

**Department of Physics, University of Kerala, Kariavattom,
Thiruvananthapuram, Kerala, India – 695 581, Ph: 91 471 2308920**

No. Pl.A1/Phy-2/17

01.12.2017

E-Tender Notice

Department of Physics, University of Kerala, Kariavattom, invites tenders for the purchase of FTIR spectrophotometer and accessory with following specifications.

Last date and time for submission of tender online	: 16.12.2017 AT 5.30. P.M
Date and time of opening of tender	: 20.12.2017 AT 11 A.M.
For technical details contact	Dr. V. Biju Assistant Professor Department of Physics, University of Kerala Ph. No. 9961228468 e-mail: bijunano@gmail.com

For further details logon to www.etenders.kerala.gov.in

TECHNICAL SPECIFICATIONS

FTIR spectrophotometer

FTIR spectrophotometer must be capable of recording high resolution infra-red spectrum of powder, thin film and liquid samples.

Interferometer	: Interferometer with auto-alignment, DSP control, sealed structure (KRS-5 window OR KBr window) / high-accuracy gold coating mirror, continuously variable iris aperture, standard attenuation wheel, standard validation wheel and USB 2.0 interface
Light source	: Long Lifetime Mid and Far - IR Source
Detector	: DLaTGS (with temperature control) for Mid-IR and PE-DLaTGS detector for FAR IR.
Beam splitter	: Ge/KBr for Mid IR, and Solid substrate for FAR IR with automated beamsplitter exchanger and automated purge shutters for FAR IR operation.
A/D Converter	: 24 bit
Standard Spectral Range	: 7,800 - 50 cm^{-1} or wider
Optical resolution	: 0.09 cm^{-1} or smaller
Signal-to-noise ratio	: 55,000:1 or better
Ordinate Linearity	: 0.07%T or higher
Wavenumber Precision	: 0.01 cm^{-1} or better
Scan Velocity	: 0.158–6.28 cm/sec or better

High-sensitivity measurement	: Manual or auto
ATR	: Attenuated total reflectance set up, which can work from 4000 cm^{-1} to 30 cm^{-1} .
Consumable / other items	: KBr (100g) and HDPE powder (250 g), KBr Pellet prep kit including Pellet Press,
Standard facilities	: IQ / Smart accessories, Start button,
Vibration-proof	: Vibration-proof design foot
Sample chamber (dimension in W × D × H)	: Approximate sample chamber size 20 cm × 26 cm × 15 cm or better dimension with center focus optical path and light axis 70 mm high or better suitable for powder, thin film and liquid sample measurements.

Automatic real time compensation of atmosphere should be provided.

Software for deconvoluting and Kramer Kroning analysis should be provided.

Desktop computer with monitor with following specifications (for Analysis) & Laser colour printer

Desktop computer with monitor having following specifications

- | | |
|------------------------------|--|
| (i) Processor: intel core i3 | (ii) Operating system: Windows 10 Home |
| (iii) Memory : 4 GB DDR3 RAM | (iv) Hard disk : 1TB HDD. |

Warranty for Desktop computer not **less than three years**.

UPS: A suitable UPS (for FTIR spectrometer and Computer) with 2 hr back up time also should be quoted.

Dehumidifier: A suitable dehumidifier for the continuous operation of FTIR.

Any Other Item: Also quote any other items, which are required for the installation and continuous operation of FTIR Spectrometer.


Optional Items:


Rapid Scan : 60 spectra per second (at 16 cm⁻¹), 90 spectra per second (at 32 cm⁻¹) or better


MCT Dewar LN₂ Hold Time : 8 hours or higher in case of upgradable MCT Mid IR detector


Warranty: Comprehensive warranty for not less than Five years.


General Conditions:

 The tender shall be submitted in the two bid viz. Technical Bid and Financial Bid. Only those qualified in technical bid will be eligible for participating in financial bid. A presentation regarding the technical specification and item to be supplied shall be done before the technical evaluation committee if requested.


 The bidder should be a manufacturer or their dealer specifically authorized by the manufacturer to quote on their behalf for this tender as per Manufacturer Authorization From and Indian agents of foreign principals, if any, who must have designed, manufactured, tested and supplied the equipment(s) similar to the type specified in the “Technical Specification”. Such equipment must be of the most recent series/models incorporating the latest improvements in design. The models should be in successful operation for at least one year as on date of Bid Opening.


 **Compliance Statement:** Along with the technical details provide a tabular column indicating whether the equipment quoted by you meets the specifications by indicating 'YES' or 'NO'. If 'YES', support the claim by providing original brochures. **Venders should provide clear brochures/data sheets about the equipment and its working. Also include adequate proof for the claim regarding the performance.**


 **Reference:** Names of Institutes with contact person and telephone/ email where similar equipment supplied by you in India [Preferably South India] shall be mentioned in the bid.


 Incomplete & conditional tenders and tenders received after the due date will be summarily rejected without assigning any reasons thereof.


 **Every tenderer should submit Tender fee of Rs. 2,500/-**

 The price should be inclusive of all taxes, duties, transportation, insurance, installation etc. Nothing extra will be paid in addition to the quoted rate. Any amount in Indian rupees for installation, commission, labour, spares, service etc shall be entered in item 2 of BoQ.


 Payment Terms: 90% payment shall be made through irrevocable LC on presentation of complete and clear shipping documents and balance 10% of the amount shall be released after the receipt, installation commissioning and acceptance of the equipment.


 Validity of tender: Tender submitted shall remain valid at least for 120 days from the date of opening the tender. Validity beyond 120 days, from the date of opening of the tender shall be by mutual consent.

 Delivery and installation: Proposed delivery schedule should be mentioned clearly. Delivery (including transport from airport), installation and training should be made at the Department of Physics, University of Kerala, Kariavattom campus, Trivandrum without extra cost. University of Kerala will provide customs duty exemption certificates if required.


 Service facility: Supplier should mention their details of service setup and manpower in Thiruvananthapuram who are responsible for after sales support.

 The model number, make, and a printed literature of the product shall submit positively.

 In case of any dispute, the decision of the University authority shall be final and binding on the bidders.

 The undersigned reserves the right to reject any or all of the tenders received without assigning any reason thereof.

 The quoted item should be under **comprehensive warranty for 5 years** or more.

 If any component is found to be defective during the warranty period, the vendor has to replace the defective item immediately at their own cost.

Documents to be Uploaded

1 Signed Compliance Matrix

 Detailed Technical Brochure



Under taking of support for next 10 Years



BoQ



Tender fee