration, 1 TB Hard disk, 16 GB RAM with windows 10 professional original software ( Make Dell / Lenovo) , Hydraulic press 15 TON manual to be quoted.
- Warranty for 5 Years**
- The vendor should provide list (at least 10) of installation of similar system in Indian Universities/ IITS/NITs/IISER and other government research laboratories with contact details in last 3 years
- The vendor should have proper qualified engineer/s located near to our place for prompt and efficient after sales services for the next at least 10 years. They should also have established local application laboratory to assist us for our regular assistance for our samples/methods/data interpretations. Quoted item should be the latest model with

the availability of all the parts and required accessories atleast for 10 years. The instrument should be globally recognized one

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1. Particle size : Dynamic Light Scattering Principle  
size range: 0.3 nm to 10 µm or better.  
Repeatability: ±2 % (Size)  
Maximum concentration: 50 % w/v or better for Particle size  
Measurement angle: 3 angles or higher  
Zeta Potential : Electrophoretic Light Scattering using Phase Angle Light Scattering  
Size range: 5 nm – 100 µm or better,  
pH range 2 – 12 or better  
Zeta Potential Range: ± 500 mV or higher  
Maximum sample conductivity: 200 mS/cm or higher  
Maximum sample concentration: 70 % w/v or better for Zeta Potential  
Measurement angle: Forward Angle 15° or better,  
Repeatability: ± 3% (Zeta)

Molecular-mass: Static Light Scattering  
Range: 1000 Da – 20 MDa or better ,  
Repeatability: ± 5%  
Measurement angle: Side Angle 90° or better

2. Laser source type: Solid state laser or Gas laser with wavelength in range 650 – 660 nm with Laser Power at least 10 mW or Higher.

3. Detector: High resolution Avalanche Photo Diode

4. Measurement angles: For DLS and ELS based measurement, the instrument shall have a facility of 3 angle measurement  
The instrument shall be capable to automatically select the most appropriate angle depending on the sample characteristics  
System has provision to vary the focus position preferably within Cuvette

5. Temperature range for DLS and ELS: The instrument shall have a temperature control in the range of 0°C to 120°C or better for Particle size & Zeta measurements also.  
Humidity range: the instrument shall be capable of operating in a humidity of up to 80 % non-condensing, or better (Purging with dry air)

6. Power supply: 220-240 V, 50 Hz AC, single-phase power supply

Zeta Potential and Particle Size analyser

Quantity : 1

Particle Size & Zeta Potential Measurement System

7.The instrument should be provided with

For particle size analysis:

- 100 Nos of disposable type
- 3 Nos of Quartz Cuvette
- 1 No 220 nm NIST traceable standard

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Zeta Potential measurement:

- 10 Nos of reusable Cuvettes with Gold electrode or 200 nos of Carbon electrode cuvettes for Aqueous base samples
- 2 no of Dip cell cuvettes with Palladium / Platinum electrode for Non aqueous base samples (Quote optionally)
- Standard - 1 No Zeta potential reference material

8.Computer:

- Suitable computer i3 configuration with latest OS needs to supply along with instrument.

**9. Warranty for 5 Years**

10. The vendor should provide list (at least 10) of installation of similar system in Indian Universities/ IITS/NITs/IISER and other government research laboratories with contact details in last 3years

11. The vendor should have proper qualified engineer/s located near to our place for prompt and efficient after sales services for the next at least 10 years. They should also have established local application laboratory to assist us for our regular assistance for our samples/methods/data interpretations. Quoted item should be the latest model with the availability of all the parts and required accessories atleast for 10 years. The instrument should be globally recognized one

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Require a fully automated Instrument for BET Surface Area, Pore Size, Pore distribution & Pore volume with the following specifications:

- **Measurement& Principle:** Measurement principle should be volumetric for Surface area and pore size, B.E.T., STSA, adsorption isotherm, desorption isotherm. Performs fully automated multi-point B.E.T. analysis in as little as twenty minutes or better. Should operate on 230 V, 50 Hz

- **Sample Analysis stations:** Two or More stations for simultaneous operation with dedicated glass Po cell and transducer. System must have Integrated Degassing station & Analysis station & should work simultaneously.
- **Relative Pressure range:**  $10^{-4}$  to 0.999.
- **Pressure Resolution:** The System should have a Pressure Resolution; Absolute:  $1.2 \times 10^{-4}$  Torr & Relative:  $1.5 \times 10^{-7}$  p/p0
- **Sample Preparation:** Prepare four or more samples by vacuum and flow method simultaneously with sample analysis for maximum throughput.
- **Surface area range:**  $0.01 \text{ m}^2/\text{g}$  to no known upper limit. Lower Absolute Surface Area Limit From  $0.5 \text{ m}^2$ . Surface area reference materials should be supplied along with instrument.
- **Pressure Measurement Accuracy:** should have a measurement accuracy of 0.1% (of full scale) or better
- **Pore size range:** 0.35 to 500 nm (3.5 to 5000 Å) & (0.35 - 1.1 nm only with  $\text{CO}_2$ )
- **Minimum pore volume (liquid):**  $2.2 \times 10^{-6} \text{ ml/g}$
- **Dewar life capacity:** Dewar should be of at least 2L or more and should run for 40 hours in one refill.
- **Degassing:** To remove pre adsorbed gases and moisture in build System Should have 4 or more Integrated degassing stations providing 2 heating zones which can run independent temperature profiles.
- **Degass Temperature range:** Ambient to  $425^\circ\text{C}$ ,  $1^\circ\text{C}$  intervals with programmable heating protocols Multi-step ramp rates / hold times. The Heating mantles should have dual, independent thermocouples for over-temperature safety and the should be supported by retractable tethers to eliminate hot metal clips for ease of use.
- **Software Features:** To have speed of analysis the software should include the DoseWizard/ VectorDose/ initial fill/ dVmax features.
- **Pre Programmed Analysis Profile:** The system should have the various (at least 20) ASTM/ USP/ DIN/ ISO methods pre programmed into the instrument as readymade tool for various sample analysis.
- **Adsorbates:**  $\text{N}_2$ , Ar,  $\text{CO}_2$ , and other non-corrosive gases. The System should have Gas ports at least Ports: 5 nos or

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BET surface area  
Analyser

Quantity : 1

more.

- **Cryogen Level Control:** Should have Automatic coolant level control mechanism for precise void volume control and minimize the cold zone volume to yield high accuracy data or appropriate other mechanism to get a better accuracy data.
- **Instrument control:** The whole system should be able to run thru external PC and suitable data reduction software, to be supplied along with the instrument. Capability to run and view the data on the fly on the instrument touch screen is added advantage. The software should be able to record the entire degassing protocol (including each temperature ramp and soak step) and then link that to the analysis data file when the sample is analyzed, for a complete profile of the analysis parameters from pretreatment to analysis to data reduction.
- **Vacuum Requirements:** The system should use one Vacuum pump for analysis and de gassing, Ultimate Vacuum of  $2.3 \times 10^{-3}$ Torr.
- **RoHS:** The system should be RoHS 3 compliant. It should also be CE certified
- **Warranty:** 5 year warranty from the date of installation & commissioning.
- **Installation & Training:** Complete training on the operation, maintenance, software handling should be provided free of cost to the user group during the installation & commissioning of the system.
- **Reference:** The vendor should provide list of at least 5 installation of similar systems in Indian universities/ IITs/NITs/IISERs/ other govt research laboratories in the last 3 years
- **Support:** The vendor should have proper qualified engineer/s located near to our place for prompt and efficient after sales services for the next at least 10 years. They should also have established local application laboratory to assist us for our regular assistance for our samples/methods/data interpretations.
- High purity 99.999% with 2 stage regulator of Helium, Nitrogen & Additional SS tubings and Computer with specification of i3 with 4gb ram, 500 Gb HDD, Windows 8 or higher , 18.5" LED Display.
- **CO<sub>2</sub> analysis Accessory:** The instrument should be capable for the CO<sub>2</sub> analysis for carbon samples at Zero Deg C

- Nitrogen container of 50 litre capacity need to be quoted.
- **Warranty for 5 Years**
- The vendor should provide list (at least 10) of installation of similar system in Indian Universities/ IITS/NITs/IISER and other government research laboratories with contact details in last 3 years
- The vendor should have proper qualified engineer/s located near to our place for prompt and efficient after sales services for the next at least 10 years. They should also have established local application laboratory to assist us for our regular assistance for our samples/methods/data interpretations. Quoted item should be the latest model with the availability of all the parts and required accessories atleast for 10 years. The instrument should be globally recognized one
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### Terms and Conditions

1. Tender fee and EMD is required to be paid only for the items which bidder compete as mentioned in the tender notice, utilising the EMD exemption option of e-procurement portal.
2. The tender should be submitted in two cover system ( Technical bid & Financial bid ).
3. Prices shall be quoted in Indian Currency only.
4. **Tender fee and EMD should be remitted through SBI Internet banking/ online NEFT transaction as indicated in the e-Tender notice. All payments including EMD should be made through online but 18% GST of Tender Fee should be remitted to GST Department directly and upload the receipt in the e-procurement portal.**

Sl. No	Item	Tender Fee (excl GST)	Tender Fee (18% GST)	EMD
1.	FT-IR Spectrometer	3,000	540	20,000
2.	Zeta Potential and Particle Size analyser	6,800	1,224	45,000
3.	BET surface area Analyser	6,800	1,224	45,000
<b>TOTAL</b>		<b>16,600</b>	<b>2,848</b>	<b>1,10,000</b>

4. All the MSMEs with Udyog Aadhar Registration or any other body specified by the Ministry of Micro, Small and Medium Enterprises working within the state of Kerala will be exempted from the payment of Tender Fee and EMD. Under MSME category, only Manufactures for Goods and Service Providers for Services are eligible for EMD/Tender fee exemption.
5. The bidders shall keep their rate firm for a period of **120 days**.
6. The bidder should upload along with his tender a preliminary agreement executed and signed in Kerala Stamp Paper of value of Rs.200/- as per format given.
7. The successful bidder shall, before signing the agreement and within the period specified in the letter of acceptance of his tender, deposit a sum equivalent to **5 % of the value of the contract** by way of Demand Draft drawn in favour of the Finance Officer, Kannur University payable at SBI Kannur Branch or Kannur Branch of other Nationalized or Scheduled bank, **as security** for the satisfactory fulfillment of the contract.
8. The total rate tendered should be inclusive of all taxes and other charges.
9. All bid/tender documents are to be submitted online only and in the designated cover(s)/envelope(s) on the website. Tenders/bids shall be accepted only through online mode on the website and no manual submission of the same shall be entertained.
10. Profile of Bidder as per Annexure1 shall be provided.
11. The earnest money of the unsuccessful bidders will be returned through ONLINE NEFT Transaction and the EMD of successful bidders will be discharged upon the bidder executing the contract and furnishing the security deposit that will have to be deposited for the satisfactory fulfillment of the contract.
12. The bid shall contain detailed technical specifications, Brochures and pamphlets of all items quoted.
13. All the claimed specifications (make, model, year of manufacture, warranty etc) should be mentioned in the Brochure or Catalogue of the equipment
14. The installation, commissioning and the initial operation will be the responsibility of the supplier.
15. In case of under performance during the warranty period, the item should be replaced and the period of warranty will recommence from the date of replacement.
16. The payment will be made after completion of supply, installation and commissioning.
17. The bidder shall undertake to supply materials according to the standard sample and /or specifications.
18. No representation for enhancement of rates once accepted will be considered.
19. The bidder shall quote their rate in the standard BOQ provided indicating the break up details.
20. The supplier shall ensure the quality of the stores supplied.
21. The provisions of Kerala Stores Purchase Manual are applicable to this Tender and further proceedings.
22. The University reserves all rights to accept or reject any or all the tenders without assigning any reason whatsoever at its discretion.
23. The bids shall be opened online at Kannur University on the date mentioned in Invitation Bid. If the date fixed for opening happens to be a holiday/due to net failure, tender will be opened at the next working day at the same time.
24. The bidder should have the responsibility to attend the first level service if any complaint report.
25. The final acceptance of the tenders rests entirely with the University who do not bind themselves to

accept the lowest or any tender. But the bidders on their part should be prepared to carry out such portion of the supplies included in their tenders as may be allotted to them.

26. Communication of acceptance of the tender normally constitutes a concluded contract. Nevertheless, the successful bidder shall also execute an agreement for the due fulfilment of the contract within the period to be specified in the letter of acceptance. In cases where a successful bidder, after having made partial supplies fails to fulfil the contracts in full, all or any of the materials not supplied may at the discretion of the Registrar, be purchased by means of another tender/quotation or by negotiation or from the next higher bidder who had offered to supply already and the loss, if any, caused to the University shall thereby together with such sums as may be fixed by the University towards damages be recovered from the defaulting bidder.

#### **DOCUMENTS TO BE SCANNED AND UPLOADED**

1. Bidder Profile( as per format mentioned in Annexure1)
2. Scanned copy of valid registration certificate (GST) & PAN Card
3. Scanned copy of Preliminary Agreement in Stamp Paper of Rs.200/- ( as per format mentioned in Annexure 2)
4. Scanned copy of relevant Brochure of the equipment including make & model and copy of its certifications like ISO certification.
5. Copy of payment receipt of tender fee and EMD
6. Copy of GST payment receipt of tender fee (18 % of tender fee) (MSME firms attach MSME certificate & UDYAM registration certificate)
7. Warranty details



Prof. (Dr.) Joby K Jose  
Registrar

**ANNEXURE 1**  
**BIDDER PROFILE**

Sl.No	Particulars	
Details of bidder(Firm/Company)		
1	Name	
2	address	
3	Telephone & Mob	
4	Email & website	
Details of Authorized Person		
5	Name	
6	Address	
7	Telephone & Email	
Information about the company		
8	Status of Company (Public Ltd./Pvt.Ltd)	
9	Details of Registration of Firm (Provide Ref.)	
10	Number of Professionals	
11	Location and address of offices (in India & overseas)	
12	Service Tax Registration Number	
13	Income Tax Registration Number (PAN)	
14	GST Registration Number	

Signature of the Bidder

**ANNEXURE - 2**

**Preliminary Agreement**

Articles of agreement executed on this the ..... day of ..... between the Registrar, Kannur University (hereinafter referred to as "the University") of the one part and Shri. .... (H.E. name and address of the tenderer) (hereinafter referred to as "the bounden") of the other part.

WHEREAS in response to the Notification No..... dated..... the bounden has submitted to the University a tender for the .....specification therein subject to the terms and conditions contained in the said tender;

WHEREAS the bounden has also deposited with the University a sum of Rs..... as earnest money for execution of an agreement undertaking the due fulfillment of the contract in case his tender is accepted by the University NOW THESE PRESENTS WITNESS and it is hereby mutually agreed as follows:

- 1.In case the tender submitted by the bounden is accepted by the University and the contract for..... is awarded to the bounden, the bounden shall within..... days of acceptance of his tender execute an agreement with the University incorporating all the terms and conditions under which the University accepts his tender.
- 2.In case the bounden fails to execute the agreement as aforesaid incorporating the terms and conditions governing the contract, the University shall have power and authority to recover from the bounden any loss or damage caused to the University by such breach as may be determined by the University by appropriating the earnest money deposited by the bounden if the earnest money is found to be inadequate the deficit amount may be recovered from the bounden his properties movable and immovable in the manner hereinafter contained. .
3. All sums found due to the University under or by virtue of this agreement shall be recoverable from the bounden and his properties movable and immovable under the provisions of the Revenue Recovery Act for the time being in force as though such sums are arrears of land revenue and in such other manner as the University may deem fit.

In witness where of Shri..... (name and designation) for and on behalf of the University and Shri. .... Bounden have hereunto set their hands the day and year shown against their respective signatures.

Signed by Shri. .... (date) .....

In the presence of witnesses:

1. ....
2. ....