

**UNIVERSITY OF JAMMU**  
**SCHOOL OF BIOTECHNOLOGY, UNIVERSITY OF JAMMU-180006**

School of Biotechnology, University of Jammu, Jammu & Kashmir is interested in the purchase of **FOURIER TRANSFORM INFRARED SPECTROSCOPY (FTIR) SYSTEM** per specifications given in the Annexure 1. The Department invites sealed bids / tenders bids from reputed Manufacturers or their Authorized Distributors / Dealers for Supply, Installation and Training of **FOURIER TRANSFORM INFRARED SPECTROSCOPY (FTIR) SYSTEM**. Interested parties may submit their sealed bids online as per Technical Specifications given at Annexure 1 and General Terms & Conditions given at Annexure II. The tender be published online on <https://jktenders.gov.in>. The TECHNICAL BID and PRICE BID has to be submitted online before the due date i.e. 31<sup>st</sup> March 2020 Whereas hard copy of the TECHNICAL BID along with EMD has to reach to the office of the Director, School of Biotechnology, University of Jammu, Jammu 180006 before the due date in a sealed envelope (duly superscripted with Tender No. and date).

For any query pertaining to this tender contact Professor Jyoti Vakhlu, School of Biotechnology University of Jammu, Jammu 180006.

The technical bid will be evaluated first and price bid will be opened only in respect of those Vendors, who are found technically qualified after evaluation of Technical Bid. The Technical bid will be opened on 03<sup>rd</sup> April 2020 in the School of Biotechnology, University of Jammu, Jammu - 180006

Director  
School of Biotechnology,  
University of Jammu, Jammu - 180006

Ref. No. JU/SBT/2020/2169

Dated: 05-03-2020

## Annexure-I

Item No	Equipment	Quantity	Technical Specification
1	<b>Fourier Transform Infrared Spectroscopy (FTIR) System</b>	1	<b><u>THESE ARE THE MINIMUM SPECIFICATIONS, EQUIPMENTS WITH BETTER SPECIFICATIONS WOULD ALSO BE CONSIDERED.</u></b>

**Technical Specifications for  
Fourier Transform Infrared Spectroscopy (FTIR) System**

FTIR Requirement		
Sr. No.	Parameter	Description
1	Interferometer	Permanently aligned gold coated mirrors or better technology
2	Optical system Design	Completely sealed and desiccated optics with life indicator, with Transmission module Vendor should provide the desiccant for 5 years from the date of installation.
3	Beam splitter	KBr beam splitter/ Ge coated KBr beam splitter or better technology to cover the entire wavelength range
4	Light source	Light source should be of high Intensity, Long life ceramic source, Temperature stabilized.
5	Detector	Must be Thermally insulated, temperature stabilized DTGS/ DLATGS/LiTaO3 Detector or any other suitable detector
6	Wave number range	7800 to 350 cm <sup>-1</sup> or better.
7	Wave length accuracy	Should be 0.1 cm <sup>-1</sup> or better
8	Wave length Precision	0.05 cm <sup>-1</sup> or better
9	Resolution	0.5 cm <sup>-1</sup> or better
10	S/N ratio	High signal to noise ratio 30,000:1 Peak-Peak per minute or better.
11	DIAMOND ATR	Diamond ATR to covers full range for liquid ,solid and film samples analysis
12	Reference Laser	Solid state laser or He-Ne laser
13	Source	Mid IR source / as per wavenumber range
14	PC and Software -Data processing functions	PC: Processor Intel Core i7-4670 Processor (3.4GHz, 6M Cache), HDD 1TB 7200RPM, Graphics: Intel HD Integrated Graphics, Memory 32GB X 2 DIMM 1600MHz, Optical DVD Recordable, Wireless WiFi Operating System Window 7 or above, cordless mouse and Keyboard Suitable software for spectral collection Latest version windows based packaged incorporating instrument control data manipulation, comparison of two or more spectra, analysis and flexible report facilitations, operating assistant with simple step by step operating procedure from menus; multitasking functions with built in software, accept store and apply multi-point calibration curves for concentration with various curve fitting techniques, Quantitative analysis as per Beers Law or classical least squares.
15	Accessories	<ul style="list-style-type: none"> <li>• Must have suitable ports for future upgradation like GC-IR interface, TGA-IR interface, and IR microscopy, etc.</li> <li>• System should be quoted with certified library for 2500 – 3000 or more spectras for catering different applications like forensic, food additives, contaminants, polymers, pharmaceuticals, biotechnology etc.</li> <li>• Automatic vapor correction.</li> <li>• ATR accessories with diamond crystal should be quoted</li> <li>• Air conditioner (Split 2 ton with transformer) for maintenance control of temperature</li> </ul>

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		<ul style="list-style-type: none"> <li>• Upgradation for temperature in reflection and transmission mode and also gas inlet</li> <li>• Purge kit for internal purging of optics (if required)</li> <li>• N2 cylinder (if required)</li> <li>• 1,KVA UPS with 30 mins of backup for the instrument and PC</li> </ul>
16	Sampling Accessories	Transmission module must be quoted with Pellet Holder/ Liquid Cell, Die Set, KBr Powder, Silica Gel ( Sufficient quantity for unkeep), NIST certified/traceable polystyrene film for calibration (5 years).
17	Hyphenation Upgradability	System must be compatible with TGA Hyphenation for evolved gas analysis (EGA) through temperature controlled transfer lines. System should have the capability for upgradation with IR Microscopy
18	Training	Installation and training to users should be given at our laboratory by a trained application engineer.
19	Warranty	10 year warranty on interferometer (including beam splitter), laser and IR source. Extended warranty should also be quoted separately 2 Year AMC after expiry of standard warranty
20	Installation and documents required	The quoted system or equivalent category system should have at least 30 numbers of installations in India in last five years by the vendor. List of such 5 users with contact numbers of faculty in-charge and copy of their installation report should be enclosed. At least three most recent PO copy must be submitted. Latest publications in reputed journal should also be enclosed The quoted model should be of latest technique and should not be more than 8 years old. Please declare the year of launch with proof.
		<ul style="list-style-type: none"> <li>• Consumables and non consumables should be quoted for 3 years</li> <li>• The system should be quoted F.O.R. Jammu University, Jammu.</li> <li>• All custom clearance and transportation should be borne by company.</li> <li>• Components should be made available for atleast 10 years or more.</li> </ul>

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## Annexure-II

### **General terms and conditions**

1. Rates should be F.O.R. Jammu University Campus.
2. In case of foreign manufacturer kindly quote F.O.R Jammu University Campus in foreign currency. Also quote tentative charges for custom Duty, Clearance charges and Transportation and Insurance up to Jammu separately.
3. Goods must conform to our indicated specifications. Detailed technical and other specifications / literature must be enclosed.
4. Indicate concessional rates of tax for educational institutions. The GST rates must be clearly mentioned separately.
5. The submission of the tenders will be online. The Technical Bid and Price bid has to be submitted online on [www.jktenders.gov.in](http://www.jktenders.gov.in). Whereas the hard copy along with EMD has to be submitted offline on or before due date in a sealed envelope.
6. Earnest Money Deposit (EMD) 2% of estimated price to be submitted along with commercial bid. Bids without EMD will be rejected.
7. The warranty of the product should be at least five Year.
8. The rates should be valid for 120 days. Both technical bid and the commercial bid addressed to undersigned and duly sealed /signed and tapped with official stamp should reach this office latest by 31<sup>st</sup> March 2020.
9. Bidder should submit Purchase orders and / user List as a proof of the dealing with other Government organizations / Institutions. The date of the supply order should be within last Three years from the date of publishing the BID.
10. Bidder should submit Valid Authorization Certificate from OEM for each against this NIT.
11. The firm/bidders should provide non blacklisting certificate mentioning it should not have criminal records/cases/activities.
12. Reports on Financial standing of the bidder such as profit and loss statement, balance sheet and auditor reports for the past three years, banker's certificate etc. should be provided by the bidders.
13. The bidder's firm should be established since last 5 years Documentary Evidence to be submitted along technical BID.
14. The bidder should have enough strength of people for the after sales support with their branch offices near to Jammu/Chandigarh. The details of Service Centre and Office addresses along with Service personnel need to be shared for the verifications.
15. Self-attested copies of GST and PAN card and Firm registration certificates to be submitted.
16. The bidder should have ISO or equivalent quality Certification.
17. The delivery, installation and operational training of the instruments/equipment should be completed within 45 days from placing of the order failing which the bank guaranty shall be retained by the Department.
18. The successful Bidder must provide Bank Guarantee equivalent to 10% of the cost of equipment to the Value of Order from Nationalized or Scheduled bank.
19. All Documents submitted in technical BID should be self-Attested (Signed and Stamped).