

**INDIAN INSTITUTE OF TECHNOLOGY  
(INDIAN SCHOOL OF MINES), DHANBAD**



**Notice Inviting Tender (NIT) in Two-Bid System  
for  
Supply and Installation of UHPLC-Quadrupole with Time of  
Flight(QTOF) or QTOF- equivalent Technology as High  
Resolution Mass Spectrometer (HRMS) system for both  
qualitative and quantitative analysis with accessories (1 No.)**

Tender No.:CRF/INS/303/18-19

Date: 04.12..2018

**Bid Submission deadline: 04.01.2019, 1:00 P.M.**

**\*Tender Fee: Rs. 5900/- (Rs. Five Thousand Nine Hundred only)**

**\*( Tender cost must be paid online please see Chapter 2 of sl. no.11)**

**REGISTRAR**

**Indian Institute of Technology (Indian School of Mines), Dhanbad**

**P.O. – Indian School of Mines (I.S.M.)**

**DHANBAD –826004 (INDIA)**

**www.iitism.ac.in**

**GSTIN : 20AAAAI0686D1ZA**

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**For**  
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दिनांक/ Date: 04.12.2018

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## **CHAPTER 1**

### **Instructions to Bidders**

IIT (ISM), Dhanbad was formerly known as Indian School of Mines (ISM) and was a Deemed University before it got converted into an Institute of National Importance under the Institutes of Technology (Amendment) Act, 2016 passed by the Parliament of India and got the assent of President of India. The Indian School of Mines, now IIT (ISM), Dhanbad, was formally opened on 9th December 1926, by Lord Irwin, the then Viceroy of India to address the need for trained manpower related to mining activities in the country with disciplines of Mining and Applied Geology. In 1967, it was granted the status of a deemed to be university under Section 3 of UGC Act, 1956 and it was renamed as Indian Institute of Technology (Indian School of Mines) in 2016. It started as an institution to impart mining education, and today, has grown into a technical institution with various academic departments. IIT(ISM) is located in the mineral-rich region of India, in the city of Dhanbad in the state of Jharkhand. It is the third oldest institute [after IIT Roorkee and IIT (BHU) Varanasi] which got converted into an IIT.

IIT (ISM), Dhanbad intends to procure the equipment “Supply and Installation of UHPLC-Quadropole with Time of Flight(QTOF) or QTOF- equivalent Technology as High Resolution Mass Spectrometer (HRMS) system for both qualitative and quantitative analysis with accessories (1 No.)” to enrich its teaching and research facility at Dhanbad.

Reputed manufactures or authorized distributors are invited to submit their bid for “Supply and Installation of UHPLC-Quadropole with Time of Flight(QTOF) or QTOF- equivalent Technology as High Resolution Mass Spectrometer (HRMS) system for both qualitative and quantitative analysis with accessories (1 No.)” for IIT (ISM), Dhanbad as per this tender document in a Two-Bid System: - (a) Techno-Commercial (also termed as technical bid) bid (Part-1) consisting of all technical details of the item along with commercial terms and conditions, Tender Fee and EMD and (b) Price bid (Part-2) indicating price for their items mentioned in the technical bid. All instructions and terms and conditions must be followed, failing which bid(s) will liable to be rejected.

### **INSTRUCTIONS**

1. Offer should be submitted under TWO-BID system in two separate sealed covers i.e. “Techno-commercial bid” and “Price bid”.
2. Tender Number and tender submission deadline must be clearly mentioned on the top of the envelope.
3. a) In a tender, either the Indian agent on behalf of the principle/ OEM and the Principle/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.  
b) If an agent submit bid on behalf of the principle/ OEM, the same agent shall not submit a bid on behalf of another principle/ OEM in the same tender for the same item/product.
4. Bidder(s) must submit PAN given by Income Tax authorities, TIN and copy of PAN / TIN with the bid.

5. The offer must be submitted in **Two-Bid**. Tender should be dropped in the tender box kept in the office of **Deputy Registrar (Purchase & Stores), IIT (ISM), Dhanbad– 826004 (Jharkhand, India)** only. **Bids may be submitted by Speed Post / Courier in sealed cover only**, but IIT(ISM), Dhanbad will not accept such bid if delivered/submitted to the office of the Deputy Registrar (Purchase & Stores section), IIT (ISM), Dhanbad after the submission deadline and such bids will be treated as Late bids / non-responsive bids. It will be the sole responsibility of the bidders that their bid should be submitted/ delivered as per bid submission deadline. IIT (ISM), Dhanbad will not be responsible for any delay or transit loss or late delivery of bids to the office of the Deputy Registrar. No Tender is to be handed over to any staff of IIT (ISM), Dhanbad personally. All bids / correspondences should be sent to the following address only: “Dy. Registrar (P&S), IIT (ISM), Dhanbad, P.O. – Indian School of Mines (ISM), DHANBAD – 826004 (Jharkhand, India)”. Bids sent through Email/Fax or submitted in unsealed cover(s) will not be accepted and such bids will be treated as non-responsive bids.
6. Bid(s) must be sent sufficiently in advance so that it reaches the institute on or before the submission deadline. Bid(s) received after the submission deadline will not be considered.
7. Bid document(s) and all enclosures must contain the signature and seal of the authorised representative of the bidder.
8. The bidder quoting for item(s) as per this tender should be the registered to provide the item/services with the appropriate government authority. Copy of registration certificate should be enclosed with the tenders (part-1). Offers submitted without proper registration certificate shall be rejected summarily.
9. The bidder quoting for item(s) as per this tender should be the registered to provide the item/services with the appropriate government authority. Copy of registration certificate should be enclosed with the tenders (part-1). Offers submitted without proper registration certificate shall be rejected summarily.
10. The Bank/RTGS detail on the letter-head of the bidder(s) must be submitted along with the tenders (part-1). A copy of the cancelled cheque should also be attached.
11. Name and PAN/Voter Card No. /Aadhar No. of the authorized signatory of the bidder(s) must be mentioned in the Form 7.2.
12. A copy of PAN/Voter Card/Aadhar Card of the authorized signatory of the bidder(s) must be attached with the Form 7.2

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## **CHAPTER 2**

### **Terms and Conditions**

**The offer must comprise of the following, failing which it will be treated as non-responsive bid hence will be rejected:**

1. The bids under Two-Bid System will consist of two parts as per following details:- **a) Techno-Commercial bid (Part 1)** consisting of all technical details along with Commercial terms and conditions and EMD (Earnest Money Deposit) in the form of Demand Drafts issued from any Nationalized / Scheduled commercial bank in favour of “Registrar, IIT (ISM), Dhanbad” and payable at “Dhanbad (Jharkhand, India)”, and **b) Price bid (Part 2)** indicating price for the items / services mentioned in technical bid (part-1). In stage-one, only the Techno-Commercial (Part 1) shall be opened and evaluated. In stage-two, the Price bids (Part 2) of only the technically qualified and acceptable offers will be opened, for further evaluation.
2. Sealing and Marking of Bids:
  - a) The Techno-Commercial bid (Part 1) must be sealed in a separate envelope (ENVELOPE-ONE) with Tender Cost and EMD in separate demand draft duly super-scribed as Techno-Commercial Bid (Part 1), Tender No.CRF/INS/303/18-19, submission deadline: 04.01.2019” as per following details :-

**Tender Cost : Rs.5,900/- (Rupees Five thousand Nine Hundred only)**  
**EMD : Rs.3,50,000/- ( Rupees Three Lakhs Fifty Thousand only)**
  - b) The Price bid (Part 2) should be sealed in separate envelopes (ENVELOPE –TWO), duly super-scribed as “Price Bid (Part 2) Tender No. CRF/INS/303/18-19, submission Deadline:04.01.2019”.
  - c) The above TWO separate sealed envelopes are to be put in a bigger envelope (ENVELOPE-THREE), which should also be sealed.
  - d) Each of the above THREE envelopes MUST be super-scribed with “**Bid for Supply and Installation of Supply and Installation of UHPLC-Quadrupole with Time of Flight(QTOF) or QTOF- equivalent Technology as High Resolution Mass Spectrometer (HRMS) system for both qualitative and quantitative analysis with accessories (1 No.)**  
**Tender No.: CRF/INS/303/18-19, Dated: 04.12.2018, Submission Deadline: 04.01.2019”.**
3. The bids must be neatly typed/computer printed. Hand written offer will be rejected. Bids must carry the numbers of GSTIN/ sales tax / VAT / TIN / PAN / Service Tax Registration No. Bids must be in sealed envelope.
4. All relevant technical specifications/details of offered items, drawings, printed technical leaflets, and commercial details which are necessary to ensure that offer is complete in all respects should be attached with the technical bid documents.
5. Compliance Statement: Vendor should provide the detailed compliance statement along with the quote.

6. IIT(ISM) does not bind itself to offer any explanation to those bidders whose Technical Bids have not been found acceptable by the Evaluation Committee of the Institute.
7. Following documents have to be furnished by the bidders with the technical bids (part-1):
  - (a) Self attested copies of credentials in support of capability to undertake the supply/work.
  - (b) Technical literature/catalogue with the detail specification of the material
  - (c) Satisfactory performance certificate from their customers for same/similar supply/service must be enclosed along with the technical bid.
  - (d) A copy of this tender document must be signed and sealed on all pages by the bidder(s) accepting the instructions and terms & conditions of the NIT and must be attached with the bid.
8. Price should be quoted on FOR, IIT(ISM) Dhanbad basis (in case of indigenous supply). In case of foreign supply, the price basis should be FOR IIT(ISM) Dhanbad basis only. The packing, forwarding, freight and transit insurance charges, if any, must be included in the price and should not be claimed separately. Duties & taxes, if applicable, are to be shown separately clarifying whether those are extra or included in the price. Educational discounts, if any, should be mentioned clearly. Justification of the price quoted must be provided with the Price Bid. For this, Price List of the OEM and purchase order of govt. organizations / IITs/ NITs/ CSIR Labs / ISRO labs etc. should be attached. Price bids of only technically qualified tenderers shall be opened in on a pre-notified date and time. Decision of IIT (ISM), Dhanbad in this regard will be final and binding by all the bidders.
9. IIT(ISM), Dhanbad is entitled for Excise Duty Exemption under Govt. of India notifications and is registered with DSIR, Govt. of India for this purpose. This may be taken into consideration while quoting minimum possible rate. Exemption Certificates can be issued in favour of manufacturers only, if it is mentioned in the bid. It will not be issued any Indian Agent/dealer or distributor at any circumstances. IIT(ISM) will provide only custom duty exemption certificate for availing concessional custom duty. IIT(ISM) will not pay any extra custom duty other than duty exemption certificate.
10. IIT (ISM), Dhanbad does not issue form 'C' or 'D' for concessional Sales tax/VAT. Hence, full rate of sales tax as applicable to educational institutions against the form of certificate should be indicated.
11. **Tender Fee:-** Tender Cost must be paid through SB Collect only. Tender Cost is non-refundable and non-transferable. **Vendors/contractors/suppliers can pay the Tender Cost through the link: <https://www.onlinesbi.com/prelogin/collecthome.htm?corpID=272342>** the receipt of tender cost must be attached with the Tender documents.
12. Bid Security or Earnest Money Deposit (EMD):- Required Amount for EMD must be submitted in the form of Demand Draft issued from any Nationalized/Scheduled commercial Bank in favour of Registrar, IIT (ISM), Dhanbad payable at Dhanbad with the bid (part-1). Bid received without EMD in part-1 (techno-commercial bid) will be rejected. It must not be clubbed with Tender Fee. No interest will be payable by IIT (ISM), Dhanbad on the Earnest Money Deposit. The earnest money of all the unsuccessful bidder(s) will be returned to the respective bidder(s) through bank / RTGS transfer without any interest within 60 (sixty) days only after placing the order / awarding the contract. The Earnest Money of successful bidder(s) shall be returned on receipt of Performance Security (Performance Bank Guarantee / PBG) as mentioned in this tender document. If the successful bidder(s) fails to furnish the performance security or fails to deliver/provide the item/installation/service as per the order's terms and conditions within stipulated period, the earnest money shall be liable to be forfeited by IIT (ISM), Dhanbad. An undertaking to this is to be submitted.
13. EMD must be submitted in Demand Drafts.

14. **Performance Security or Performance Bank Guarantee (PBG):-** The successful bidder(s), on whom order will be placed, has to submit a performance security of 10% of the total order value at the earliest as per PO terms before release of any payment. Performance security has to be submitted in the form of Bank Guarantee/Demand Draft/FDR from any Nationalized/Scheduled commercial Bank in favour of the Registrar, IIT (ISM), Dhanbad. Performance security should remain valid for a period of two months beyond the date of completion of all contractual obligations of the successful bidder(s). No interest will be payable by IIT (ISM) Dhanbad on the Performance Security deposited. In case the contractor fails to provide satisfactory service, the Performance Security submitted by the bidder(s) is liable to be forfeited. An undertaking to this is to be submitted.
15. **Validity Period:** - The validity period of the tender should be clearly specified. It must be at least for **240(Two Hundred Forty) days** from opening of bids.
16. **Warranty:** All the active components must carry 5 years comprehensive warranty from date of successful installation of the XRD system along with its accessories.
17. **Delivery Period and Liquidated Damage:** As time of the essence for this procurement, hence the ordered materials/work complete in all respects are required to be delivered and installed within the period stipulated in the purchase order failing which liquidated damages of 1% per week for the delayed period subject to maximum of 5% of the total basic value of the order shall be deducted from the invoice of the supplier. Earliest/ expected delivery period should be clearly indicated. Packing should be suitable for 'Air freight'.
18. **Inspection:** Inspection shall be carried out at IIT (ISM), Dhanbad after arrival of the materials and decision of the Institute in this regard shall be final.
19. **Rejection and Replacement:** Rejection, if any, shall be notified to the supplier within 30 days of receipt and inspection of the material/workmanship. Rejected materials/work is to be removed by the supplier at his own risk and cost from IIT (ISM) Campus within 14 days of intimation of rejection. Defective Supplies are required to be replaced within 15 days of the removal of the rejected materials/work.
20. **Risk Purchase:** IIT (ISM) shall be at liberty to realize from the supplier the differential amount, if any, which it shall have to incur on purchase of the material/work at higher price(s) from elsewhere in the market, if the supplier, due to their fault, fails to supply the ordered quality and quantity of the material/work within the stipulated time.
21. **Conditional offer will not be accepted.**
22. **Payment:** In case of indigenous item i.e. inside India, payment may be released through RTGS / online payment mode against complete execution of the purchase order (PO) and submission of all the required documents as per the order within 30 days after satisfactory supply, inspection, installation/commissioning & acceptance and on submission of pre-receipted tax invoice, delivery challan, warranty certificate and installation report in triplicate and Performance Bank Guarantee. In case of foreign supply, i.e. outside India i.e., payment may be released through Letter of Credit as per policy of IIT (ISM), Dhanbad. The invoice should be duly certified by the Head of Deptt. of IIT (ISM), Dhanbad to which supply is made or any other IIT (ISM) official authorized for this purpose. IIT (ISM),  
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Dhanbad does not make any advance payment. However, as a special case in foreign supply only, 90% Letter of Credit (LC) Payment term may be accepted against dispatch of required documents as per PO terms and PBG and balance 10% payment via wire transfer/RTGS will be released only after satisfactory installation report and other documents as per PO terms received from the user department from the firm.

23. Advance payment will not be released. Any bid having condition of advance payment will be treated as non-responsive bid.
24. Country of origin and port of shipment must be stated in the technical bid itself in case of foreign supply. Any change at later stage will not be accepted.
25. Name and address of Indian Agent, percentage of agency commission, if any and role of the Agent with respect to the subject supplies and a statement thereon that "Agency Commission is included in the bid.
26. Payment will be released through bank/ RTGS/Wire transfer. The payment will be released after statutory deductions and compensation of delay / liquidated damage (LD) / late delivery etc., if any.
27. Any payment will be released only after satisfactory completion of the work/installation and after submission the certified bill(s) / invoice(s).
28. All communications are to be addressed to the Registrar, IIT (ISM), Dhanbad quoting the Tender No. and Date.
29. IIT (ISM), Dhanbad reserves the right to accept or reject or cancel any or all tender notice or bid(s) or order(s) at any stage without assigning any reason thereof.
30. For any dispute, the place of jurisdiction shall be Dhanbad (Jharkhand, India) only.
31. It will be the sole responsibility of the bidder(s) that its bid should reach on or before the submission deadline to Registrar, IIT (ISM), Dhanbad.
32. **Governing Law:** The order, placed, will be the contract between the successful bidder(s) and IIT (ISM), Dhanbad and shall be governed by the LAWS of India and under the contract shall be taken by the parties only in Dhanbad (Jharkhand, India) to competent jurisdiction.
33. Bid(s) shall be submitted in official tender form / format only. If submitted in any other form / format, the same shall be rejected. No paper shall be detached from the tender. All pages must be numbered properly and there must be seal and sign of the bidder(s) on all the pages of its bid.
34. The name and address of the bidder(s) shall be clearly written in the space provided and no overwriting, correction, insertion shall be permitted in any part of the tender. The tender should be filled-in and submitted in strict accordance with the instructions laid down herein; otherwise the bid is liable to be rejected.
35. The bid is liable to be rejected if complete information is not given therein, or if the particulars and data (if any) asked for in the Schedule to the tender are not filled-in properly.

36. The successful bidder(s) will indemnify IIT (ISM), Dhanbad, in case of any damage or liability, which may arise on account of any act or omission directly/indirectly attributable to the bidder(s).
37. Dispute, if any arising out of providing the said service(s) shall be settled mutually or arbitration by sole Arbitrator to be appointed by the Registrar, IIT (ISM), Dhanbad at Dhanbad as per the provisions of the Indian arbitration and Conciliation Act, 1996 and the Rules framed there under. The award passed by the said sole Arbitrator, will be binding upon the parties. The arbitration proceedings shall be held at Dhanbad only.
38. The successful bidder(s) shall ensure that its authorized representative should be present at the time of any discussion at IIT (ISM), Dhanbad regarding the bid, for which no any kind of TA/DA/boarding/lodging will be facilitated by IIT (ISM) Dhanbad.
39. The schedules of items/services are required as per Chapter-4 of this tender. Bidder(s) must clearly indicate in its tenders, the different taxes and duties which they propose to charge mentioning clearly the present rate(s) thereof with appropriate reference. Vague offer like "duties as applicable" shall not be considered.
40. Price should be quoted at Price Bid (Part-2) (Chapter – 5 of this tender) only for the item(s)/services as mentioned at Chapter – 4 of this tender. The required item(s)/services to be delivered / provided on or before the dead line as per purchase order.
41. The bidder(s) should be registered with VAT, CST, SST, Income Tax, service tax authorities, GST etc. and to enclose the copies of the relevant certificate along with the technical bids. The agency must be authorized by appropriate government authority to deliver the items/services at the IIT (ISM) Dhanbad.
42. The successful bidder(s) will ensure that its employees/staff/personnel would strictly follow all the security instructions and rules and regulations of IIT (ISM), Dhanbad during their visit in the campus.
43. If the successful bidder(s) commits breach of any of the above or Order's terms and conditions or is not able to deliver the item / provide the services / complete the work on time, the contract will be cancelled and security deposit shall be forfeited and a damage liability at the discretion of IIT (ISM), Dhanbad will be imposed on the bidder(s).
44. Bills / Invoices raised by the bidder(s) will be subject to applicable statutory deductions including T.D.S.
45. Necessary corrigendum(s), if required, will be issued at any stage, which must be acceptable to the bidder(s). Any corrigendum will be published on our website [www.iitism.ac.in](http://www.iitism.ac.in) only. Bidder(s) must be in touch with our website [www.iitism.ac.in](http://www.iitism.ac.in) for corrigendum(s). It will be sole responsibility of the bidder(s) that they will go through the corrigendum(s) published, if any, on our website [www.iitism.ac.in](http://www.iitism.ac.in) and submit its tender accordingly.
46. Shortlisted bidder(s) may be called for presentation / demonstration / meeting at IIT (ISM), Dhanbad office with a short notice. Request from the bidder(s) to change the date and time of presentation / demonstration / meeting will not be accepted. If the bidder(s) will not attend for the same, then their bid(s) will be treated as non-responsive and hence the bid(s) will not be considered for further process.

47. Price bids will be opened for those bidder(s) who are shortlisted and declared as technically qualified bidder(s) by the Committee of the IIT (ISM), Dhanbad. In this regard, decision of IIT (ISM), Dhanbad will be final and binding to all the bidder(s).
48. Please note that no part shipment/transshipment/third party shipment is acceptable to us.
49. Submission deadline / last date & time for submission of the bids and date & time for opening of the same are given in this bid. The bids will be opened as per IIT(ISM) rules. Authorized representative of bidders having authorization letter, a govt. issued ID card and an employment ID card issued by the bidder may present during bid opening at their own discretion. In case of submission deadline / last date or bid opening date is a holiday/declared as a holiday, then next working date will be the submission deadline / last date for submission/ opening of tender. Submission deadline or bid opening date & time will not be changed upon any request from the bidder side. However, it may be changed as per IIT(ISM) rules. In this regard, decision of the IIT (ISM), Dhanbad will be final and binding to all the bidders.
50. For the items / services, the bidders must ensure the required quality, quantity, materials, dimensions & other parameters and quote accordingly. In case items / services provided are not same as quoted/ordered, the claim for payment shall not be accepted. No payment, claims for such items / services shall be released. In this regard, decision of IIT (ISM), Dhanbad will be final and binding to the bidders.
51. IIT (ISM), Dhanbad at its discretion may change the quantity/quality/parameters/upgrade the criteria/drop any item(s) or part thereof at any stage. In case of any dispute, the decision of IIT(ISM) shall be final and binding on the bidders/tenderers.
52. IIT (ISM), Dhanbad reserves the right to accept or reject any or all the bids in part or in full without assigning any reason and does not bind itself to accept the lowest bid. The decision of the competent authority of IIT (ISM), Dhanbad will be final and binding to the bidder(s).
53. All the bidders, those are interested to participate in this bid, must have to submit the technical specification of their bid in MS-Word Format in a CD with the technical bid. The CD must be marked with the NIT No. and submission deadline.
54. Professional(s) to be deployed by the successful bidder(s) for the supply of the item / installation / execution of the work in order to provide the item(s) /service(s) as per order must be well qualified.

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**CHAPTER 3**  
**Schedule of Requirements**

<b><u>Description</u></b>	<b><u>Details</u></b>
NIT No.	CRF/INS/303/18-19
Date of Tender	04.12.2018
Bid submission deadline	04.01.2019, 1:00 P.M.
Date of opening of the bids (technical part-1)	04.01.2019, 4:00P.M.

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## CHAPTER 4

*Technical Specification for*  
**UHPLC - Quadrupole with Time of Flight (QTOF) or QTOF-Equivalent Technology as High Resolution Mass Spectrometer (HRMS) system for both qualitative and quantitative analysis.**

**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.**

<p><b>1. Ionization Source :</b></p>	<ul style="list-style-type: none"> <li>• Combined/dual electrospray ionization (ESI) and atmospheric pressure chemical ionization (APCI) and combined/dual atmospheric pressure chemical ionization (APCI) and atmospheric pressure photo ionization (APPI) as standard, capable of handling flow rates upto 2 ml/min. Sample introduction must be possible either directly with integrated system fluidics without any external assembly outside the system or combined with suitable liquid chromatographic system.</li> <li>• The combined/dual ionization (ESI/APCI &amp; APCI/APPI) 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. The ionization must be done both in a positive &amp; negative modes.</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.</li> </ul>
<p><b>2. Desolvation Temperature</b></p>	<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 probe usages like ESI, APCI, APPI, ASAP or the combined multiple ionization sources. The desolvation temperature setting should be capable enough to take care of flow rates to 2ml/min from the Ultra High Performance Liquid Chromatography (UHPLC) System.</li> </ul>
<p><b>3. Quadrupole :</b></p>	<ul style="list-style-type: none"> <li>• Instrument should have Quadrupole for isolation followed by collision cell and appropriate assembly required for high resolution mass data. An isolation valve/suitable device must be available to allow the source elements to be removed and cleaned without breaking instrument vacuum, maximizing instrument uptime. The routine maintenance should be tool free and user friendly.</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 30</math> to <math>\geq 30,000</math> m/z or higher in resolving &amp; non-resolving mode for QTOF/ Equivalent Technology.</li> </ul>
<p><b>4. Time of Flight (TOF) or Equivalent</b></p>	<ul style="list-style-type: none"> <li>• Analyzer: Geometry with quadrupole as Q1 followed by TOF/Equivalent with a collision cell in between should be present.</li> </ul>

Technology :	<ul style="list-style-type: none"> <li>The mass range of the Time of Flight (TOF) analyzer must be at least <math>\leq 30</math> to <math>\geq 40,000</math> m/z.</li> <li>Dynamic Range: Minimum 4 orders or better of magnitude while maintaining specified resolution for quantitation purposes.</li> </ul>
5. Resolution :	<ul style="list-style-type: none"> <li>The resolution of the TOF mass analyzer must be more than 40,000 FWHM or better around m/z 1000 and more than 35,000 FWHM or better of around 200 m/z. <i>(Proof of Statement must be provided).</i></li> <li>Data acquisition rate must be 30 Hz/ Spectra per second or higher in MS and MS/MS mode or QTOF / Equivalent Design independent of any conditions. <i>(Proof of Statement must be provided)</i></li> </ul>
6. Mass Accuracy & Sensitivity :	<ul style="list-style-type: none"> <li>The mass accuracy of the system should be a minimum of less than 1 ppm, with both internal &amp; external calibration standards for both MS &amp; MS/MS modes at 10 consecutive repeat measurements on column analysis. <i>(Proof of statement must be provided for S/N ratio)</i></li> <li><u>Sensitivity</u>: Full MS/MS mode <math>\leq 10</math> femtogram or better on column, at S/N ratio greater than 100:1 <i>(Proof of statement must be provided for S/N ratio)</i></li> </ul>
7. Scan modes & Capability :	<ul style="list-style-type: none"> <li>The instrument must be able to operate in MS, MS/MS product ion scanning, simultaneous MS and MS/MS scanning, UHPLC/Fast DDA Scan, TOF / equivalent MRM, Precursor Ion Scan, Neutral loss/gain scan. 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 and TOF / Equivalent MRM.</li> </ul>
8. Vacuum System :	<ul style="list-style-type: none"> <li>A high efficiency vacuum system with air cooled turbo molecular pumps with Backing / Rotary mechanical pumps must be provided for high vacuum generation &amp; high sensitivity.</li> </ul>
9. Softwares :	<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, Deconvolution of spectra. 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> </ul>
10. Computer & Workstation :	<p>A Workstation compatible with the instrument should be provided for controlling the mass spectrometer, the UHPLC and the auto-sampler with data acquisition &amp; for data processing and analysis with following specification:</p> <ul style="list-style-type: none"> <li>Memory: 64 GB, DDR4</li> <li>Hard disk: 10 TB or higher</li> <li>Operating system: Windows 7/10, 64 - bit or better.</li> </ul>

	<ul style="list-style-type: none"> <li>• 21 inch LCD monitor.</li> <li>• 1 Laser jet printer.</li> <li>• All hardware and software including drivers, monitor, device interfaces cards/network must be preinstalled and preconfigured on the computer provided.</li> </ul>
<b>11. Nitrogen Generator :</b>	A compatible noise free Nitrogen Gas Generator with in-built compressor along with other Gas cylinder should be provided to operate the system. The Maximum gas output pressure must be 100 psi. The Maximum outlet Flow Rate must be 32 L/min.
<b>UHPLC System: A liquid chromatography system as an inlet to the Mass spectrometer with following specifications:</b>	
<b>1. Pump :</b>	<ul style="list-style-type: none"> <li>• Binary / Quaternary operating pump(s) with an operating pressure of minimum 15000 psi or higher. Purging of pumps must be automated through the software.</li> </ul>
<b>2. Flow Rate :</b>	<ul style="list-style-type: none"> <li>• The flow rate range should be 0.010 to 2.000 mL/min, in 0.001 mL increments.</li> <li>• Flow rate accuracy: <math>\pm 0.1</math> %.</li> <li>• Flow Rate Precision: <math>\leq 0.3</math>% Relative Standard Deviation.</li> </ul>
<b>3. Degasser :</b>	<ul style="list-style-type: none"> <li>• The instrument should have in-built Vacuum degasser facility with minimum four lines and should be efficient to remove dissolved air online.</li> </ul>
<b>4. System Delay Volume :</b>	<ul style="list-style-type: none"> <li>• System Delay Volume should be less than <math>&lt; 400</math> microlitre, independent of system backpressure &amp; with standard mixer for higher sensitivity.</li> </ul>
<b>5. Autosampler :</b>	<ul style="list-style-type: none"> <li>• Autosampler should be available with a capacity of approx. 90 vials or more of 1.5 ml or greater capacity &amp; sufficient no. of spare sample vials must be provided. The autosampler should have cooling facility upto <math>5^{\circ}\text{C}</math> or better and heating upto <math>40^{\circ}\text{C}</math> or better.</li> <li>• Programmable injection volume from 0.1 microlitre to 20 microlitre or better must be available with Integral, Active &amp; Programmable needle wash.</li> <li>• The carryover of the autosampler must be less than 0.002% or better.</li> <li>• Compressibility Compensation should be Automatic &amp; Continuous.</li> </ul>
<b>6. Column Oven :</b>	<ul style="list-style-type: none"> <li>• Column Temperature Control should be from ambient to <math>\geq 85^{\circ}\text{C}</math> or better with a Temperature control from ambient to maximum operating temperature. Temperature control precision should be <math>0.1^{\circ}\text{C}</math>.</li> </ul>
<b>7. Columns :</b>	<ul style="list-style-type: none"> <li>• Reversed Phase / C18: Particle size: 1.7 / 1.8 micrometer; Dimension: 2.1 mm (ID) X 100 mm (L), pH level of 2 – 12; with suitable guard columns.</li> <li>• Normal Phase: 1.7 / 1.8 micrometer; Dimension: 2.1 (ID) X 100 mm (L); with suitable guard columns.</li> <li>• HILIC Column: 1.7 / 1.8 micrometer; Dimension: 2.1 (ID) X 100 mm (L); with suitable guard columns.</li> <li>• Column usage history tracking technology must be associated with the column so that all the information related to number of injections, solvent consumption,</li> </ul>

	<p>Temperature, Pressure etc. should be available electronically &amp; all of them should be archived so that the data can be acquired as when required &amp; must help to create a paperless laboratory.</p>
<p><b>8. Instrument &amp; Software Qualification Service &amp; Certification :</b></p>	<ul style="list-style-type: none"> <li>The instrument must be "Qualified" along with the 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./Cas No/Product ID etc.</li> </ul>
<p><b>9. Power supply:</b></p>	<ul style="list-style-type: none"> <li>220-240 V, 50 Hz.</li> </ul>
<p><b>OTHERS :</b></p>	<ul style="list-style-type: none"> <li>The system must be attended within 48 - 72 hrs of reporting the same.</li> <li>The other gases along with regulators should also be supplied along with the system.</li> <li>Training and Installation: Installation must be done at user's site with no extra costs involved. A minimum of 15 Days 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. The training should be scheduled in slots spread out over 2 months.</li> <li>Proof of Performance documents must be provided with the Compliance sheet. The vendors must submit/upload all the Technical Data Sheets as per their claim in original &amp; authenticated. The specification sheets should also be provided with documented evidences of the claims regarding the specifications quoted, either in the manufacturer's catalogue / signed &amp; stamped on the company letterhead.</li> <li>Standards/reagents &amp; MS Grade Solvents required for successful installation must be supplied.</li> <li>The Vendor must submit at least 10 or more customer details / PO copies / references of the same model supplied and installed the India. IIT (ISM), is free to contact any of the users for feedback regarding instrument performance and quality of service.</li> <li>No advance payments will be made at any stage during the procurement of the system or at any later stage during or after the expiration of the Comprehensive warranty.</li> <li>The price quoted should be for "<b>FOR IIT (ISM), Dhanbad</b>"</li> </ul>
<p><b>WARRANTY</b></p>	<ul style="list-style-type: none"> <li>Comprehensive Warranty of the Entire instrument should be provided for 5 years, except consumables like UHPLC Columns, Local Accessories Consumables of Computer and Printer, Gases etc. A list of items not covered under the warranty must be provided.</li> </ul>

## **CHAPTER 5 PRICE SCHEDULE**

### **Price Bid (Part 2)**

#### **PRICE BID**

(Note: This price bid must be in a sealed cover and should be sealed separately from the techno-commercial bid cover.)

The bidder(s) shall quote the amount tendered/financial bids in the following format:

**“Price Bid for Supply and Installation, UHPLC - Quadrupole with Time of Flight (QTOF) or QTOF-Equivalent Technology as High Resolution Mass Spectrometer (HRMS) system for both qualitative and quantitative analysis.” I / We (\_\_\_\_\_ ) on behalf of M/s \_\_\_\_\_ hereby undertake to provide **Supply and Installation, UHPLC - Quadrupole with Time of Flight (QTOF) or QTOF-Equivalent Technology as High Resolution Mass Spectrometer (HRMS) system for both qualitative and quantitative analysis.****

as specified in this tender and our technical bid for an amount of Rs. \_\_\_\_\_ (in words Rupees \_\_\_\_\_) for the item as in **Chapter –4**. The above quoted amount is inclusive of and in accordance with all the statutory liability, Service Charges, Administrative Charges, etc.” as applicable.

Details of the prices quoted for the various items as per technical bid are as follows: -

Sl. No.	Full Description of Items with (HSN Code/SAC Code)	Qty.	Rate	Amount
			Packing & Forwarding (if any)	
			<b>Total</b>	
			GST	
			Freight (if any)	
			Installation (if any)	
	Amount should be in figure as well as word		<b>Grand Total</b>	

.....

\_\_\_\_\_  
Signature of the bidder(s)/authorized signatory with seal

**UNDERTAKING BY THE BIDDER(S)**

I have carefully gone through the various terms and conditions mentioned in the tender document of **Supply and Installation, UHPLC - Quadrupole with Time of Flight (QTOF) or QTOF-Equivalent Technology as High Resolution Mass Spectrometer (HRMS) system for both qualitative and quantitative analysis..** I agree to all the conditions and offer to supply the item at IIT (ISM), Dhanbad. I am making this offer after carefully reading the conditions and understanding the same. I have acquainted with all the tasks required to be carried out, before making this offer. I will abide by the corrigendum(s), if any, to be issued by IIT (ISM) Dhanbad on its website [www.iitism.ac.in](http://www.iitism.ac.in). I hereby sign this undertaking as token of our acceptance of various conditions mentioned in tender document. Justification of the price is also attached herewith.

Place: \_\_\_\_\_

Dated: \_\_\_\_\_

Name &amp; Signature of the bidder(s):

Address: \_\_\_\_\_

\*\*\*\*\*

## **CHAPTER 6** **Contract Form**

With reference to the tender reference no. **CRF/INS/303/18-19**, Dated: 04.12.2018 of IIT(ISM), Dhanbad for Supply and Installation, **UHPLC - Quadrupole with Time of Flight (QTOF) or QTOF-Equivalent Technology as High Resolution Mass Spectrometer (HRMS) system for both qualitative and quantitative analysis.**, we (bidder(s)'s name) \_\_\_\_\_ accept all the instructions and terms and conditions of the tender and accordingly hereby submit our quotation no. \_\_\_\_\_ dated \_\_\_\_\_.

### **ALL TERMS AND CONDITIONS OF THE N.I.T. ARE ACCEPTED**

1	Name and address of the bidder	
2	Telecom nos. of the bidder i.e. phone fax, & email id.	
3	Signature, name & designation of the person signing on behalf of the bidder & his/her office seal	
4.	Name & designation of the contact person & his phone/mobile no./e-mail ID	

We hereby declare that all statements/details made in this tender are true, complete and correct to the best of my knowledge and belief. I understand that in the event of any information being found false or incorrect at any stage or we do not satisfy any of the stated criteria, our offer is liable to be cancelled automatically and IIT (ISM), Dhanbad may take an action against this firm for such false information including legal action.

**Signature:**

**Name:**

**Designation:**

**Bidder(s)'s Name:**

**Seal:**

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## **CHAPTER 7**

### **Form7.1- Checklist** **(to be submitted with technical bid part-1)**

1. Duly sealed and signed (on all pages) of the tender document.	
2. Demand draft is attached as Tender Fee	
3. Demand draft is attached as EMD.	
4. Form No. 7.4 (Techno-Commercial bid, Part-1) is attached	
5. Form No. 7.2and7.3 are attached with Techno-commercial bid (part-1)	
6. Details of PAN, TIN, Service Tax Registration No., GST No. etc. is attached	
7. Bank account details is attached	
8. Complete contact details (Name, Postal address, E-mail address, phone no. mobile no.) is provided	
9. Complete technical details attached	
10. The Techno-Commercial bid (Part 1) is sealed in a separate envelope (ENVELOPE-ONE) with EMD and Tender Fee in the form Demand Draft and duly super-scribed as "Techno-Commercial bid (Part 1) - Bid for Supply and Installation	
11. The Price bid (Part 2) is sealed in separate envelopes (ENVELOPE-TWO) and duly super-scribed as "Price Bid (Part 2) – Bid for Supply and Installation	
12. A copy of PAN/Voter Card/Aadhar Card including ID card of the bidder (firm) of the authorized signatory of the bidder(s) is attached with the Form 7.1	

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**Form No.: 7.2**

To,  
 The Registrar,  
 Indian Institute of Technology (Indian School of Mines), Dhanbad,  
 P.O. – I.S.M.  
 DHANBAD– 826004.

**Ref.:** Your Notice Inviting Tender No. CRF/INS/303/18-19, Dated: 04.12.2018

**Sub:** Technical bid relating to **Supply and Installation, UHPLC - Quadropole with Time of Flight (QTOF) or QTOF-Equivalent Technology as High Resolution Mass Spectrometer (HRMS) system for both qualitative and quantitative analysis.**

Sir/ Madam,

1. I/We have gone through all Chapters of the tender document such as Instructions and Terms and conditions, minimum eligibility criteria, schedule of requirements, Specifications and allied technical details etc. as enlisted by you in your Notice Inviting Tender for the subject under reference.
2. I/We, hereby confirm that we have understood all the above and confirm my/our commitment to abide by them.
3. I/We also confirm my/our commitment to provide the services as enlisted in your Notice Inviting Tender under reference.

**Seal and Signature of authorized signatory of the bidder(s)with date→**

Documents	Yes/No	Document No. (If submitted a copy of the same)
PAN Card/Voter ID/Aadhaar Card		
Official ID Card		
Other Documents (specify below)		

**(A copy of PAN/Voter Card/Aadhaar Card and official ID card of the authorized signatory of the bidder(s) must be attached with this letter.).**

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**Form No.:7.3**  
**(to be submitted with technical bid part-1)**

1. **Tender Fee (Non-refundable):** Receipt NO. \_\_\_\_\_ Date: \_\_\_\_\_ Amount: Rs. Five  
Thousand Nine Hundred only, Issued by bank and branch \_\_\_\_\_
2. **Earnest Money Deposit:** DD NO. \_\_\_\_\_ Date: \_\_\_\_\_ Amount: Rupees  
Three Lakhs only, Issued by bank and branch \_\_\_\_\_
3. **Validity of Quotation:** days from the date submission deadline (minimum 240 days from the  
submission deadline).....
4. **Performance Security or PBG:** Will Be Submitted with the proforma invoice or invoice, if  
Purchase Order placed by I.I.T. (I.S.M.), Dhanbad
5. **Payment Terms:** Payment after supply, satisfactory installation and submission of all required  
documents as per Purchase Order after statutory deductions and penalty (liquidity damage), if  
any as decided by I.I.T. (I.S.M.), Dhanbad.

**ALL THE ABOVE MENTIONED TERMS & CONDITIONS ARE ACCEPTED BY US AND  
PROFORMA IS SUBMITTED FOR CONSIDERATION.**

\_\_\_\_\_  
**Signature & Seal of the Bidder(s)**

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**Form No.: 7.4****TECHNO-COMMERCIAL BID (Part-1)****TECHNICAL BID**

1. Name of the Bidder(s).....
2. Name of the authorized person (who signs on the tender document on behalf of bidder(s)) with PAN/Voter Card No./Aadhar No. ....
3. Address of the Bidder(s)..... , Website .....
4. Phone No. .... (Mobile)..... Fax..... E-mail .....

**Details of the item and its specification:**

SI. No	Particulars	Description

**Name of the authorized signatory:****Name of the Bidder(s):****Contact No.:****Signature & Seal of the Bidder(s)**

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