

## NOTICE INVITING TENDER

North-Eastern Hill University (NEHU), Shillong, India is an autonomous Institute established under University Grants Commission, Government of India. Tenders are invited from the reputed & bonafide Manufacturers and Authorized Dealers/Distributors as per section IV – Schedule of Requirement. The potential bidders are required to visit the website <https://www.nehu.ac.in> for submission of tender.

**(This is a Repeat of Tender first published on 30<sup>th</sup> June 2020)**

### Section - I: Invitation for Bid

NIT No.	NEHU/Chem/2020 /015		
NIT Date:	August 14, 2020		
Brief Description of the item to be procured	<b>High Resolution Mass Spectrometer (HRMS)</b>		
Quantity	1		
Tender Category:	Goods		
Tender Type:	OPEN (ADVT.)		
Number of Covers:	TWO BIDS		
<b>Covers Information / Submission of Bids</b>			
Covers No.	Cover Type	Description	Document Type
1.	Technical	Technical Specification, Tender Document, EMD, Schedule of Requirement and Compliance, Bidders Information/ Indian Agent Information (Integrity Pact for more than Rs. 2 Crores and details of Previous Supply Order Format)	Hard copies for verification
2.	Financial	Financial Bid	Hard copy

**Two Bid System:** Part - I: Techno-Commercial Bid. Part - II: Price Bid.

The prices should be shown against each item for the purpose of Insurance claims / replacements if any in a separate sheet and price should be quoted in price bid for whole equipment as specified in Annexure 1A of tender document.

In case of any discrepancy in the rates indicated in the Price bid either in figures or words, the rates in words will be considered for evaluation.

**Note:** The technical offer should not contain any price information. If the price quoted is submitted in technical bid the tender will be rejected at the sole discretion of NEHU, Shillong. Initially Technical Bids will be opened and evaluated by the departmental purchase committee. Commercial bids of only Technically qualified bidders will be opened later. Contract/ Purchase Order will be awarded to the lowest bidder(L1) among them.

Form of Contract:	SUPPLY, INSTALLATION AND SERVICING
EMD Fee Details	
EMD INR: Payable at:	Rs.400000/- Demand draft in favour of "Finance Officer, NEHU" and payable at Shillong
Bid validity (Days):	90 days
Period of Work/ Delivery Period (Days):	Import: 12 weeks from Establishment of LC/ Order Acknowledgement Indigenous : 2 Weeks from date of purchase order
Pre-Bid Discussion Date	NIL
Pre-Bid Meeting Place & Address:	Conference Room, Department of Chemistry, NEHU, Shillong (online presentation via Zoom/Skype/etc. is encouraged).
Contract Type:	Tender
Delivery Location:	Department of Chemistry, North-Eastern Hill University, Shillong, Meghalaya-793022, India
<b>Submission End Date &amp; Time of submission</b>	<b>31.08.2020 up to 15:00 Hrs</b>
Place of Submission of Bid	Department of Chemistry, North-Eastern Hill University, Shillong-793022
<b>Bid Opening Date &amp; Time:</b>	<b>04.09.2020 at 14:30 Hrs</b>
Bid Opening Place:	Conference Room, Department of Chemistry, NEHU, Shillong.
Contact:	<b>Dr. S. Khatua</b> , Department of Chemistry, NEHU Office Telephone: 0364 2722616 E-mail: snehadri@gmail.com
Tender Inviting Authority:	Prof. A K Chandra, Head, Department of Chemistry, NEHU, Shillong 793022. Office Telephone: 0364 2722601 E-mail: akchandra.bwn@gmail.com

#### Other Terms and Conditions:

#### Pre-Qualification criteria:

- Bidders must have supplied identical equipment to other IISERs/IITs/Central Universities etc. in the last three years. Purchase order has to be submitted as an evidence of supply. The bidders also have to submit certificates from the Institute authorities showing successful functioning of the identical equipment supplied to them for the last two years.
- Bidder must submit a list of instruments supplied to NEHU during the last five years and the proof of satisfactory service till date (if applicable).

## **1. Preparation and Submission of offers.**

- a) The tender shall be accepted only as hard copy.
- b) All pages of the tender document shall be invariably signed by the authorized Personnel and Company's rubber stamp affixed. Photocopies of all certificates shall be self-attested by the authorized personnel. There shall be no corrections or overwriting in the tender document. Corrections, if any, should be made clearly and countersigned.
- c) Bidders must attach all supporting documents while submitting the tender. Submit hard copies of Challan generated on deposit of EMD through SBI I collect, Certificate and Declaration on non-judicial stamp paper, Security Deposit/ Performance Bank Guaranty.
- d) In a tender, either the Indian agent on behalf of the Principal / OEM or Principal / OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.
- e) If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.
- f) It is mandatory for all Indian Agents to submit copy of Indian Agent Agreement / Authorization letter from OEM / OEMs along with tender specific authorization from OEM.
- g) It is mandatory for Indian Agents, Indian subsidiaries and Indigenous bidders to have GSTN Registration No. and should submit duly filled Bidders Information along with the tender document.
- h) NEHU Shillong discourages High Sea Sale purchase. All tenders with High Sea Sale will be rejected.

## **2. Validity of the Bid.**

90 Days from the date of opening of bid.

### **1. Cost of Bidding.**

The Bidder shall bear all costs associated with the preparation and submission of its Bid and the Purchaser shall not be held responsible or liable for those costs incurred regardless of the conduct or outcome of the bidding process.

### **2. Extended validity.**

As it is a repeat tender with minor modification, bidders may give a written advice to the Tender Inviting Authority if they like to continue with their original bids.

## **4. Amendments to Tender Document.**

- a) At any time prior to the deadline for submission of bids, NEHU Shillong may, for any justified reason, whether on its own initiative or in response to the clarification sought by a prospective BIDDER may modify the bid document by issuing necessary corrigendum.
- b) All prospective BIDDERS who have downloaded the tender document are requested to visit NEHU Shillong website for any amendments / modifications and make a note of the same, which will be binding on them.

## **5. Deadline for Submission of Bids.**

Bids must be submitted before the due date and time.

## **6. Bid Opening Process.**

- a) The Technical Bid will be opened in the first instance in the presence of Dept. Technical Evaluation Committee 2(TEC), representatives of the bidders at NEHU, Shillong.
- b) Financial bids of only those bidders, whose bids are found technically qualified, by the Technical Evaluation Committee, will be opened in the presence of the Dept. Technical Evaluation Committee(TEC) vendor's representatives subsequently at a later date for further evaluation. Date and Time of financial bid opening shall be intimated to technically qualified bidders only.
- c) One authorized representative of each of the bidder would be permitted to be present at the time of opening of the bids. Due to COVID19 restrictions by MHA, if the representative of the bidder cannot attend in person, they may participate through video-conferencing.
- d) The authorized representative of bidders, present at the time of opening of the bids shall be required to sign an attendance register as a proof of having attended the Technical/Commercial bid opening session.

## **7. Confidentiality**

- a) Information relating to the evaluation of bids, and recommendation of Contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until information on Contract award is communicated to all Bidders. On completion of Technical Evaluation by the Committee, Vendors whose offer do not meet with the users Technical Specification will be restricted to participate in commercial bid opening process.
- b) Any attempt by a Bidder to influence the Purchaser in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid.
- c) Notwithstanding, from the time of Bid opening to the time of Contract award, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, it shall do so in writing.

## **8. Deviation, Reservations and Omissions.**

During the evaluation of Bids, the following definitions apply: - a) "Deviation" is a departure from the requirement specified in the Tender Documents;

b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Tender Documents; and

c) "Omission" is the failure to submit part or all of the information or documentation required in the Tender Documents.

## **9. Correction of Arithmetical Errors.**

Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis: -

- a) If there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
- b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
- d) Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with the same, shall result in the rejection of the Bid.

#### **10. Evaluation of Bid.**

- a) Department of Chemistry, NEHU, Shillong will evaluate technical and commercial acceptable offers on landed net Price basis.
- b) In case any BIDDER is silent on any clauses mentioned in this tender documents, NEHU Shillong shall construe that the BIDDER had accepted the clauses as per the invitation to tender no further claim will be entertained.
- c) No revision in the terms and conditions quoted in the offer will be entertained after the last date and time fixed for receipt of tenders.

#### **d) Bid with better specifications will be given preference.**

#### **11. (A) Price Bid (For Import Supplies).**

- a) Quoting of Price (s): It is mandatory to quote price in FOB/FCA basis only.
- b) If the bidder wishes to quote in CIP/DDP, then may be provided the details separately with cost breakup at given format.
- c) If the price is not quoted in Price Bid Form provided in the tender document then, NEHU Shillong will reject the bid.
- d) If the bidder wishes to give pricing details, may be filled in in a separate sheet. It is mandatory to quote optional items in separate sheet otherwise the quote will be rejected.
- e) In case of Multiple options of same product, bidders are requested to quote only one best option and not multiple options.
- f) It is mandatory to quote optional items in separate sheet otherwise the quote will be rejected.

#### **12. (B) Price Bid (For Indigenous Supplies).**

- a) Quoting of Price (s): Price quoted should be in Indian Rupees, free delivery at Department of Chemistry, NEHU Shillong Campus at site.

- b) PRICE BID must be submitted in enclosed Price Bid Form only.
- c) All the taxes including GST and other duties/levies should be shown separately.
- d) If the price is not quoted in Price Bid Form only provided in tender document then, Department of Chemistry, NEHU Shillong will reject bid. If bidder wishes to give pricing details, it may be attached in separate sheet.
- e) In case of Multiple options of same product, bidders are requested to quote only one best option and not multiple options.
- f) It is mandatory to quote optional items on a separate sheet otherwise your quote will be rejected.

### **13. Corrupt & Fraudulent Practices.**

a) Department of Chemistry, NEHU Shillong requires that bidders, suppliers, contractors and consultants, if any, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy:

b) The terms set forth below are defined as follows: -

i) “Corrupt practice “ means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of in kind/value to influence the action of a public official in the procurement process or in contract execution;

ii) “Fraudulent practice” means a misrepresentation or omission of facts in order to influence procurement.

Process or the execution of a contract.

iii) “Collusive practice” means a scheme or arrangement between two or more bidders, designed to establish bid prices at artificial, non- competitive levels; and

iv) “Coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;

v) Department of Chemistry, NEHU Shillong will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question.

### **14. Cancellation of Tender.**

a) Notwithstanding anything specified in this tender document, Purchaser/Department of Chemistry, NEHU Shillong in his sole discretion, unconditionally and without assigning any reasons, reserves the rights: -

- i) To accept OR reject lowest tender or any other tender or all the tenders.
  - ii) To accept any tender in full or in part.
  - iii) To reject the tender offer not confirming to the tender terms.
- b) Department of Chemistry, NEHU Shillong will give purchase preference to Public Sector undertakings when applicable as per Govt. Policy/ Guidelines.
- c) Offer which deviates from the vital conditions (as illustrates below) of the tender shall be rejected:
- i) Non-submission of complete offers as mentioned in the tender document,
  - ii) Receipt of offers after due date and time and or by email / fax (unless specified otherwise).
  - iii) Receipt of offers in open condition.
  - iv) Conditional Tenders and Unsigned Tenders will also be rejected.

## **15. Delivery**

The successful BIDDER should deliver the material as per tender document/purchase order. The successful bidder should emboss stickers of purchase order number on the material to be delivered.

## **Section III: Conditions of Contract**

### **1. Award of Contract**

- a) NEHU Shillong shall award the contract to the technically qualified eligible BIDDER whose bid has been determined as the lowest evaluated commercial bid.
- b) If more than one BIDDER happens to quote the same lowest price, NEHU Shillong reserves the right to award the contract to more than one BIDDER or any BIDDER.

### **2. Prices**

- a) For Import Supplies - As per Govt. of India Notification No. 51/96 Custom dated 23rd July 1996, NEHU Shillong is exempted from Custom duty and IGST (substituted under Notification no. 43/2017 dated 30th June 2017) for all research equipment. We shall provide all the documents under this notification to enable you to clear the goods with exemptions, whenever required. Please state clearly that this certificate is required. The supplier shall pay and bear all other liabilities, taxes and duties not specifically agreed by the Purchaser in the contract.
- b) For Indigenous Supplies - The supplier shall pay and bear all other liabilities, taxes and duties not specifically agreed by the Purchaser in the contract.

### **3. Pre-installation**

a) Please also mention the pre-installation requirements for the equipment like ambient temperature, humidity, civil work, weather specifications, power specifications, etc. When items are provided full performance satisfaction should be demonstrated.

#### **4. Installation**

a) BIDDER shall be responsible for installation / demonstration wherever applicable and for after sales service during the warranty period and thereafter as mentioned in the contract.

b) Installation demonstration to be arranged by the supplier free of cost and the same is to be done within 15 days of the arrival of the equipment at site.

#### **5. Training**

a) The BIDDER shall submit training proposal for the operation and maintenance to the personnel of NEHU Shillong on the offered equipment/machinery.

b) Wherever needed, our technical persons should be trained by the supplier at the project site free of cost. In case the person is to be trained at supplier's site abroad or in India it should be mentioned in the quotation clearly. The supplier should bear all the expenses for such training including 'to & fro' fares and lodging & boarding charges.

#### **6. Terms of Payment**

(a) For Indigenous items. 90% payment shall be made against satisfactory delivery, and balance 10% after successful installation & commissioning of the equipment subject to submission/ extension of S.D. of 10% of Purchase order value in form of D.D. / B.G valid till 60 (sixty) days beyond the Warranty period.

(b) For imported items.

(i) 100% payment shall be made by Irrevocable Letter of Credit. Out of which 90% will be paid against submission of following documents: -

Air way Bills – 2 copies Packing List – 2 copies Invoice for shipping – 4 copies

(ii) Balance 10 % shall be released after successful installation and commissioning of the equipment subject to submission/ extension of S.D. of 10% of Purchase order value in form of D.D. / B.G valid till 60 (sixty) days beyond the Warranty period.

Note. I. All bank charges outside India shall be borne by the supplier. II. LC will be opened on receipt of unconditional acceptance of purchase order. III. Accepted term of payment shall be clearly indicated in Tender / Offer document

#### **7. Legal Matters**

All Domestic and International disputes are subject to Shillong, Meghalaya, jurisdiction only.

#### **8. Transfer and Subletting**



The seller shall not sublet, transfer, assign or otherwise part with the acceptance to the tender or any part thereof, either directly or indirectly, without the prior written permission of the Purchaser.

## **9. Force Majeure**

Force Majeure will be accepted on adequate proof thereof.

## **10. Penalty/ Liquidated Damages**

a) Timely delivery is essence of the contract and hence if any consignment be delayed, liquidated damages at the rate 1% of the price of the delayed consignment, for each week or part whereof shall be levied and recovered subject to maximum of 10% of total purchase order value.

b) NEHU Shillong reserves the right to cancel the order in case the delay is more than 10 weeks. Penalties if any will be recovered by forfeiting PBG at vendor's cost and risks.

c) Specification and Samples. The suppliers shall supply the stores in accordance with the specifications/ descriptions of stores given in the acceptance of tender. The Purchaser reserved the rights to alter the description of stores including drawings given in the acceptance of tender. In the event any such alteration result in any implication to the deliver and price, such implication shall be mutually agreed between the Purchaser and supplier. In case certified sample has been issued by the Purchaser and the Specifications / Drawings also exist in the acceptance of tender then the certified sample will govern the supply to the extent of material, workmanship and finished product.

## **11. Supervision of Erection and Commissioning**

Successful BIDDER shall depute concerned specialist, for supervision of erection & commissioning of the machine to be carried out. The successful BIDDER shall make necessary arrangement at their own expenses for stay, transport and other expenses of their specialist during their stay in which also includes imparting free of cost training to NEHU Shillong personnel

## **12. EARNEST MONEY DEPOSIT (GFR 2017 Rule 170).**

a) EMD: The Techno-commercial Bids must accompany details of EMD. EMD should be in the form of a demand draft payable at Shillong. Except in case of foreign bidders without having Indian agents may be exempted for EMD by enclosing an undertaking. The Techno-commercial Bids must accompany details of EMD payment. No interest shall be paid on earnest money deposited. Bidders having valid registration with NSIC/MSE (Micro & Small Enterprises only) for tendered item and value will be considered for exemption from EMD amount as per extant rules. Please submit bank account details for refund of EMD, for getting the refund of EMD/Payment.

b) If successful bidder fails to submit the Performance Guarantee Bond within 15 days from the date of placing of Purchase Order then purchase order will be cancelled and EMD will be forfeited.

c) Return of EMD: In case of successful BIDDER, EMD will be returned within 30 days from the date of submission of Performance Guarantee Bond.

d) For unsuccessful bidder, EMD will be returned within 30 days from the date of placing the Purchase Order.

### **13. Performance Guarantee (GFR 2017 Rule 171)**

a) Performance Guarantee Bond is mandatory.

b) Successful tenderer/ bidder should submit performance guarantee as prescribed above to be sent to Head Department of Chemistry, NEHU Shillong or before 15 days from the due date of issue of order acknowledgment. The PGB to be furnished in the form of bank guarantee as per attached proforma with the tender documents, for an amount covering 10 % of the purchase order value.

c) The Performance Guarantee should be established in favour of “Registrar, NEHU Shillong”.

d) PBG to be established through any of the National Banks (whether situated at Shillong or outstation) with a clause to enforce the same on their local branch of Shillong or any scheduled bank (other than national bank) situated at Shillong. Bonds issued by co-operative banks will not be accepted.

e) Performance Guarantee Bond shall be for the due and faithful performance of the contract and shall remain binding, notwithstanding such variations, alterations for extensions of time as may be made, given, conceded or agreed to between the successful tenderer and the purchaser under the terms & conditions of acceptance to the tender.

f) The successful tenderer is entirely responsible for due performance of the contract in letter and spirit and all other documents referred to in the acceptance of tenders.

g) The PBG shall be kept valid during the period of contract and shall continue to be enforceable for a period of 60 days beyond warranty period (i.e. Warranty period + 60 days) from the date of order acknowledgement. In case PBG needs extensions up to 60 days beyond warranty period then supplier shall initiate extensions to PBG one month prior to expiry of PBG.

h) For successful suppliers, if PBG is not submitted within 15 days from the date of Order Acknowledgement, then the Purchase Order will be cancelled with forfeiting of EMD.

i) No interest shall be payable by the buyer to the Bidder on PBG.

### **FORMAT FOR PERFORMANCE GUARANTEE BOND (PGB)**

(To be typed on Non-judicial stamp paper of the value of Indian Rupees of One Hundred)  
(TO BE ESTABLISHED THROUGH ANY OF THE NATIONAL BANKS (WHETHER SITUATED AT SHILLONG OR OUTSTATION) WITH A CLAUSE TO ENFORCE THE SAME ON THEIR LOCAL BRANCH AT SHILLONG OR ANY SCHEDULED BANK SITUATED AT SHILLONG. BONDS ISSUED

BY CO-OPERATIVE BANKS ARE NOT ACCEPTED.). Foreign Bank's PGB will be accepted for imported items from OEM only.

To,

The Registrar, NEHU, Shillong, Meghalaya -793022, India.

### LETTER OF GUARANTEE

WHEREAS North-Eastern Hill University, Shillong (Buyer) have invited Tenders vide Tender No.....Dt.....for purchase of.....AND WHEREAS the said tender document requires that any eligible successful tenderer (seller) wishing to supply the equipment / machinery, etc. in response thereto shall establish an irrevocable Performance Guarantee Bond in favour of "The Registrar, NEHU Shillong, Meghalaya-793022, India" in the form of Bank Guarantee for Rs..... (10% (Ten percent) of the purchase value) and valid till 60 days beyond warranty period (i.e. Warranty period + 60 days) from the date of issue of Performance Guarantee Bond may be submitted within (Fifteen)15 days from the date of Order Acknowledgement as a successful bidder.

NOW THIS BANK HEREBY GUARANTEES that in the event of the said tenderer (seller) failing to abide by any of the conditions referred in tender document / purchase order / performance of the equipment / machinery, etc. this Bank shall pay to North-Eastern Hill University, Shillong on demand and without protest or demur Rs ..... (Rupees. .... ).

This Bank further agrees that the decision of North-Eastern Hill University, Shillong (Buyer) as to whether the said Tenderer (Seller) has committed a breach of any of the conditions referred in tender document / purchase order shall be final and binding. We, ..... (name of the Bank & branch) hereby further agree that the Guarantee herein contained shall not be affected by any change in the constitution of the Tenderer (Seller) and/ or North-Eastern Hill University, Shillong (Buyer).

#### **Notwithstanding anything contained herein:**

1. Our liability under this Bank Guarantee shall not exceed Rs. (Indian Rupees ..... only).
2. This Bank Guarantee shall be valid up to ..... (date) and
3. We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only and only if NEHU, Shillong serve upon us a written claim or demand on or before (date).

This Bank further agrees that the claims if any, against this Bank Guarantee shall be enforceable at our branch office at ..... situated at (Address of local branch). Yours truly, Signature and seal of the guarantor: Name of Bank: Address: Date:

**Instruction to Bank:** Bank should note that on expiry of Bond Period, the Original Bond will not be returned to the Bank. Bank is requested to take appropriate necessary action on or after expiry of bond period.

### FORMAT FOR CERTIFICATE & DECLARATION

## CERTIFICATE & DECLARATION

I have carefully gone through the Terms & Conditions as mentioned in the above referred Tender document. I declare that all the provisions of this Tender are acceptable to my company.

2. It has been certified that all information provided in tender form is true and correct to the best of my knowledge and belief. No forged / tampered document(s) are produced with tender form for gaining unlawful advantage. We understand that NEHU, Shillong is authorized to make enquiry to establish the facts claimed and obtain confidential reports from clients.

3 In case it is established that any information provided by us is false / misleading or in the circumstances where it is found that we have made any wrong claims, we are liable for forfeiture of EMD/SD and or any penal action and other damages including withdrawal of all work / purchase orders being executed by us. Further NEHU, Shillong is also authorized to blacklist our firm/company/agency and debar us in participating in any tender/bid in future.

4. I / We assure the Institute that neither I / We nor any of my / our workers will do any act/s which are improper / illegal during the execution in case the tender is awarded to us.

5. Neither I / We nor anybody on my / our behalf will indulge in any corrupt activities / practices in my / our dealing with the Institute.

6. Our Firm/ Company/ Agency is not being blacklisted or banned by any Govt. Department, PSU, University, Autonomous Institute or Any Other Govt. Organization.

Date

Signature of the Tenderer

Place

Stamp

Note: This certificate should be executed on duly notarized` 100/- NJ Stamp Paper

### Section IV: Schedule of requirements and compliance

#### Technical Specification for High Resolution Mass Spectrometer (HRMS) system:

A bench top Quadrupole with Time of Flight (TOF) / Quadrupole with Equivalent Technology of Time of Flight as High-Resolution Mass Spectrometer (HRMS) system with facility to connect Fast Liquid Chromatography system.

A Bidder must be a single manufacturer of the entire instrument & shall be responsible for the entire instrument and all the accessories supplied with the system.

1. Ionization Source:	<ul style="list-style-type: none"> <li>• The instrument must be equipped with combined/ dual Electrospray Ionization (ESI) and Atmospheric Pressure Chemical Ionization (APCI) as standard capable of handling flow rates upto 2 ml/min. Sample introduction must be possible either combined with suitable liquid chromatographic system or directly with integrated system fluidics without any external assembly outside the system.</li> <li>• The facility of combined ESI and APCI must permit switching between the two ionization types during a single LCMS experiment.</li> <li>• The combined ionization (ESI &amp; APCI) source must operate along with reference spray to facilitate automated accurate mass measurements within single LCMS experiment. The instrument should be capable of internal reference mass correction for MS and MS/MS operation without losing sensitivity. To facilitate automated accurate mass measurements within single LCMS experiment, the ionization source must incorporate a probe to introduce a reference mass and allow indexed sampling of the two sprayers to avoid interference between analyte and reference spectra. In case of Alternative TOF Technology, internal calibration must be done with suitable calibrants.</li> <li>• The ionization must be done both in a positive &amp; negative mode.</li> <li>• An atmospheric pressure solids analysis probe (ASAP) for the direct sampling and introduction of solids and liquids should be available as an additional source.</li> <li>• The ion source must be of dual / equivalent orthogonal design. The cleaning of the source should be done without venting the system and facility to Vacuum Interlock should be provided. The Vacuum must remain intact during the cleaning, Source interchange or Servicing of the system. Vendors must assure the same in writing.</li> </ul>
2. Ion Optics:	<ul style="list-style-type: none"> <li>• Suitable ion optics must be available which should maximise sensitivity whilst maintaining system robustness.</li> </ul>
3. Desolvation Temperature	<ul style="list-style-type: none"> <li>• The desolvation temperature must be more than 500°C, which should be programmable and used in all the different probs. The desolvation temperature setting should be capable enough to take care of flow rates to 2ml/min from the fast Liquid ChromatographySystem.</li> </ul>
4. Quadrupole (For Both QTOF & Equivalent Technology)	<ul style="list-style-type: none"> <li>• Instrument should have physical Quadrupole (strictly) for isolation followed by collision cell and appropriate assembly required for high resolution mass data.The routine maintenance should be tool free and user friendly.</li> <li>• The instrument should be equipped with suitable collision cell for superior ion transmission characteristics leading to enhanced resolution and sensitivity. Specific design must be shared or submitted which must show the same.</li> <li>• Mass Range: The instrument must have a high mass filter (quadrupole) for efficient transmission of ions having mass range at least <math>\leq 50</math> to <math>\geq 20,000</math> m/z or higher in resolving &amp; non-resolving mode or better for</li> </ul>

	QTOF Technology. For Equivalent TOF Technology, physical Quadrupole must be associated & mass range must be 50 to 6000 m/z or higher.
<b>5. Time of Flight (TOF) or Equivalent Technology:</b>	<ul style="list-style-type: none"> <li>• Analyser: Geometry with physical quadrupole (strictly) as Q1 followed by TOF / Equivalent technology with a collision cell in between should be present.</li> <li>• The mass range of the Time of Flight (TOF) analyzer at least <math>\leq 50</math> to <math>\geq 30,000</math> m/z or higher. For Equivalent TOF Technology the Mass Range at least <math>\leq 50</math> to <math>\geq 6,000</math> m/z or higher.</li> <li>• The TOF / Equivalent mass analyzer must have linearity of response of minimum 4 orders or better of magnitude whilst maintaining specified resolution for quantitation purposes.</li> </ul>
<b>6. Resolution:</b>	<ul style="list-style-type: none"> <li>• The resolution of the TOF mass analyzer must be 40,000 FWHM or better at around 1000 m/z. (Proof of Statement must be provided)</li> <li>• In case of Equivalent Technology other than TOF, the resolution must be more than 1, 40,000 FWHM or better at around 200 m/z.</li> <li>• Data acquisition rate for TOF must be 30 Spectra per second or better in MS and MS/MS mode independent of any conditions. (Proof of Statement must be provided)</li> <li>• for equivalent technology other than TOF, minimum 12 Spectra or better. (Proof of Statement must be provided)</li> </ul>
<b>7. Mass Accuracy &amp; Sensitivity:</b>	<ul style="list-style-type: none"> <li>• The mass accuracy of the system should be minimum of less than 1 ppm, with both internal &amp; external calibration standards for both MS &amp; MS/MS modes on 10 consecutive repeat measurements on column analysis. (Proof of statement must be provided)</li> <li>• The instrument must be sensitive enough for detecting sub ppb/femtomole levels of compounds. The sensitivity achieved in MS &amp; MS/MS modes must be stated.</li> <li>• Sensitivity: Full MS mode and Full MS/MS mode <math>\leq 100</math> femtogram or better on column, at S/N ratio <math>\geq 500:1</math>. (Proof of statement must be provided)</li> </ul>
<b>8. Scan modes:</b>	<ul style="list-style-type: none"> <li>• The instrument must be able to operate in MS Scanning, MS/MS product Ion Scanning, Simultaneous MS &amp; MS/MS scanning modes.</li> </ul>
<b>9. Vacuum System:</b>	<ul style="list-style-type: none"> <li>• A high efficiency vacuum system with turbo pumps followed by rotary mechanical pumps must be provided for making the instrument sensitive enough.</li> </ul>

10. UHPLC	<ul style="list-style-type: none"> <li>• The Ultra-High Pressure Liquid Chromatography (UHPLC) system should be capable of running with &lt;2 micrometer particle size columns</li> <li>• System should have a quaternary pump with an operating pressure of minimum 15000 psi or higher. Purging of pumps must be automated through the software. The flow rate range should be 0.010 to 2.000 mL/min, in 0.001 mL increments.</li> <li>• The instrument should have in-built Vacuum degasser facility with minimum four lines and should be efficient to remove dissolved air online.</li> <li>• System Delay Volume should be less than &lt; 400µl, independent of system backpressure &amp; with standard mixer for higher sensitivity. The total System band spread should be ≤15µl or better</li> <li>• The system should have an integrated / inbuilt auto-sampler capable of holding approx 90 vials (1.5 to 2ml) or more. The auto-sampler should have cooling facility upto 5 °C or better and heating upto 40 °C or better. Programmable injection volume from 0.1µl to 10 µl or better must be available with Integral, Active &amp; Programmable needle wash. The carryover of the autosampler must be less than 0.002% or better.</li> <li>• The system should incorporate a column oven with a temperature control of ambient to 90°C or better</li> <li>• The system should incorporate PDA detector capable of scanning from 190 – 600 nm or better. The flow cell volume should be ≤500nl</li> </ul>
11. Columns	<ul style="list-style-type: none"> <li>• Suitable sub 2 micron particle size column (100mm length x 2.1 mm diameter) of C18 – 3 nos</li> <li>• Phenyl Column – 2no should be quoted.</li> <li>• Chiralpak AS-H, 250 x 4.6 mm, 5µm b. ChiralPak AS-H, Guard Cartridge, 10 X 4.00 mm, 5µm – 1 no.</li> <li>• ChiralpakOD-H, 250 x 4.6 mm, 5µm withChiralPakOD-H, Guard Cartridge, 10 X 4.00 mm, 5µm – 1 no.</li> <li>• Chiralpak OJ-H, 250 x 4.6 mm, 5 µm withChiralPak OJ-H, Guard Cartridge, 10 X 4.00 mm, 3µm – 1 no.</li> </ul>

12. Software:	<ul style="list-style-type: none"> <li>• The software should have capabilities to perform the following functions: Automated mass calibration, resolution, sensitivity check should be performed by software. Software tools for addressing Screening, Component Identification &amp; Structural Elucidation workflows. The data processing software must incorporate an elemental composition calculator as standard. Included into the calculator must be algorithms for isotope pattern modeling that allow data interpretation of actual isotope patterns. A goodness of fit from actual to theoretical isotopes must be included. The ability to filter out incorrect elemental composition calculations through the use of intelligent spectral interpretation algorithms must be incorporated. Software should give elemental formula with mass accuracy or ppm error and isotopic fit value.</li> <li>• The software should be capable of data acquisitions whereby high and low collision energy data is acquired simultaneously to provide fragmentation data for all detectable molecular ions.</li> <li>• The software should be capable to quantification of compound or complex molecules at high resolution.</li> <li>• Software should be capable of data acquisition, processing and analysis of compound having molecular mass 35000 m/z.</li> </ul>
13. Computer /Workstation :	<p>A computer should be provided with sufficient memory (RAM)for controlling the mass spectrometer, the LC and the auto-sampler with data acquisition &amp; processing and analysis with thefollowing specification:</p> <ul style="list-style-type: none"> <li>• Memory / RAM: 50 GB or higher</li> <li>• Hard disk: 10 TB or better</li> <li>• CPU: Dual-Processor, 3.5 GHz or better</li> <li>• Operating system: Windows10, 64 - bit or better.</li> <li>• 27 inchLCD monitor.</li> <li>• 1 Laserjetprinter.</li> <li>• All hardware and software including drivers, monitor, device interfaces cards/network must be preinstalled and preconfigured on the computer provided.</li> </ul>
14. Instrument and Software Qualification Service &Certification :	<ul style="list-style-type: none"> <li>• The instrument must be “Qualified” along with the latest Software. Necessary reagents along with Documents must be provided for valid “Instrument Qualification, Operational &amp; Performance Qualification” of the instrument along with Specification check during the installation. The vendors must quote the Qualification kits with defined list of items along with valid Cat. No./Product ID etc.</li> </ul>
15. Nitrogen Generator:	<ul style="list-style-type: none"> <li>• A compatible noise free Nitrogen Gas Generator with in-built compressor should be provided to operate the system.</li> <li>• The Maximum gas output pressure must be 100 psi.</li> <li>• The Maximum outlet Flow Rate must be 32 L/min.</li> </ul>
16. UPS:	<ul style="list-style-type: none"> <li>• A suitable online UPS of 10 KVA capacity with at least 2 h back up for the complete system should be provided.</li> </ul>
17. Warranty	<ul style="list-style-type: none"> <li>• The instrument along with Nitrogen generator and UPS must have <b>comprehensive warranty for 5 (Five) working years excluding the</b></li> </ul>



	<p><b>breakdown time</b> from the date of installation.</p> <ul style="list-style-type: none"> <li>• The comprehensive warranty must start from the date of completion of installation of the instrument as evident from acquisition, processing and analysis of the data.</li> </ul>
<b>18. Experience</b>	<ul style="list-style-type: none"> <li>• The Vendor must submit at least 10 or more latest Government customer details / PO copies / references of the same model supplied in India.</li> <li>• Satisfactory performance certificate for quoted model taken from government organization along with technical bid shall be submitted.</li> <li>• Proof of Performance documents must be provided along with Compliance sheet.</li> <li>• The Complete users list for the quoted model in India, with contact addresses, emails and phone numbers should be provided.</li> </ul>
<b>19. Others:</b>	<ul style="list-style-type: none"> <li>• The other gases (2 nos) along with regulator should also be supplied along with the system</li> <li>• Standards/reagents and MS grade solvent required for successful installation must be quoted.</li> <li>• Installation must be done at user's site with no extra costs involved. A one week (at least) general entry-level training-cum-workshop and advanced-level training-cum-workshop must be arranged at the user's site by the vendor on experimental and data analysis part, with no extra cost involved.</li> <li>• The model offered by the vendor should have capability to demonstrate the above mention parameter like high resolution, high mass accuracy in one single run.</li> <li>• All provided brochures or technical data sheet should be available in supplier's public website.</li> </ul>
<b>20. Manpower</b>	<ul style="list-style-type: none"> <li>• The supplier must provide a personal for giving training on operation and maintenance of the instrument for six months with no financial liability to the North-Eastern Hill University (NEHU), Shillong, India.</li> </ul>