

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
VIKRAM SARABHAI SPACE CENTRE (VSSC)  
THIRUVANANTHAPURAM**

## **Tender for Fourier Transform Infrared (FTIR) Spectrometer**

**Bids to be submitted online**

**Tender No.: VSSC/PURCHASE UNIT VI (CMSE Purchase)/VS202400025101 dated  
21-06-2024**

## A. Tender Details

Tender No :	<b>VSSC/PURCHASE UNIT VI (CMSE Purchase)/VS202400025101</b>
Tender Date :	<b>21-06-2024</b>
Tender Classification:	<b>GOODS</b>
Purchase Entity :	<b>PURCHASE UNIT VI (CMSE Purchase)</b>
Centre :	<b>VIKRAM SARABHAI SPACE CENTRE (VSSC)</b>

### **Fourier Transform Infrared (FTIR) Spectrometer**

Quantity : 1 set.

E-Procurement No. VSSC/PURCHASE UNIT VI (CMSE PURCHASE/CMSE/VS2024P0 0251 01 P-Tenders are invited for the procurement of Fourier Transform Infrared (FTIR) Spectrometer at Composites Entity our E-procurement site <https://eproc.vssc.gov.in>.- PT-TWO PART(GLOBAL TENDER).

**BIDS CAN BE SUBMITTED UPTO 25/07/2024 [14:00 Hrs.] , TECHNICAL BID OPENING DATE : 25/07/2024 [15:00 Hrs.].**

Only online tenders will be accepted. No manual / Postal / e-mail / fax offers will be entertained. No manual tender document will be issued. Parties interested to participate in this e-Tender are required to register themselves as vendors, if not already registered, in our e-procurement portal <https://eproc.vssc.gov.in> by downloading plugins and help demos listed on the home page of the e-procurement link mentioned above to complete the vendor registration process. They can seek help from help desk 0471-2565454 also as provided in the home page of e-procurement portal in case of any problem for registration and subsequent process. Vendors may please note that without registering in our e-procurement portal, they will not be able to quote for this e-tender.

**Important Notice :** Tender will be automatically closed on the due date [i.e. 25/07/2024 14:00 hrs.], if at least one offer is received. If the tender could not be opened on the first day due to any technical snag, it will be opened on the subsequent day as per the schedule.

This is a two-part tender, Technical & Commercial part (Part I) and Price Part (Part II) shall be uploaded separately. The tenderers should not attach any documents containing Price information along with Technical & Commercial Bid (Part I). However, a copy of your PRICE BID, AMC quote, etc.

WITHOUT PRICE SHALL BE UPLOADED in the Documents Solicited from the Vendor Field [available in Bid forms] TO KNOW THE PATTERN OF QUOTE. [ENSURE NOT TO MENTION ANY PRICE, OTHERWISE THE QUOTE WILL BE INVALID]. We do not open PART II (Price Bid), if PART-I (Technical & Commercial offer) does not meet with our technical specification requirement

THE TECHNICAL DOCUMENTS NEED TO BE ATTACHED ONLINE AS A SINGLE PDF FILE WITHOUT ANY PRICE INFORMATION, TECHNICAL BID CONTAINING PRICE DETAILS WILL BE TREATED AS REJECTED. Tender No : VS2024 00 0251 01 Tender Date : 21/06/2024 Purchase Entity : PURCHASE UNIT VI (CMSE Purchase) Centre :VSSC.

Price bid opening date indicated in the schedule is tentative only. Actual date will be determined after evaluation of techno commercial bid. Quotations shall be uploaded as a separate documents

## **A.1 Tender Schedule**

Bid Submission Start Date :	<b>21-06-2024 17:14</b>
Bid Clarification Due Date :	<b>12-07-2024 11:31</b>
Bid Submission Due Date :	<b>25-07-2024 14:00</b>
Bid Opening Date :	<b>25-07-2024 15:00</b>
Price Bid Opening Date :	<b>16-08-2024 17:20</b>

## B. Tender Attachments

### Technical Write-up/Drawings

Document : Technical Specification Cum Compliance Matrix of FTIR

### Instructions To Vendors

## 2. INSTRUCTIONS TO TENDERERS AND TERMS & CONDITIONS OF TENDER for imported stores items

### 1. I. INSTRUCTIONS TO TENDERERS

1. The Tenderers should submit quotations in duplicate in a sealed envelope, super scribing the Tender No. and due date of opening and complete in all respects with technical specifications, including pamphlets and catalogues.
2. A Proforma Invoice may also be given which should contain the following information:
  - a) The FOB/FCA value, the C & F value for import by Sea freight / Air freight up to and for air parcel post up to ..... should be separately indicated.
  - b) Agency Commission: The amount of commission included in the price and payable to the Indian Agent of the Contractor shall be paid directly to the Indian Agent by the Purchaser in equivalent Indian Rupees on the basis of an Invoice from him applying T.T. buying rate of exchange ruling on the date of placement of the Purchase Order and which shall not be subject to any further exchange variations. This payment will be released to the Indian Agent immediately after Customs clearance of the goods in India.
  - c) The Contractor shall invoice only for the net amount payable to him, after deducting the amount of Agency Commission included in the invoice which will be paid to the Indian Agent directly by the Purchaser. However, the Contractor's invoice should separately reflect the amount of commission payable to his Indian Agent.
  - d) The earliest delivery period and country of origin of the Stores.
  - e) Banker's name, address, telephone/fax Nos. & e-Mail ID of the Contractor.
  - f) The approximate net and gross weight and dimensions of packages / cases.
  - g) Recommended spares for satisfactory operation for a minimum period of one year.
  - h) Details of any technical service, if required for erection, assembly, commissioning and demonstration.
3. The FOB/FCA and C & F prices quoted should be inclusive of all taxes, levies, duties arising in the tenderer's country.
4. The offer should be valid for a minimum period of 120 days from the due date of opening of the tender.
5. Samples, if called for, should be sent free of all charges.
6. Late and delayed tenders will not be considered. Quotations by cable must be followed by detailed offers.

7. Offers made by Indian Agents on behalf of their Principals, should be supported by the proforma invoice of their Principals.
8. The details of Import Licence will be furnished in the Purchase Order.
9. The authority of person signing the tender, if called for, shall be produced.
10. Instructions / Operation Manual containing all assembly details including wiring diagrams should be sent wherever necessary in duplicate. All documents / correspondence should be in English language only.
11. The Purchaser reserves the right to accept or reject the lowest or any offer in whole or part without assigning any reason.
12. It is expressly agreed that the acceptance of the Stores Contracted for is subject to final approval in writing by the Purchaser.
13. a) Part shipment is not allowed unless specifically agreed to by us.  
b) As far as possible stores should be despatched by Indian Flag Vessels / Air India through any Agency nominated by us.
14. Inspection / Test Certificate should be provided for the goods after testing it thoroughly at the Contractor's works. If any Inspection by Lloyds or any other testing agency is considered necessary, it shall be arranged by Contractors.
15. Where erection or assembly or commissioning is a part of the Contract, it should be done immediately on notification. The Contractor shall be responsible for any loss/damage sustained due to delay in fulfilling this responsibility.
16. For items having shelf life, those with maximum shelf life should be supplied if order is placed.

## II. TERMS AND CONDITIONS

### 1. DEFINITIONS:

- (a) The term 'Purchaser' shall mean the President of India or his successors or assignees.
- (b) The term 'Contractor' shall mean, the person, firm or company with whom or with which the order for the supply of stores is placed and shall be deemed to include the Contractor's Successors, representatives, heirs, executors and administrators unless excluded by the Contract.
- (c) The term 'Purchase Order' shall mean the communication signed on behalf of the Purchaser by an officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the Tender or offer of the Contractor for supply of stores of plant, machinery or equipment of part thereof.
- (d) The term 'Stores' shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order.

### 2. PRICES:

Tenders offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotations with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variations.

### 3. TERMS OF PAYMENT:

3.1 Being a Department of the Government of India, the normal terms of payment are by Sight Draft. However other terms of payment like establishment of Letter of Credit may be considered by the Purchaser on such terms and conditions as may be agreed upon.

3.2 The Sight Draft / Letter of Credit will be operative on presentation of the undermentioned documents:

a) Original Bill of Lading / Airway Bill b) Commercially certified invoices describing the stores delivered, quantity, unit rate and their total value, in triplicate. The invoice should indicate the discounts, if any, and Agency Commission separately. c) Packing List showing individual dimensions and weight of packages. d) Country of Origin Certificate in duplicate. e) Test Certificate. f) Declaration by the Seller that the contents in each case are not less than those entered in the invoices and the quality of the Stores are guaranteed as per the specifications asked for by the Purchaser. g) Warrantee and guarantee Certificate/s vide Clause 20 hereinbelow

#### 4. IMPORTANT LICENCE:

Reference to Import License No. & date and Contract number & date shall be prominently indicated in all the documents vide para 3.2

#### 5. DEMURRAGE:

Supplier shall bear demurrage charges, if any, incurred by the purchaser due to delayed presentation of shipping documents as prescribed in para 3.2 to the bankers within a reasonable time (say within 10-12 days) from the date of bill of lading for sea consignments and within 3-4 days from the date of Air Way Bill for air consignments.

#### 6. ADDRESS OF INDIAN AGENTS:

#### 7. GUARANTEED TIME DELIVERY:

The time for and the date of delivery stipulated in the Purchase Order shall be deemed to be the essence of the Contract. Delivery must be completed within the date specified therein.

#### 8. INSPECTION AND ACCEPTANCE TEST:

8.1 The Purchaser's representatives shall also be entitled at all reasonable times during manufacture to inspect, examine and test on the Contractor's premises the material and workmanship of all stores to be supplied under this Contract and if part of the said stores is being manufactured on other premises, the Contractor shall obtain for the purchaser's representative permission to inspect, examine and test as if the equipment were being manufactured on the Contractor's premises. Such inspection, examination and testing shall not release the Contractor from the obligations under this Contract.

8.2 For tests on the premises of the Contractor or of any of his subcontractors, the Contractor shall provide free of cost assistance, labour, material, electricity, fuel and instruments as may be required or as may be reasonably needed by the purchaser's representative to carry out the tests efficiently.

8.3 When the stores have passed the specified test, the purchaser's representative shall furnish a certificate to the effect in writing to the Contractor. The Contractor shall provide copies of the test/s certificates to the purchaser as may be required.

#### 9. MODE OF DESPATCH:

Generally, stores should be despatched through Indian Flagged Vessel / Air India or through any other Agency nominated by the purchaser. A copy of the invoice and packing list should invariably be kept inside each of the packages.

#### 10. PORT OF ENTRY:

Thiruvananthapuram/Chennai/Mumbai/Hyderabad/Bangalore

#### 11. CONSIGNEE:

Purchase & Stores Officer, Stores, \_\_\_\_\_,

## 12. SHIPPING MARKS.

The mark on the shipping documents such as invoice, bill of lading and on the packages should be as follow:

PURCHASE ORDER NO. DATED. GOVERNMENT OF INDIA DEPARTMENT OF SPACE

..... (name of the Centre/Unit) Destination: ..... & Port of Entry:  
.....

## 13. INSURANCE OF THE STORES:

The necessity or otherwise of insurance will be as indicated in the Purchase Order.

## 14. CONTRACTOR'S DEFAULT LIABILITY:

14.1 The purchaser may upon written notice of default to the Contractor terminate the Contract in whole or in part in circumstances detailed hereunder:

a) If in the judgement of the Purchaser the Contractor fails to make delivery of Stores within the time specified in the Contract/agreement or within the period for which extension has been granted by the Purchaser to the Contractor.

b) If in the judgment of the Purchaser the Contractor fails to comply with any of the other provisions of this Contract.

15. In the event the Purchaser terminates the Contract in whole or in part as provided in Clause 14 the Purchaser reserves the right to Purchase, upon such terms and in such a manner as he may deem appropriate, stores similar to that terminated and the Contractor shall be liable to the Purchaser for any additional costs for such similar stores and/or for liquidated damages for delay as defined in Clause 19 until such reasonable time as may be required for the final supply of stores.

15.1 If this Contract is terminated as provided in Clause 14 the Purchaser in addition to any other rights provided in this Article, may require the Contractor to transfer title and deliver to the Purchaser under any of the following clauses in the manner and as directed by the Purchaser:

a) Any completed stores.

b) Such partially completed stores, drawing, information and Contract rights (hereinafter called manufacturing material) as the Contractor has specifically produced or acquired for the performance of the Contract as terminated. The Purchaser shall pay to the Contractor the Contract price for completed stores delivered to and accepted, by the purchaser and for manufacturing material delivered and accepted.

15.2 In the event the Purchaser does not terminate the Contract as provided in Clause 14, the Contractor shall continue the performance of the Contract in which case he shall be liable to the purchaser for liquidated damages for delay as set out in Clause 19 until the stores are accepted.

## 16. REPLACEMENT:

If the stores or any portion thereof is damaged or lost during transit, the Purchaser shall give notice to the Contractor setting forth particulars of such stores damaged or lost during transit. The replacement of such stores shall be effected by the Contractor within a reasonable time to avoid unnecessary delay in the intended usage of the Stores. In case the purchaser agrees, the price towards replacement items shall be paid by the purchaser on the basis of original price quoted in the tender or as reasonably worked out from the tender.

## 17. REJECTION:

In the event that any of the stores supplied by the Contractor is found defective in material or workmanship or otherwise not in conformity with the requirements of the Contract specifications, the purchaser shall either reject the stores or request the Contractor, in writing, to rectify the same. The Contractor, on receipt of such notification, shall either rectify or replace the defective stores free of cost to the purchaser. If the Contractor fails to do so, the purchaser may at his option either

- a) replace or rectify such defective stores and recover the extra cost so involved from the Contractor, or
- b) terminate the Contract for default as provided under clause 14 above, or
- c) acquire the defective stores at a reduced price considered equitable under the circumstances. The provision of this article shall not prejudice the Purchaser's rights under clause 19.

#### 18. EXTENSION OF TIME:

If the completion of supply of stores is delayed due to reason of force majeure such as acts of god, acts of public enemy, acts of Government, fires, floods, epidemics, quarantine restriction, strikes, freight embargoes, etc., the Contractor shall give notice within 15 days to the purchaser in writing of his claim for an extension of time. The purchaser on receipt of such notice after verification, if necessary, may agree to extend the Contract delivery date as may be reasonable but without prejudice to other terms and conditions of the Contract.

#### 19. DELAY IN COMPLETION / LIQUIDATED DAMAGES:

If the Contractor fails to deliver the stores within the time specified in the Contract or any extension thereof, the purchaser shall recover from the Contractor as liquidated damages a sum of one-half of one percent (0.5 percent) of the Contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10 percent) of the Contract price of the unit or units so delayed. Stores will be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delayed until such time as the missing parts are delivered.

#### 20. GUARANTEE & REPLACEMENT:

- a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down for material, workmanship and performance.
- b) For a period of twelve months after the acceptance of the stores, if any defects are discovered therein or any defects therein are found to have developed under proper use arising from faulty materials, design or workmanship, the Contractor shall remedy such defects at his own cost provided he is called upon to do so within a period of 14 months from the date of acceptance thereof by the Purchaser who shall state in writing in what respect the stores or any parts thereof are faulty.
- c) If in the opinion of the purchaser it becomes necessary to replace or renew any defective stores, such replacements or renewals shall be made by the Contractor free of all costs to the purchaser provided the notice informing the Contractor of the defect is given by the purchaser in this regard within the said period of 14 months from the date of acceptance thereof.
- d) Should the Contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective stores.
- e) The decision of the Purchaser, notwithstanding any prior approval or acceptance or inspection thereof on behalf of the purchaser, as to whether or not the stores supplied by the Contractor are defective or any defects has developed within the said period of 12 months or as to whether the nature



of the defects requires renewal or replacement shall be final, conclusive and binding on the Contractor.

f) To fulfil guarantee conditions outlined in Clause 20 (a) to (e) above, the Contractor shall, at the option of the purchaser, furnish a Bank Guarantee (as prescribed by the purchaser - Bank Guarantee format enclosed) from a Bank approved by the purchaser for an amount equivalent to 10% of the value of the Contract along with first shipment documents. On the performance and completion of the Contract in all respects, the Bank Guarantee will be returned to the Contractor without any interest.

g) All the replacement stores shall also be guaranteed for a period of 12 months from the date of arrival of stores at purchaser's site.

h) Even while the 12 months guarantee applies to all stores, in case where a greater period is called for by our specifications, then such a specification shall apply, and in such cases, the period of 14 months referred to in Clause 20 (b) and (c) shall be asked for guarantee period plus two months.

#### 21 REQUIREMENTS OF ADDITIONAL NUMBERS OF THE STORES/SPARE PARTS ORDERED:

The Contractor shall also undertake the supply of additional number of items covered by the order as considered necessary by the purchaser at a later date, the actual price to be paid shall be mutually agreed to after negotiations.

#### 22. PACKING:

a) The Contractor wherever applicable shall pack and crate all stores for sea / air shipment as applicable in a manner suitable for export to a tropical humid climate, in accordance with internationally accepted export practices and in such a manner so as to protect it from damage and deterioration in transit by road, rail or sea for space qualified stores. The Contractors shall be held responsible for all damages due to improper packing.

b) The Contractor shall ensure that each box / unit of shipment is legible and properly marked for correct identification. The failure to comply with this requirement shall make the Contractor liable for additional expenses involved.

c) The Contractor shall notify the purchaser of the date of shipment from the port of embarkation as well as the expected date of arrival of such shipment at the designated port of arrival.

d) The Contractor shall give complete shipment information concerning the weight, size, content of each packages, etc.

e) Transshipment of equipment shall not be permitted except with the written permission of the purchaser.

f) Apart from the despatch documents negotiated through Bank, the following documents shall also be airmailed to the purchaser within 7 days from the date of shipment by sea and within 3 days in case of air-consignments: a) Commercial Bill of Lading / Air Way Bill / Post parcel Receipt. (Two non-negotiable copies) b) Invoice (3 copies) c) Packing List (3 copies) d) Test Certificate (3 copies) e) Certificate of Origin.

The Contractor shall also ensure that one copy of the packing list is enclosed in each case.

#### 23. ARBITRATION:

If at any time any question, dispute or difference whatsoever shall arise between the purchaser and the Contractor upon or in connection with this Contract, either party may forthwith give to the other notice in writing of the existence of such question, dispute or difference and the same shall be referred

to the adjudication of two arbitrators, one to be nominated by purchaser, other by a Contractor and in the event of any difference of opinion, the arbitrators will refer the matter to the umpire. The arbitration shall be conducted in accordance with the rules and procedure for arbitration of the International Chamber of Commerce at Paris. The expenses of the arbitrators and umpire shall be paid as may be determined by them. However, the venue of such arbitration should be in India.

**24. LANGUAGE AND MEASURES:**

All documents pertaining to the Contract including specification, schedule, notice, correspondence, operating and maintenance instructions, drawings or any other writings shall be written in English language. The metric system of measurement shall be used exclusively in the Contract.

**25. INDEMNITY:**

The Contractor shall warrant and be deemed to have warranted that all Stores supplied against this Contract are free and clean of infringement of any patent, copyright or trade mark and shall at all times indemnify the purchaser against all claims which may be made in respect of stores for infringement of any right protected by Patent, Registration of design or Trade Mark, and shall take all risk of accident or damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for the sufficiency of all the means used by him for the fulfilment of the Contract.

**26. COUNTER TERMS AND CONDITIONS OF SUPPLIERS:**

Where counter terms and conditions/printed or cyclostyled conditions have been offered by the supplier, the same shall not be deemed to have been accepted by the purchaser unless specific written acceptance thereof is obtained.

**27. SECURITY INTEREST:**

On each item to be delivered under this Contract, including an item of work in progress in respect of which payments have been made in accordance with the terms of the Contract, purchaser shall have a security interest in such items which shall be deemed to be released only at the time when the applicable deliverable item is finally accepted and delivered to the purchaser in accordance with the terms of the Contract. Such security interest of the purchaser shall constitute a prior charge as against any other charge or interest created in respect of such items by any entity.

**28. BANK CHARGES:**

While the purchaser shall bear the bank charge payable to his Bankers (State Bank of India), the Contractor shall bear the Bank charges payable to his Bankers including the cheques towards advising amendment commissions.

**29. TRAINING:** The Contractor shall, if required by the purchaser, provide facilities for the practical training of Purchaser's engineering / technical personnel from India and for their active association on the manufacturing processes throughout the manufacturing period of the Contract / stores, number of such personnel to be mutually agreed upon.

**30. APPLICABLE LAW:**

The Contract shall be interpreted, construed and governed by the laws of India.

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**3. GENERAL TERMS & CONDITONS (WITH WARRANTY)**

1. 10.Security deposit : You should submit Bank Guarantee (Rs.200/- stamp paper) for 3% order value (DOS:PM:09 format enclosed) from a Nationalised/Scheduled bank valid for 2 months beyond the date of completion of order along with order acknowledgement. This security deposit without any interest thereon shall be returned to the Contractor on successful completion of the contract or shall be adjusted/forfeited against non-fulfillment of any of the contractual obligations.
2. 11.Warranty: Warranty should be indicated in the quotation if applicable
3. 12.Performance Bank Guarantee: You shall furnish performance Bank Guarantee in Rs.200/-non judicial stamp paper from a Nationalized/Scheduled Bank Equivalent to 3% of the order value which shall be valid beyond 2 months from the expiry of warranty/guarantee period.
4. 13.We would like to have more than one source of supply and the final orders will be given accordingly to the qualified bidders.
5. 16. VSSC-CMSE has a right to cancel the tender without assigning any reason etc.
6. 17. If you are unable to submit offer, the same may be communicated to us before the due date.
7. 18. "If any of the bidders submit any forged or false documents along with the tender, such tenders will be summarily rejected and such bidders will be blacklisted for all future tenders."
8. 19. All Tax invoices issued by suppliers/Service providers on or after July 01,2017 shall invariably bear their GST Registration No.(GSTIN) applicable GST rates and HSN Code. In the absence of which, the invoices shall not be processed for payment.
9. 2.Please keep & confirm the offer validity minimum 90 days from the date of opening of tender.
10. 3.GST extra as applicable as per HSN code. Specify HSN code with applicable GST in your quotation.
11. 6.Delivery term: Our standard delivery term is FOR : CMSE-VSSC. In case of Ex- Works, please indicate packing, forwarding & freight charges up to VSSC, separately. (For more details please see Form No. 19/20/21/22/ 23 attached)
12. 8.In order to avail of the benefits extended to by Govt. of India to the Micro and Small Sectors, please submit attested copy of the valid Entrepreneur Memorandum Part-II signed by the General Manager, District Industries Centre / UdyogAdhar/ NSIC Registration Certification along with your offer.

13. 9.Liquidated damages: The delivery period quoted by you and stipulated in the Purchase Order shall be deemed to be the essence of the order and delivery must be completed not later than the dates specified therein as otherwise VSSC shall have the right to recover a sum @ 0.5% of the order value per week/part of a week or 0.5%of the value of the stores for which the delivery is delayed for each week of delay, as the case may be, subject to a maximum of 10% of the order value.

14. (b) Validity of Registration: Registration should be valid at the time of submission of bids and should be valid at the time of placement of order.

15. (c) Any false declaration and non-compliance of the above would be a ground for immediate rejection of offer or termination of the contract and further legal action in accordance with the laws

16. General Conditions:

1.Payment: Our standard payment term is 100% within 30 days on receipt and acceptance of the item at our site .

4. SPECIAL INSTRUCTION TO VENDORS :

THIS IS A TWO PART TENDER.

PART 1 IS TECHNICAL AND COMMERCIAL PART. YOU SHOULD NOT INDICATE ANY PRICE INFORMATION ALONG WITH PART-1.

PART 2 IS PRICE PART.

PLEASE ATTACH YOUR QUOTATION IN PDF DOCUMENTS SEPERATELY.

## C. Bid Templates

### C.1 Technical Bid - Fourier Transform Infrared (FTIR) Spectrometer

#### 1. Fourier Transform Infrared Spectrometer (FTIR)

##### Item specifications for Fourier Transform Infrared Spectrometer (FTIR)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Optical system: Type and its environment	1. Single beam 2. Extensively sealed and desiccated optical unit to protect the moisture sensitive components. 3. Optical bench should be capable of automatic accessory recognition.	Yes / No / Explain		
2	Beam Splitter	KBr	Yes / No / Explain		
3	Wavenumber Range (cm-1)	7800cm-1 - 350cm-1 or better	Yes / No / Explain		
4	Spectral Resolution (cm-1)	0.5cm-1 or better	Yes / No / Explain		
5	Wavenumber accuracy (cm-1)	0.1cm-1 or better	Yes / No / Explain		
6	Wavenumber precision (cm-1)	0.01cm-1 or better	Yes / No / Explain		
7	Interferometer	Michelson Interferometer must be permanently aligned or should have automatic alignment features for better stability and scan repeatability.	Yes / No / Explain		
8	Peak to peak Signal to Noise ratio (S/N) for 1 minute scan	50000:1 or better	Yes / No / Explain		
9	Measurement modes	Transmittance, Absorbance and Reflectance	Yes / No / Explain		
10	Light Source	Long life source covering Mid IR region	Yes / No / Explain		

11	Laser	Helium-Neon/diod laser	Yes / No / Explain		
12	Detector type	Temperature-stabilized DTGS/DLaTGS detector	Yes / No / Explain		
13	Sample types	Should be able to analyse Liquid, Solid, Powder, Thin Films and Gaseous samples	Yes / No / Explain		
14	Upgradable	Instrument should be upgradable for hyphenation studies to couple with TGA to work as TGA-IR and to upgrade IR MICROSCOPE in future. Quoted model instrument should be field upgradable with other high temperature accessories.	Yes / No / Explain		
15	ATR accessory	1. ATR with interchangeable crystal plates of Diamond and Germanium covering mid IR range. 2.The system should be compatible with the basic equipment. 3. The installation of this item and AMC, spares support in future will be taken care of by the FTIR equipment vendor. 4.The performance of the accessory to be demonstrated along with the main equipment during installation.	Yes / No / Explain		

16	Sampling accessories	<p>1. KBr cell, NaCl cell, AgBr cell, CsI cell.  2. Sample accessory for quantitative measurements.  3. Solid and Liquid sample holders.  4. Gas cell.  5. Bench top hydraulic press 15Ton for pellet/sample preparation  6. Mortar and Pestle  7. Dies-2 Nos for KBr pellet preparation, KBr powder and suitable pellet holder  8. Dry box and replacement dessicant.</p>	Yes / No / Explain		
17	Instrument calibration	<p>1. In-built calibration using Validation kit  2. NIST-traceable Polystyrene film standard with validity certificate to be provided.</p>	Yes / No / Explain		
18	FTIR spectrum Libraries	<p>Licensed copy of FTIR spectrum libraries of polymers, inorganic and organic compounds to be provided.</p>	Yes / No / Explain		
19	PC and printer	<p>Display must be through PC. Latest high-end PC (Make: HP/DELL/LENOVO/ACER) with atleast 8GB RAM, i7 processor, windows 10, 21inch monitor and HP/Canon laser colour printer.</p>	Yes / No / Explain		

20	Software	<p>1. A single software platform incorporates for spectrum analysis, complete data processing, peak detection, spectral comparison, overlapping of spectra etc.</p> <p>2. Automatic accessory detection &amp; performance evaluation.</p> <p>3. Multicomponent analysis software for analysis of blend samples.</p> <p>4. Software key in hard disc (pendrive) to be provided.</p> <p>5. Extensive processing and interpretation tool for baseline correction, smoothing, deconvolution, peak picking, etc.</p> <p>6. Quantitative analysis package to compute peak area, peak height and peak ratio.</p> <p>7. Provision for extracting numerical data in .xls, .dat, .ASCII format should be there.</p> <p>8. Spectral search from commercial library should be possible.</p> <p>9. Customizable report template to be available.</p>	Yes / No / Explain		
21	Warranty	Supplier shall provide warranty for the complete system for the period of minimum 3 years from the date of successful installation at VSSC.	Yes / No / Explain		



22	Non-Comprehensive AMC	The party should undertake Non-Comprehensive AMC for 5 years after warranty. AMC charges for each year after warranty to be quoted separately. But the AMC cost will not be considered while selecting the L1.	Yes / No / Explain		
23	Availability of Spares	1. The party should confirm the availability of spares and consumables for 8 years from the date of installation. 2. Price List of essential spares shall be included in the quote. But the cost of spares will not be considered while selecting the L1.	Yes / No / Explain		
24	Power Supply/ Spectrometer power	230 V $\pm$ 10, 50 Hz	Yes / No / Explain		
25	Installation and Training	Onsite installation and training to be provided	Yes / No / Explain		
26	Supplier specifications	1. The supplier should be either the manufacturer or the authorized dealer. 2. The supplier should have a minimum of 5 installations of FTIR spectrometers in India for the last 5 years. 3. Party should have a strong service back-up in India with technically competent service engineers trained and certified by the factory.	Yes / No / Explain		
27	Power	110-220V AC, 50-60Hz	Yes / No / Explain		

28	Documents to be furnished	<p>1. The vendor must furnish the list of users in India and detailed catalogues for the quoted model.</p> <p>2.The quoted model and details should be available in the official site of the vendor.</p> <p>3.Pre-installation requirements have to be specified.</p> <p>4.Year of introduction of the model should be given in the quote.</p> <p>5. Proof of min 5 installations within India like P.O. copies and installation reports, customer testimonials to be provided for the last 5 years.</p> <p>6. Compliance matrix of specification including the explicit description with relevant details to be provided.</p>	Yes / No / Explain		
29	Sample testing using the quoted model of the instrument	<p>1. The bidder should be ready to demonstrate performance of the instrument free of cost using VSSC supplied samples during the time of tender evaluation using the quoted model of the instrument. The acceptance of the test data with indent specification is also mandatory for considering the offer as technically qualified one.</p> <p>2. The performance of the equipment to be demonstrated again after installation in VSSC facility for the same results.</p>	Yes / No / Explain		

**Document : Technical Specification Cum Compliance Matrix of FTIR**

### Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Optical system - Type and its environment	1. Single beam 2. Extensively sealed and desiccated optical unit to protect the moisture sensitive components. 3. Optical bench should be capable of automatic accessory recognition.	Yes / No / Explain		
2	Beam Splitter	KBr	Yes / No / Explain		
3	Wavenumber Range (cm-1)	7800cm-1 - 350cm-1 or better	Yes / No / Explain		
4	Spectral Resolution (cm-1)	0.5cm-1 or better	Yes / No / Explain		
5	Wavenumber accuracy (cm-1)	0.1cm-1 or better	Yes / No / Explain		
6	Wavenumber precision (cm-1)	0.01cm-1 or better	Yes / No / Explain		
7	Interferometer	Michelson Interferometer must be permanently aligned or should have automatic alignment features for better stability and scan repeatability.	Yes / No / Explain		
8	Peak to peak Signal to Noise ratio (S/N) for 1 minute scan	50000:1 or better	Yes / No / Explain		
9	Measurement modes	Transmittance, Absorbance and Reflectance	Yes / No / Explain		
10	Light Source	Long life source covering Mid IR region	Yes / No / Explain		
11	Laser	Helium-Neon/diod laser	Yes / No / Explain		
12	Detector type	Temperature-stabilized DTGS/DLaTGS detector	Yes / No / Explain		
13	Sample types	Should be able to analyse Liquid, Solid, Powder, Thin Films and Gaseous samples	Yes / No / Explain		

14	Upgradable	Instrument should be upgradable for hyphenation studies to couple with TGA to work as TGA-IR and to upgrade IR MICROSCOPE in future. Quoted model instrument should be field upgradable with other high temperature accessories.	Yes / No / Explain		
15	ATR accessory	1. ATR with interchangeable crystal plates of Diamond and Germanium covering mid IR range. 2. The system should be compatible with the basic equipment. 3. The installation of this item and AMC, spares support in future will be taken care of by the FTIR equipment vendor. 4. The performance of the accessory to be demonstrated along with the main equipment during installation.	Yes / No / Explain		
16	Sampling accessories	1. KBr cell, NaCl cell , AgBr cell, CsI cell. 2. Sample accessory for quantitative measurements. 3. Solid and Liquid sample holders. 4. Gas cell. 5. Bench top hydraulic press 15Ton for pellet/sample preparation 6. Mortar and Pestle 7. Dies-2 Nos for KBr pellet preparation, KBr powder and suitable pellet holder 8. Dry box and replacement dessicant.	Yes / No / Explain		
17	Instrument calibration	1. In-built calibration using Validation kit 2. NIST-traceable Polystyrene film standard with validity certificate to be provided.	Yes / No / Explain		

18	FTIR spectrum Libraries	Licensed copy of FTIR spectrum libraries of polymers, inorganic and organic compounds to be provided.	Yes / No / Explain		
19	PC and printer	Display must be through PC. Latest high-end PC (Make: HP/DELL/LENOVO/A CER) with atleast 8GB RAM, i7 processor, windows 10, 21inch monitor and HP/Canon laser colour printer.	Yes / No / Explain		
20	Software	<ol style="list-style-type: none"> <li>1. A single software platform incorporates for spectrum analysis, complete data processing, peak detection, spectral comparison, overlapping of spectra etc.</li> <li>2. Automatic accessory detection &amp; performance evaluation.</li> <li>3. Multicomponent analysis software for analysis of blend samples.</li> <li>4. Software key in hard disc (pendrive) to be provided.</li> <li>5. Extensive processing and interpretation tool for baseline correction, smoothing, deconvolution, peak picking, etc.</li> <li>6. Quantitative analysis package to compute peak area, peak height and peak ratio.</li> <li>7. Provision for extracting numerical data in .xls, .dat, .ASCII format should be there.</li> <li>8. Spectral search from commercial library should be possible.</li> <li>9. Customizable report template to be available.</li> </ol>	Yes / No / Explain		

21	Warranty	Supplier shall provide warranty for the complete system for the period of minimum 3 years from the date of successful installation at VSSC.	Yes / No / Explain		
22	Non-Comprehensive AMC	The party should undertake Non-Comprehensive AMC for 5 years after warranty. AMC charges for each year after warranty to be quoted separately. But the AMC cost will not be considered while selecting the L1.	Yes / No / Explain		
23	Availability of Spares	1. The party should confirm the availability of spares and consumables for 8 years from the date of installation. 2. Price List of essential spares shall be included in the quote. But the cost of spares will not be considered while selecting the L1.	Yes / No / Explain		
24	Power Supply/Spectrometer power	230 V $\pm$ 10, 50 Hz	Yes / No / Explain		
25	Installation and Training	Onsite installation and training to be provided	Yes / No / Explain		
26	Supplier specifications	1. The supplier should be either the manufacturer or the authorized dealer. 2. The supplier should have a minimum of 5 installations of FTIR spectrometers in India for the last 5 years. 3. Party should have a strong service back-up in India with technically competent service engineers trained and certified by the factory.	Yes / No / Explain		

27	Documents to be furnished	<p>1. The vendor must furnish the list of users in India and detailed catalogues for the quoted model.</p> <p>2.The quoted model and details should be available in the official site of the vendor.</p> <p>3.Pre-installation requirements have to be specified.</p> <p>4.Year of introduction of the model should be given in the quote.</p> <p>5. Proof of min 5 installations within India like P.O. copies and installation reports, customer testimonials to be provided for the last 5 years.</p> <p>6. Compliance matrix of specification including the explicit description with relevant details to be provided.</p>	Yes / No / Explain		
28	Sample testing using the quoted model of the instrument	<p>1. The bidder should be ready to demonstrate performance of the instrument free of cost using VSSC supplied samples during the time of tender evaluation using the quoted model of the instrument. The acceptance of the test data with indent specification is also mandatory for considering the offer as technically qualified one.</p> <p>2. The performance of the equipment to be demonstrated again after installation in VSSC facility for the same results.</p>	Yes / No / Explain		

### Supporting Documents required from Vendor

**1. Quote for Non-Comprehensive AMC charges for 5 years after warranty (individual year's rate to be quoted separately) (Price Bid Related)**

**2. Price list of essential spares (Price Bid Related)**

**3. List of users in India with contact number of the concerned person for the quoted model**

**4. Authorisation certificate from manufacturer for authorised dealer**

**5. Proof of min 5 installations within India like P.O. copies and installation reports, customer testimonials to be provided for the last 5 years**

**6. Detailed catalogues for the quoted model**

**7. Compliance matrix of specification including the explicit description with relevant details**

**8. This is a 2 part tender. Part 1 is Technical and commercial part. You should not indicate any price information alongwith part 1. Please upload your quotation in pdf document.**

5 additional documents can be uploaded by the vendor



## C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	Basic equipment and all the accessories to be supplied together	Yes / No / Explain	
2	Liquidated Damages(L/D clause @ 0.5% subject to maximum 10% of the order value is applicable beyond the promised delivery schedule. )	Yes / No / Explain	
3	Delivery Term (FOR, VSSC):	Yes / No / Explain	
4	Security Deposit:	Yes / No / Explain	
5	Performance Bank Guarantee -3% order value	Yes / No / Explain	
6	Quote Validity: Minimum 180 days	Yes / No / Explain	
7	Delivery Period	Yes / No / Explain	

## C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	Fourier Transform Infrared Spectrometer (FTIR)	1.00 Sets		-		

### Common charges (Applicable for all items)

Freight charge	
P&F Charges	