



**METAL HANDICRAFTS SERVICE CENTRE**

**NOTICE INVITING TENDER FOR SUPPLY, INSTALLATION AND  
COMMISSIONING OF**

**IC- INDUCTIVELY COUPLED PLASMA MASS SPECTROMETER  
[IC-ICPMS]**

**AND**

**FOURIER – TRANSFORM INFRARED SPECTROSCOPY [FTIR]**

INVITED BY:

**GENERAL MANAGER**

**METAL HANDICRAFTS SERVICE CENTRE**

**Research Testing & Calibration Laboratory**

***[Under Control of Ministry of Textiles, Govt. of India]***

**Peetal Nagri, Rampur Road**

**Moradabad [ UP] - 244001**

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**METAL HANDICRAFTS SERVICE CENTRE**  
**Research Testing & Calibration Laboratory**

Peetal Nagri , Rampur Road  
Moradabad [UP], 244001

**TENDER NOTICE**

Metal Handicrafts Service Centre, Moradabad functioning under Development Commissioner(Handicrafts),Ministry of Textiles, GOI, invites on line bids under two bid system (Technical and Financial bids) from authorized and bonafide Manufacturers /Suppliers for Supply, Installation and Commissioning of **IC-Inductively Coupled Plasma Mass Spectrometer (IC-ICPMS ) & Fourier- Transform Infrared Spectroscopy (FTIR)** at Research Testing & Calibration Laboratory, MHSC, Moradabad (U.P) .

2. Tender documents may be downloaded from **web site: [www.handicrafts.nic.in](http://www.handicrafts.nic.in)**.(for reference only) and CPPP site <http://eprocure.gov.in/eprocure/app> as per the schedule as given in CRITICAL DATA SHEET as under:-

Published Date	26.07.2018
Bid Document Download Start Date	26.07.2018
Bid Submission Start Date	26.07.2018
Bid Document Download End Date	17.08.2018
Bid Submission End Date	17.08.2018
Bid Opening Date	18.08.2018 (10:30 am)

3. Bids shall be submitted online only at CPPP website: <https://eprocure.gov.in/eprocure/app>. Tenders/Contractors are requested to follow the instructions provided in the Instructions to the Contractors/Tenders for the e-submission of the bids online through the Central Public Procurement Portal for e-procurement at: <https://eprocure.gov.in/eprocure/app>. Bidder who downloads the tender from MHSC website [www.handicrafts.nic.in](http://www.handicrafts.nic.in) and Central Public Procurement Portal (CPPP) website <https://eprocure.gov.in/eprocure/app>, <https://eprocure.gov.in/epublish/app> shall not tamper or modify the tender including downloaded price bid template in any manner.

4. **EMD Payment:** Earnest Money Deposit (EMD) of **Rs. 250,000.00 for IC-ICP MS & Rs. 150,000.00 for FTIR** by DD/Pay Order drawn in favour of **METAL HANDICRAFTS SERVICE CENTRE [ MHSC ], Moradabad** is to be submitted by the bidder The EMD of unsuccessful tenderers will be returned without interest as soon as the process of award of contract is over. EMD of successful bidder will, however, be refunded on receipt of Performance Security. Bidders are required to submit the details of EMD payment at the time of Bid submission.

5. EMD exempted categories: Manufacturers/ Suppliers should submit the valid certificate of exemption issued by the competent authority. Interested tenders/bidders are advised to visit again the MHSC website [www.handicrafts.nic.in](http://www.handicrafts.nic.in) and CPPP website <https://eprocure.gov.in/eprocure/app> at least 3 days prior to closing date of submission of tender to know about the corrigendum /addendum /amendment if any, has taken place during intervening period.

# **TENDER DOCUMENT**

## **PART 1: TECHNICAL BID**

### **1. TECHNICAL BID QUALIFICATION CRITERIA**

The tenderer/vendor should meet the following technical qualification criteria for evaluation of financial bid:-

- a) Bidder should be the manufacturer or the authorized dealer of IC-INDUCTIVELY COUPLED PLASMA MASS SPECTROMETER (IC-ICPMS) & FOURIER – TRANSFORM INFRARED SPECTROSCOPY [FTIR].
- b) The bidder must have executed at least three completed orders of IC - INDUCTIVELY COUPLED PLASMA MASS SPECTROMETER (IC-ICPMS) & FOURIER – TRANSFORM INFRARED SPECTROSCOPY [FTIR] issued by Government Departments, PSUs or reputed R & D laboratories in India during last three years. The list of purchase orders containing technical details, complete address of client, phone no., fax no., e-mail , name of contact persons, website etc, should be attached .
- c) If the bidder is a foreign manufacturer, he must have appropriate after-sales service support facility (at least since last two years) at any nearby location in India. Supporting documents to be enclosed.
- d) The bidder shall submit the signed & scanned copy of any one of the following documents, failing which the tender will be rejected:-
  - i. Purchase order (PO) copy along with invoice(s) with certification that supplies against the invoices has been executed.
  - ii. Purchase order copy along with Bank Certificate indicating payment against the PO
  - iii. Certificate of satisfactory execution by client with order value.
  - iv. Goods receipt note (GRN) in case where MHSC is a Customer Or any other document is to be submitted by bidder in support of execution
- f) Signed and scanned copy of previous three years Income Tax Returns to be submitted along with technical bid.
- g) Signed and scanned copy of declaration as per Annexure III.

## **2. INSTRUCTIONS TO BIDDERS**

2.1 Submission of Tender: The tender shall be submitted on-line in two parts viz. the Technical Bid and the Financial Bid as per performa given in Annexure (I to III). All the pages of the bid must be signed and sequentially numbered by the bidder irrespective of nature of content of the documents before uploading. The offers submitted by Telegram/ Fax/e-mail shall not be considered. . The specification and requirement of items to be procured are given in Schedule 1 of the tender documents.

2.2 Validity of Bids: The Bids will be valid for a period of 120 days from the date of its opening.

2.3 Earnest Money/ Bid Security: The Bidder shall deposit EMD of Rs. 250,000.00 for IC-ICP MS & Rs. 150,000.00 for FTIR by DD/Pay Order drawn in favour of METAL HANDICRAFTS SERVICE CENTRE [ MHSC ] Moradabad ..No interest will be paid on EMD and the same will be returned to the concerned bidders immediately after completion of tendering process. The bids received without EMD or certificate of exemption (where applicable) will be rejected out rightly

2.4 Forfeiture of EMD: EMD shall stand forfeited if bidder alters / modifies / withdraws the bid suo-moto after opening the bids within the validity period and if the successful bidder fails to deposit the Performance Security of requisite amount or fails to execute the contract within the stipulated period. Non submission of required documents by the bidder will be treated as unresponsive bid.

## **3. TERMS AND CONDITIONS:**

3.1 The MHSC, Moradabad reserves the right to reject any or all Bids received without assigning any reason. The acceptance of Bid will be communicated to the successful Bidder in writing by the MHSC , Moradabad .

3.2 The Financial Bids would be considered only of those bidders who have been found technically qualified by the Tender Evaluation Committee (TEC) of MHSC Moradabad. The Lowest- I (L I) bidder will be decided by considering the lowest prices quoted for each item.

3.3 Lowest overall cost to MHSC, Moradabad for operation of the equipment for 3 years after successful commissioning shall be considered for evaluation of the financial bid.

3.4 Component/Spares/Accessories: If bidder doesn't quote for some component/spares/accessories specifically indicated in the tender for consideration

along with the main equipment, the same shall be considered as "free supply". Bidders have to quote for all the items and quantities as per tender as the job is of comprehensive nature.

3.5 Performance Security/Security Deposit: The successful bidder will have to deposit a performance security/security deposit of 10% of the order value in the form of Bank Guarantee/Pay order /Demand Draft from a National Bank in favour of MHSC Moradabad .The security deposit should be valid for a period of Sixty days beyond the date of completion of all contractual obligations of the supplier including warranty obligation . The Security deposit will be returned without any interest after successful completion of the contract. The performance security will, however, be forfeited in case of refusal or failure to provide satisfactory service or backing out in midstream.

3.6 Execution of Agreement: The successful Bidder will have to execute an Agreement, on a non-judicial stamp paper of Rs. 100.00 immediately on award of contract .The stamp duty and the legal/ statutory charges if any, will be borne by the contractor only .

3.7 Time for Completion: The time for successful installation and commissioning of equipment's shall be four weeks to be reckoned from the date of letter of acceptance (LOA) / purchase order (PO).

- i. Unless otherwise specified one set of goods should be supplied in one lot well within the contractual delivery period.
- ii. Time and date of delivery of goods as stipulated in the order shall be deemed to be the essence of the contract. In case of delay in execution of the order beyond the date of delivery as stipulated in the order or any extensions sanctioned, MHSC, Moradabad may at his option either :-
- iii. Accept delayed delivery at prices reduced by a sum equivalent to one percent (1%) of the value of any goods not delivered for every week of delay or part thereof limited to a maximum of 10% of the total order value.
- iv. Cancel the order in part or full and purchase such cancelled quantities from elsewhere on account and at the risk of the bidder, without prejudice to its rights in respect of goods delivered.

3.8 Payment Terms: 100% payment shall be made on successful delivery, installation, commissioning, and training at site. No advance payment will be made in any case to the bidder.

3.9 Consignment Destination: METAL HANDICRAFTS SERVICE CENTRE Research Testing & Calibration Laboratory Peetal Nagri , Rampur Road Moradabad [ Uttar Pradesh.

3.10 Overwriting, Cutting or corrections in the bid document should be avoided and if it is unavoidable, it should be kept at the barest minimum and it should be neatly cut and re-written. All corrections should be duly signed by the bidder.

3.11 OEM/Authorized Dealer/Agents of Supplier: If firm sends bid for an item manufactured by some different company, the firm should invariably attach, with its bid, the manufacturer's authorization certificate and also manufacturer's confirmation of extending the required warranty for that product. In cases where the manufacturer has submitted the bid, the bids of its authorized dealer will not be considered, EMD will be returned, and in case of violations, both infringing bids will be rejected

3.12 Corrupt or Fraudulent Practices: The Bidders should observe the highest standards of ethics and should not involve in any corrupt or fraudulent practice. Which may lead to rejection or cancellation of his bid/contract at any stage.

(a) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of the public official in the procurement process or in contract execution; and

(b) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or a execution of a contract to the detriment of the MHSC Moradabad and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Contract Prices at artificial non-competitive levels and to deprive the MHSC, Moradabad of the benefits of the free and open competition.

3.13 Rights of the MHSC, MORADABAD : The MHSC, MORADABAD reserves the right to increase/reduce the scope of work, Split up the supply of the Goods in two or more parts and award the contract to more than one agency The Supplier will supply the first consignment of Goods at Chemical Laboratory, MHSC, Peetal Nagri , Rampur Road , Moradabad. In case of any ambiguity in the interpretation of any of the clauses in Tender Document or the conditions of the Contract, interpretation of the clauses by the MHSC, Moradabad shall be final and binding on all Parties.

3.14 QUALITY OF GOODS: All Goods to be supplied by the Contractor shall be in conformity with the Technical specifications as laid down in tender document and the Contractor shall, furnish proof to the satisfaction of the Competent Authority that the goods so comply in the form of a statement to be submitted in the Technical Bid.

### 3.15 INSPECTION

The supplier shall ensure that the goods confirms to all specification contained in the Contract. The Competent Authority will carry out inspection of the Goods supplied to confirm their conformity to the Contract specification/quality.

The Competent Authority shall be entitled at any time to inspect and examine any Goods intended to be supplied either at the factory, godown or at any place(s) where these are laying or from which these are being obtained and the Contractor shall give such facilities as may be required for such inspection and examination.

The Competent Authority shall have full powers removal of any or all of the Goods supplied by the Contractor which are not in accordance with the contract specifications or which do not conform in character or quality to the samples approved by the MHSC , Moradabad .

### 3.16 WARRANTY

The equipment along with all critical components/accessories is to be guaranteed for trouble free performance for a **minimum period of three years after installation.** The defects, if any, during the warranty period are to be rectified free of charge by arranging free replacement at site, wherever necessary. The last six months of the warranty period shall be free of complaints, failing which the warranty period will get extended by another six months, which again shall be trouble free.

**If the warranty period is less than three years, the Comprehensive Annual Maintenance Contract Charges for the remaining period (three years – the actual warrant period quoted) shall be added to the cost of equipment for the purpose of evaluation of the financial bid.**

### 3.17 LIQUIDATED DAMAGES FOR DELAYED SUPPLY

If the supplier fails to Install and Commission the system as per specifications mentioned in the order within the due date, the Supplier is liable to pay liquidated damages of one percent value of the purchase Order awarded, per every week delay subject to a maximum of 10% of the total value of the order.

### 3.18 RISK PURCHASE

In case the Contractor fails to deliver the quantity as stipulated in the delivery schedule, the MHSC , Moradabad reserves the right to procure the same or similar Goods from alternate sources at the risk, cost and responsibility of the Contractor.

### 3.19 Training

Complete Training shall be provided at our site for 02nos employees [ scientific / technical ] operating the system and support services till Customer Satisfaction with the system followed for at least 20 days free of cost

### 3.20 DISPUTES & ARBITRATION

The MHSC, Moradabad and the Contractor shall make every effort to resolve the dispute amicably by negotiation, any disagreement or dispute arising between them under or in connection with the contract.

If the dispute still remain unsolved, the same shall be referred to the Arbitrator, appointed by as per Indian Arbitration and Conciliation Act, 1996 in Moradabad Jurisdiction.

### **SCHEDULE - 1: SPECIFICATIONS & REQUIREMENTS**

Goods to be procured under the Tender: ION CHROMATOGRAPHY -INDUCTIVELY COUPLED PLASMA MASS SPERCTROMETER (IC-ICPMS) or FOURIER – TRANSFORM INFRARED SPECTROSCOPY [ FTIR ]

**Quantity:** 01 number each along with all accessories & consumables.

#### **A. Technical Specification For IC-INDUCTIVELY COUPLED PLASMA MASS SPERCTROMETER (IC-ICPMS)**

1. Computer Controlled bench top IC-ICPMS from a single source & single software controlled of ICPMS for Environmental applications with following minimum specifications Sample Introduction system
  - Sample Introduction Kit including Peltier Cooled Spray Chamber (Temp Range -5 to 20 Deg C), PFA Nebulizer, Ni Sample and Skimmer cones.
  - Suitable Accessory to aspirate liquid samples with TDS > 20 % directly.
  - HF Resistant kit to be quoted in the offer
2. Ion Source and RF plasma:
  - Computer controlled 40/27 MHz RF generator operating from 430 to 1600 watts for automatic control of torch ignition, shutdown, and system warm up.
  - The system should be able to change over from normal Plasma conditions to cool Plasma with direct control from software.
  - The Plasma torch should have provision for software controlled alignment for horizontal position, vertical position and sampling depth.
3. Ion Extraction Interface:
  - Standard large orifice Ni sampling and skimming cones with suitable diameters. Pt Sample and Skimmer cones should also be quoted.
4. Ion Focusing System:
  - The ion extraction/deflection system should have efficient mechanism for removing all neutrals from the Ion path.
  - The Ion path must be maintenance free.



5. Cell Technology
  - ICP MS shall incorporate a Cell offering operation: Standard Mode, Collision Cell (He) Mode with KED and Reaction Cell for interference removal. Reaction cell should allow Hydrogen, Methane & Ammonia.
  - Cell must be Non-consumable with zero maintenance.
  - There should be 2 MFC in Cell and the offered instrument should have factory fitted MFCs as a standard feature.
6. Gas control
  - System should have dedicated MFC devices to control plasma, auxiliary, nebulizer, reaction gas and collision gas.
7. Quadrupole Assembly : User definable resolution for improved dynamic range and abundance sensitivity
  - Mass calibration assessed and automatically updated.
  - The Mass range should be from 2-280 u or better
  - Scan speed: 3430 u/sec or better
8. Ion Detector Assembly:
  - The ion detector is a simultaneous dual mode discrete dynode electron multiplier, 9 order or more magnitude of dynamic range
  - The dual-mode detector assembly must come standard with the system.
9. Vacuum System:
  - Turbo pump should be differential pumping.
  - In the event of power failure, either high vacuum is maintained or the entire vacuum system is to be automatically back-filled by inert gas to preserve the cleanliness of the system.
10. Performance Specifications
 

Sensitivity specifications will be considered (Guaranteed/factory specifications will be considered. Not the Typical performance.) To be demonstrated during Demo):

Sensitivity(MCPS/PPM OR KCPS/PPB):

  - $\text{Li} \geq 70.0 \times 10^6 \text{ cps/ppm}$
  - $\text{Co} \geq 143.0 \times 10^6 \text{ cps/ppm}$
  - $\text{In or Y} \geq 300.0 \times 10^6 \text{ cps/ppm}$
  - $\text{U or TI} \geq 400.0 \times 10^6 \text{ cps/ppm.}$
  - Oxide ratio (%) CeO/Ce <2 or better
  - $\text{Ba}^{++}$  or  $\text{Ce}^{++}$ / Ba or Ce <3 or better
  - Background mass 4.5/9/220: No gas <1 cps
  - Short Term Stability <3% RSD or better
  - Long Term Stability <4% RSD or better
11. System Controller and Operating System: The software should have data handling and data management, Data security and access control with 21 CFR part 11 environment supports, compliance management and customizable reporting etc.
 

Easy-to-use, web-integrated design. Features wizards that guide users through method and sequence development, and method templates for rapid development of commonly used methods.

Features include

  - Quantitate analytes on any possible combination of isotopes
  - Fully editable interference correction equations

- A range of internal standard assignment options
- Multiple condition sets allowing different element suites to be determined under different conditions with a single sample measurement, including CRI modes or equivalent, hot plasma, cool plasma, etc.
- Calibration routines for multi-element external calibration, method of standard additions, and isotope ratios
- Automatic method optimization Automatic monitoring and adjustment of nominated elements/isotopes in real time for optimal rinse out
- High speed Time Resolved Signal (TRS) capability for interfacing to chromatographic (such as HPLC) and other separation techniques
- Seamless LC-ICP-MS integration using chromatographic software
- Fully editable sample label list of up to 1000 samples for analysis per worksheet
- Autosampler rack and tube positions can be edited for true random access sampling
- Calibrations can be programmed at a user specified rate either amongst the sample tubes or from centralized calibration tubes (rate driven)
- Sequence options include full control of reporting actions at the end of the run, exporting of results at the end of the run, emailing of results, calibration, recalibration and resloping error actions, and saving mass scans during the analysis
- Fully automated instrument initialization (start-up) routine, including instrument stabilization time, plasma X/Y position adjustment, mass calibration, and quadrupole resolution
- Simultaneous real-time graphical display of signal as full mass scan, segments of mass scan, and signal response vs time for multiple isotopes or ratios
- Post-run retrospective data editing
- Wide variety of reporting and exporting options
- Comprehensive set of instrument diagnostics and performance tests
- Comprehensive help system

#### 12. Re Circulating Chiller

- NIST Certified Multi element (at least 23 elements) aqueous calibration standard (100 ml).
- Fume hood with accessories.
- Argon Gas Cylinder – 10 no's
- Reaction Gas Cylinder like Oxygen, Hydrogen & Ammonia 1 no. each
- Gas Regulator for all the gases mentioned above – 1 no. each
- Helium Gas Cylinder – 1no.
- 15KVA UPS with single phase input & three phase output -60 minutes back up

#### 13. Computer Configuration:

Branded HP/Dell Personal Computer should be supplied alongwith instrument from manufacturer.

Latest Laser Jet color printer.

#### 14. Auto sampler :Auto sampler of more than 200 samples capacity to be quoted

optionally.

#### 15. ION CHROMATOGRAPHY SPECIFICATIONS :

Ion Chromatography System with gradient facility to analyse various Anions like Cl<sup>-</sup>, F<sup>-</sup>, Br<sup>-</sup>, BrO<sub>3</sub><sup>-</sup>, NO<sub>2</sub><sup>-</sup>, NO<sub>3</sub><sup>-</sup>, PO<sub>4</sub><sup>3-</sup>, SO<sub>4</sub><sup>2-</sup>, perchlorate, selenium speciation etc., Cations like Na<sup>+</sup>, K<sup>+</sup>, Li<sup>+</sup>, NH<sub>4</sub><sup>+</sup>, Ca<sup>+</sup>, Mg, barium, strontium, Arsenic, Chromium, Mercury, Selenium Speciation, alkanolamines, Cyanide and sulfide etc.

Must be configurable ion chromatograph consisting of at least a pump with the ability to be field upgradeable to include any or all of the following options; conductivity detector and cell, electrochemical detector and cell, column oven, degas.

: - Solvent Delivery Pump

Quaternary Gradient Pump with built in degassing system.

*Construction:*

Chemically inert, metal-free PEEK pump heads and flow path; compatible with aqueous eluents from pH 0–14 and reversed-phase solvents

*Pressure Range:* 0–35 MPa (0–4300 psi)

*Flow Rate Range:* 0.00–10.000 mL/min with settable flow increments at 0.001 mL/min (Analytical)

*Flow Precision:* <0.1%

*Flow Accuracy:* <0.1%

*Pressure Ripple:* <1%

*Vacuum Degasser :* Integrated, 4 channel for quaternary pump

*Piston Seal Wash :* Standard, automatic operation

*Gradient Profiles :* Any combination of an unlimited number of linear, convex, and concave positive and negative gradient profiles

*Gradient Proportioning Accuracy and Precision:* ±0.5% at 2 mL/min

- EO Regulator Accessory and Stand
- EO Eluent Organizer with four 2L Bottles
- Inline Eluent Filters

DC, Dual Independent Temperature Zones, One Injection Valves, Standard Bore

*Temperature range*

Upper Section Temp. Range: 10–40 °C or Better

Lower Section Temp. Range: 10–70 °C or Better

Temperature Accuracy: ± 0.5 °C or Better

*Temperature Stability:* ± 0.2 °C or Better

*Temperature Precision:* ± 0.2 °C or Better

*Lower Zone: (Analytical)*

*Injection valves:* Six port Rheodyne PEEK injection valve.

Can house Up to two column sets, 1–9 mm, 243 mm length

Maximum column length: 243 mm or Better

Precolumn heat exchangers: 2 or Better

#### COLUMNS

Non Metallic PEEK based Ion exchange column and its guard column compatible and suitable of 0–14 pH for anions (01 no.),

16. AUTOSAMPLER: Must utilize nonmetallic fluid path components to reduce potential sources of contamination, eliminate corrosion, and be acid and base resistant. Must have displacement injection principle to allow loop and concentrator loading, high precision volume delivery, individual sample filtration, and prevent viscosity dependency. Must not require an external sampling pump. Must have minimum 43 sample size vial tray.
17. System Controller and Operating System: Suitable Data Station with all Software controls & future upgrade controls with Instrument software. Software should provide comprehensive functionality for analysis through fully automated process with auto tuning. The software should have data handling and data management, Data security and access control with 21 CFR part 11 environment supports, compliance management and customizable reporting etc. System should be capable to Quantify from ppt level to high ppm level without dilution.
18. CONSUMABLES :
- ICPMS: Sample Tubes: 100 ,Waste Tubes : 100,Ni Sample Cone: 3.Ni Skimmer Cone:3.Pt Sample Cone:1.Pt Skimmer Cone:1.Quartz Nebulizer: 2.PFA Nebulizer: 2.Spray Chamber: 2.Plasma Torch:3 & others as per supplier
  - Quartz Injector: 2.HF resistant injector: 1.O ring Set:1.Pump Oil:1set.Preventive Maintenance Kit: 1 set
  - MDS: Necessary consumables for 43 samples/month for 3 years of operation.
  - IC: Necessary consumables to run 100 to 143 samples/month for 3 years of operation
19. Vendor to include UPS with 20 KVA power supply & minimum 1 hours back up , PC with latest configuration ,colour printer, calibration standards for 21 elements, exhaust system gas cylinders for Argon ( 4 nos ), Oxygen 1 no, Hydrogen 1 no & Helium 1 no . All gas supply should be for IC-ICPMS grade. Vendor should include any other Pre Installation requirement as required for successful Installation & demonstration of desired samples

## **B. Technical Specification for FOURIER – TRANSFORM INFRARED SPECTROSCOPY [ FTIR ]**

1. The FT-IR will be used for the analysis of powder and liquid, Gel & Paste samples & sample components must be large enough to accommodate various sampling accessories like DR / ATR
2. It must have a scan range of  $11000-50 \text{ cm}^{-1}$  with Broadband KBr beam splitter or Better
3. Spectral resolution must be  $0.4 \text{ cm}^{-1}$  or better.
4. Wavelength accuracy of at least  $\pm 0.01 \text{ cm}^{-1}$  or Better

5. Signal-to-noise : 45,000:1(= $9.7 \cdot 10^{-6}$  AU noise) p-p for 5 second at resolution  $0.4 \text{ cm}^{-1}$  or better.
6. The source should be stabilized to prevent hot spots forming.
7. All optics must be rock solid permanently aligned and highly stable.
8. Optics: Mirror must be gold coated only or better.
9. System should have DLATGS or DTGS detector or better.
10. The spectrometer must allow Liquid Nitrogen cooled Mercury Cadmium,Telluride (MCT) detector to be installed simultaneously as a second detector in future.
11. The instrument should be connected with computer through Ethernet cable and should indicate whether the source, laser & other parts of instrument are operational.
12. Critical components must be checked prior to every scan.
13. The ability to automatically recognize accessories is essential.
14. System must be quoted along with ATR to analyze all type of sample like Powder, Liquid, Gel & Paste without any sample preparation, System should have built in ATR facility with diamond crystal with dedicated detector to measure spectrum in FAR IR region should be quoted in option or better.
15. Software – should be Windows based system with facilities like Instrument control, Basic and advanced data manipulation routines, Spectral calculator, quantification etc or better along with the Valid / traceable library for identification of the unknown substances.
16. The FT-IR quoted should have the provision to be upgraded to Microscope system or coupled to a TGA system for Evolved gas analysis in future.
17. System must be capable to accommodate high humidity resistant ZnSe beamsplitter & ZnSe beamsplitter .
18. System should have minimum 30,000 spectra library including below options for complete product characterization each library should be genuine with proper part nos and licensed version to be offered only.
19. All necessary local accessories like Hydraulic Press, Agate Mortar & Pestle, Pellet Die, Liquid Demountable Cell, IR Grade KBr Powder, Computer & printer must be quoted along with the equipment. FT-IR Standard, Georgia State Lab Drug, Polymer Additives and Plasticizers Library, Hummel Polymer and Additives Library, Common Materials & White Powders Library, Polymer and Plasticizer by ATR Library, Inorganics Library, Vapor Phase Library.

Vendor to include UPS with 5 KVA power supply & minimum 1 hours back up , PC with latest configuration ,colour printer, calibration standards etc

## Annexure-I

### **Proforma for Technical Bid:**

The agencies/bidders are requested to furnish the following information/documents for Technical evaluation. The documentary proof is required for each information.

1.	Name of the Agency		
2.	Complete Address indicating Tel No./,Fax No./ /email:		
3.	Name of the Authorised Representative		
4.	<b>Documents</b>	<b><u>Enclosed (Yes/No)</u></b>	<b><u>(Indicate Page no.)</u></b>
	Signed and scanned copy of the document /certificates indicating that the bidder is the manufacturer or authorized dealer of <b>IC-Inductively Coupled Plasma Mass Spectrometer (IC-ICPMS ) and Fourier-Transform Infrared Spectroscopy (FTIR)</b>		
	Signed and Scanned copy of any one of the following documents: (i) PO along with invoice(s) indicating successful execution of order(s) (ii) PO along with Bank Certificate indicating payment against PO (iii) Certificate of satisfactory execution by clients with order value (iv) Good Receipt Note (GNR) where MHSC is a customer		
	Signed and scanned copy of previous three years Income-tax return.		
	Signed and scanned copy of the valid registration certificate from Service Tax Department.		
	Signed and scanned copy of the duly filled in the Proforma as given in Annexure-III		
	Signed and scanned copy of PAN/TAN/GSTN Registration		
5.	Details of EMD Demand Draft: Bank Name: Date:		
6.	Details of the major contract handled with Central/State Government/ PSUs / reputed Institute during the last three years. The copies of work orders required to be enclosed.		

**(Name & Signature of the Authorised Signatory)**

**Date:**

**Place:**

**ANNEXURE II**

**PART II (FINANCIAL BID)**

<b>Component</b>	<b>Unit Price (Inclusive of all taxes) [In INR]</b>
IC- Inductively Coupled Plasma Mass Spectrometer [IC-ICPMS] as per schedule 3 of tender document	
Fourier – Transform Infrared Spectroscopy [FTIR] as per schedule 3 of tender document	
Comprehensive Annual Maintenance Contract Charges for the remaining period (3 years – the actual warrant period quoted), if any, for both equipments.	
<b>Total</b>	

Total Price Bid (inclusive of all taxes) [in words]

**(Name & Signature of the Authorised Signatory)**

**Date:**

**Place:**

### ANNEXURE III

#### UNDERTAKING BY THE AGENCY

I, \_\_\_\_\_ on behalf of \_\_\_\_\_ (Name of the firm/ agency) hereby declare that there is no legal suit/criminal case pending or contemplated of legal notice having been served to this effect against the Proprietor of the Agency or any of its Directors (in case of Pvt. Ltd. Company ) on grounds of moral turpitude or for violation of any of the laws in force and company is not black listed by any Government Organization.

I, \_\_\_\_\_ on behalf of \_\_\_\_\_ (Name of firm/agency ) hereby declare that our organization or the staff to be provided has no business or direct family relationship with member(s) of MHSC Moradabad

I, \_\_\_\_\_ on behalf of \_\_\_\_\_ (Name of firm/agency) hereby undertake that all relevant statutory requirements will be complied with.

I, \_\_\_\_\_ on behalf of \_\_\_\_\_ (Name of firm/agency) understand that if the above declaration is found incorrect, the present contract would be terminated and \_\_\_\_\_ (Name of the firm/agency) would be debarred from any further engagement by MHSC Moradabad.

I/we, \_\_\_\_\_ hereby declare that our firm/agency is not black-listed by any Ministry or Department of Central Government/State Government or PSU or other bodies under the Central Government/State Government in India. I/we further declare that no criminal case is registered or pending against the firm/company or its owner/partners/directors anywhere in India

**(Name & Signature of the Authorised Signatory)**

**Date:**  
**Place:**