



GSTIN : 20AAAAI0686D1ZA

भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन विकास मंत्रालय, भारत सरकार के अधीन राष्ट्रीय महत्त्व का एक संस्थान)

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

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@iitism.ac.in || Website : www.iitism.ac.in

## CORRIGENDUM

No. AGL/PRJ/289/2018-19

Date: 27.12.2018

**Subject:** Supply & Installation of CHNSO Analyzer.

Please refer to our NIT No. AGL/PRJ/289/2018-19 dated 12.12.2018 regarding supply & installation of CHNSO Analyzer.

Sl. No.	Existing terms conditions	Now read as
5.	<b>Point no. 5 of Chapter 2.</b> A 'Compliance Statement' along with a certificate and duly signed that the tendrer satisfies the technical requirements given as per <b>Form 6.5</b> . The said statement should be in a tabular form with the columns: sl. no. (2) technical requirement as per NIT (3) what is offered by the tendred; and (4) status of compliance: Complied/Not complied).	A 'Compliance Statement' along with a certificate and duly signed that the tendrer satisfies the technical requirements given as per <b>Table 1 of Chapter 7</b> .

All other terms & conditions remain unchanged.

Assistant Registrar

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



Notice Inviting Tender (NIT) in Two-Bid System  
for

**Supply and Installation of CHNSO Analyzer**

Tender No.: **AGL/PRJ/289/ 2018-19**

Date: 12.12.2018

**Bid Submission deadline: 03.01.2019 1:00 P.M.**

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

**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](http://www.iitism.ac.in)**

**GSTIN : 20AAAAI0686D1ZA**

**Notice Inviting Tender (NIT) in Two-Bid System**  
**For**  
**SUPPLY AND INSTALLATION OF CHNSO Analyzer**

Tender No.: **AGL/ PRJ / 289 / 2018-19**

**दिनांक/ Date: 12.12.2018**

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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 “CHNSO Analyzer” to enrich its teaching and research facility at Dhanbad.

Reputed manufactures or authorized distributors are invited to submit their bid for “CHNSO Analyzer” for IIT (ISM), Dhanbad as per this tender document in a Two-Bid System: - (a) Techno-Commercial (also termed as technical bid) bid (Part-2) consisting of all technical details of the item along with commercial terms and conditions, Tender Fee and EMD and (b) Price bid (Part-1) 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-2). Offers submitted without proper registration certificate shall be rejected summarily.
9. 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.
10. Name and PAN/Voter Card No. /Aadhar No. of the authorized signatory of the bidder(s) must be mentioned in the Form 6.2.
11. A copy of PAN/Voter Card/Aadhar Card of the authorized signatory of the bidder(s) must be attached with the Form 6.2
12. A copy of PAN/Voter Card/Aadhar Card of the authorized signatory of the bidder(s) must be attached with the Form 6.2

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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 2)** consisting of all technical details along with Commercial terms and conditions and EMD (Earnest Money Deposit) in the form of Demand Draft issued from any Nationalized / Scheduled commercial bank in favour of “Registrar, IIT (ISM), Dhanbad” and payable at “Dhanbad (Jharkhand, India)”, and Tender Cost (online payment) and **b) Price bid (Part 1)** indicating price for the items / services mentioned in technical bid (part-2). In stage-one, only the Techno-Commercial (Part 2) shall be opened and evaluated. In stage-two, the Price bids (Part 1) 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 2) must be sealed in a separate envelope (ENVELOPE-ONE) with the online payment receipt of Tender Cost and EMD in the form of Demand Draft, duly super-scribed as “**Techno-Commercial Bid (Part 2), Tender No.: AGL/ PRJ/ 289 / 2018-19, Submission Deadline: 03.01.2019**” as per following details: -

**Tender Cost: Rs. 5900/- (Rs. Five Thousand and Nine Hundred only),**  
**EMD: Rs. 70,000/- (Rs. Seventy Thousand only).**
  - b) The Price bid (Part 1) should be sealed in separate envelopes (ENVELOPE-TWO), duly super-scribed as “**Price Bid (Part 1), Tender No.: AGL/ PRJ / 289 / 2018-19, Submission Deadline: 03.01.2019**”.
  - 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 CHNSO Analyzer against Tender No.: AGL/PRJ/289/2018-19, Dated: 12.12.2018, Submission Deadline: 03.01.2019**”.
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. A ‘Compliance Statement’ along with a certificate and duly signed that the tenderer satisfies the technical requirements given as per Form6.5. The said statement should be in a tabular form with the

- columns: sl. no., (2) technical requirement as per NIT; (3) what is offered by the tenderer; and (4) status of compliance: Complied/Not complied).
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-2):
    - (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/CIP Kolkata basis. 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 Custom 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 to 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:- Venders must pay the Tender Cost through the Link <http://www.onlinesbi.com/prelogin/icollecthome.htm?corpID=272342> . Cash receipt should be attached along with the bid (part-2). Bid received without Tender Fee in part-2 (techno-commercial bid) will be rejected. Tender Fee is non-refundable. It must not be clubbed with Bid Security or EMD.
  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-2). Bid received without EMD in part-2 (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. An undertaking to this is to be submitted.

13. **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.
14. **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.
15. **Warranty:** All the active components must carry 3 years onsite comprehensive warranty.
16. **Comprehensive Annual maintenance contract (AMC):** The cost of 'annual maintenance contract (AMC)' and "comprehensive maintenance contract (CMC)" should be provided separately for extension of warranty for additional years (which is beyond the normal warranty period mentioned earlier) on yearly basis as an option with the price bid. Offer including terms & conditions should be quoted on per year basis to enable purchaser make AMC for any period from 01 to 05 years, if required.
17. **Delivery Period and Liquidated Damage:** As time is 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 or part thereof 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), 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-1) (Chapter – 4 of this tender) only for the item(s)/services as mentioned at Chapter – 7 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 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.	<b>AGL/ PRJ / 289 / 2018-19</b>
Date of Tender	<b>12.12.2018</b>
Bid submission deadline	<b>03.01.2019 1:00 P.M.</b>
Date of opening of the bids (technical part-1)	<b>03.01.2019 4:30P.M.</b>

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**CHAPTER 4**  
**PRICE SCHEDULE**  
**Price Bid (Part 1)**

**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 of CHNSO Analyzer** “I / We

( \_\_\_\_\_ ) on behalf of M/s \_\_\_\_\_

\_\_\_\_\_ hereby undertake to provide **Supply and Installation of CHNSO Analyzer** as specified in this tender and our technical bid for an amount of Rs. \_\_\_\_\_ (in words Rupees \_\_\_\_\_) for the item as in

**Chapter –5.** 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 of CHNSO Analyzer**. 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: \_\_\_\_\_

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**CHAPTER 5****Contract Form**

With reference to the tender reference no. **AGL/ PRJ / 289 / 2018-19**, Dated: 12.12.2018 of IIT(ISM), Dhanbad for Supply and Installation, of CHNSO Analyzer, 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:**

\*\*\*\*\*

## CHAPTER 6

### Form6.1- Checklist

(to be submitted with technical bid part-2)

1. Duly sealed and signed (on all pages) of the tender document.	
2. Online Payment Receipt is attached as Tender Fee	
3. Demand draft is attached as EMD.	

4. Form No. 6.4 (Techno-Commercial bid, Part-2) is attached	
5. Form No. 6.2 and 6.3 are attached with Techno-commercial bid (part-2)	
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 2) is sealed in a separate envelope (ENVELOPE-ONE) with EMD in the form Demand Draft and duly super-scribed as "CHNSO Analyzer"	
11. The Price bid (Part 1) is sealed in separate envelopes (ENVELOPE-TWO) and duly super-scribed as "Price Bid (Part 1) – Bid for Supply and Installation of CHNSO Analyzer"	
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 6.2.	

\*\*\*\*\*



**Form No.: 6.2**

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. AGL / PRJ / 289 / 2018-19, Dated: 12.12.2018**Sub:** Technical bid relating to **Supply and Installation of CHNSO Analyzer**

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

\*\*\*\*\*

**Form No.:6.3**

**(to be submitted with technical bid part-2)**

1. **Tender Fee (Non-refundable): Reference NO. \_\_\_\_\_ Date:\_\_\_\_\_ Amount: Rs. Five Thousand and Nine Hundred only, Issued by bank and branch \_\_\_\_\_**
2. **Earnest Money Deposit: DD NO.\_\_\_\_\_Date:\_\_\_\_\_ Amount: Rs. Seventy Thousand 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)**

\*\*\*\*\*

**Form No.: 6.4****TECHNO-COMMERCIAL BID (Part-2)****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:**

Sl. No	Particulars	Description

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

## Chapter 7

### Annexure - I

#### Specifications for One “CHNSO Analyzer”

- 1. Specifications Sheet:** The minimum specifications and quantity for “CHNSO Analyzer” is given in **Table 1**.
- 2. CHNSO Analyzer:** The specifications for the complete “CHNSO Analyzer” is listed in Table 1 (given below). *A certificate is required from the original equipment manufacturer (OEM) that their equipment and accessories meet all minimum specifications as given in Table 1.*
- 3. Accessories:** All necessary accessories and software’s, required for the smooth operation of the **CHNSO Analyzer** in the laboratory, should be delivered by the supplier along with the data acquisition, retrieval and analysis system and power backup. All accessories, and components including cables, connectors, batteries etc. should be Original Equipment Manufacturer (OEM) make/supplied directly by OEM and certified by OEM for smooth functioning. *List of all accessories, with part(s) number(s), to be supplied by the OEM is required.*
- 4. Specification sheet(s), product brochure(s), and Manual(s):** Printed copy of all the specification sheets, product brochures/manuals related to CHNSO Analyzer System including measurement/methodology should be supplied along with the quote. *Soft copy of these documents must be provided in a CD/DVD/USB pendrive.*
- 5. Warranty:** Total cost of supply must include 3 (three) year onsite comprehensive warranty including technical support for equipment, all accessories and software (within 5 business day support). The cost of repair/replacement/shipping, if any, should be borne by the supplier during the warranty period. *A three-year onsite comprehensive warranty certificate including technical support is required from the OEM for CHNSO Analyzer.*

*For Data Acquisition Unit/ Data Analysis Unit /Digital semi-micro or micro balance/ UPS Unit/Battery Unit, separate warranty certificate(s) should be obtained and enclosed from respective OEMs/suppliers.*

*In case the local representative of the OEM/Principal Company changes or withdraws; a letter of assurance by the OEM/Principal Company is required stating that they will directly cover the warranty and service the equipment as and when required as per the terms and conditions mentioned in this document.*

- 6. Standardization & Calibration:** *Certificate from OEM is required as mentioned in Table 3.*
- 7. Additional Warranty (Optional):** The cost of annual “comprehensive maintenance contract (CMC)” should be provided **separately** for extension of warranty for additional 5 years, on a year-wise basis (for 4<sup>th</sup> year, 5<sup>th</sup> year, 6<sup>th</sup> year, 7<sup>th</sup> year, and 8<sup>th</sup> year), which is beyond the normal 3-year warranty (1<sup>st</sup> year, 2<sup>nd</sup> year and 3<sup>rd</sup> year) period stated above.
- 8. Installation and Demonstration/Training (free of cost):** Onsite installation, testing and demonstration/training of the equipment, accessories and associated data processing software, by professional person(s) as mentioned in Table 1.
- 9. Supply:** Price should be quoted on **FOR, Dhanbad** basis in case of Indigenous supply and **FOR, Dhanbad/CIP Kolkata** in case of foreign supply.
- 10. Total Cost:** Total cost of the equipment should be quoted in INR in case of Indigenous supply and in Foreign Currency in case of Foreign Supply (Imported Equipment from OEM).

- 11. Academic/Educational Discount:** Academic/Educational Discount and any other discount, if offered, should be clearly mentioned.
- 12. Important Note:** The Quote should cover all the minimum specifications (as given in **Table 1**) necessarily. Any **additional feature** provided along with the **CHNSO Analyzer** and included in the total cost (other than the items listed separately as optional) of the equipment will not add any further preference for considering the quote favorably. However, if the quote is considered, as per IIT(ISM) Dhanbad purchase rules, the vendor has to retain all the features (including additional features listed as a part of the total cost of the equipment) intact as per the original quotation.
- **Thus, the cost of “additional” components, accessories, software’s and features, which are part of the standard system and required for complete operation of the CHNSO Analyzer system must be listed in Table 1.**
- 13. Optional (Items/Accessories and Additional Features):** The cost of any additional accessories and features, which are optional in nature, may be listed separately in Table 2.
- 14. Shifting of the instrument:** Equipment may be installed in a temporary location initially and may be shifted to a permanent location later on. *The OEM, without any additional cost, must provide undertaking regarding shifting & reinstallation of the system by a professional team to a permanent location if requested by the Indenter/Project (Principal Investigator)/Co-investigator/Faculty-in-Charge. Damage during the shifting, if any, of the equipment must be the liability of the OEM.*
- 15.** *The OEM should certify that the CHNSO Analyzer Configuration and Control is a fully integrated system and all other components/accessories are fully compatible.*
- 16.** *A guarantee should be given by OEM to supply all the parts, if required, for at least 10 years from the date of installation.*
- 17.** *All parts and accessories, which is necessary for the full functioning of the CHNSO Analyzer must be supplied with the tendered/quoted item.*
- 18.** **All the pages of the quote for the tendered item, including brochures/flyers/OEM certificates/OEM certified list/any other page, should be numbered sequentially by OEM/Supplier. The relevant page number, that complies with the given specification(s) in Table 1 and 2, must be identified in the column (Specification is on Page No<sup>##</sup>) in Table 1 and 2.**
- 19. Shipping and Installation:** Within the given timeframe, as per terms and conditions mentioned in the purchase order.

**Table 1. Minimum specifications and quantity for CHNSO Analyzer.**

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No <sup>##</sup>	Cost of part /module /item
1.	<b>CHNS Analyzer System</b>	<ul style="list-style-type: none"> <li>• Carbon, Hydrogen, Nitrogen and Sulfur Analyzer.</li> <li>• Oxygen Analyzer (optional)</li> </ul>	<b>01</b>			
	<b>a. Fully automated and integrated system</b>	<b>Fully automated and PC Controlled CHNS analyzer with multiple operating modes. Configuration and Control is a</b>				

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No <sup>##</sup>	Cost of part /module /item
		<i>fully integrated system and all other components/accessories are fully compatible.</i>				
2.	<b>Type of samples for Analysis</b>	For both solid and liquid samples.				
	<b>b. Solid</b>	Coal, coke, lignite, shaly coal, biomass, fly ash, shale, soil, solid waste(s).				
	<b>c. Liquid</b>	Liquid Fuels like Naphtha, Bio-Diesel, Diesel and liquid wastes.				
3.	<b>Sample weight/volume</b>	Minimum sample (solids) weight of 100 to 250 mg or more. Sample (liquids) volume of 0.1 to 100 ml or more.				
	<b>a. Sample weight/volume for CHN analysis</b>	Specify the weight/volume of solid/liquid sample required for analysis for the quoted equipment.				
	<b>b. Sample weight/volume for S analysis</b>	Specify the weight/volume of solid/liquid sample required for analysis for the quoted equipment.				
4.	<b>Sample Combustion System</b>	As per accepted standard test methods/methodology prescribed by ASTM/ISO/DIN/AS/BS/BSI/US EPA/NIST <i>Or equivalent national/international standards (acceptable if it's up to the satisfaction of Purchase Advisory Committee, IIT(ISM) Dhanbad)</i>				
	<b>a. Combustion system (one or more Furnace);</b>	Specify the number of furnaces used for combustion.				
	<b>b. Combustion temperature</b>	Specify combustion temperatures (for C, H, N, and S), (as per above-mentioned				

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No##	Cost of part /module /item
		standards)				
	<b>c. Gas cylinders, controllers/regulators</b>	Two sets of filled gas cylinders (Nitrogen, Helium, Oxygen etc. as may be needed) of each 47 liters capacity with purity 99.99% for O2, 95% or more for N2, 99.99% for He, with double stage stainless steel regulators (imported two sets for each gas)/adequate regulators with safety certificate for refilling with adequate metal tubing, fixing nuts and screws, spanners for operation and compatible to the system.				
	<b>d. Ash management</b>	Ash finger or equivalent system to hold and manage samples with high ash content.				
	<b>e. Warranty of furnace</b>	Warranty of at least 5 years for all the furnace. A separate warranty certificate for the furnace should be provided by OEM/principal supplier.				
	<b>f. Warranty</b>	Comprehensive warranty for equipment and all its accessories for at least 3 years.				
<b>5.</b>	<b>Detection Range</b>	Absolute weight assuming 100mg sample weight {or in percentage}				
	<b>a. Total Carbon [C]</b>	0.1 to 100 mg or more {or 0.02 to 100%}				
	<b>b. Hydrogen [H]</b>	0.1 to 15 mg or more {or 0.1 to 12% or better}				

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No##	Cost of part /module /item
	<b>c. Total Nitrogen [N]</b>	0.1 to 100 mg or more {or 0.04 to 50% or better}				
	<b>d. Total Sulphur [S]</b>	: 0.02 to 10 mg or more {or 0.01 to 20% or better}				
<b>6.</b>	<b>Precision</b>	(in Relative Standard Deviation, RSD)				
	<b>a. Total Carbon [C]</b>	0.5% RSD or better				
	<b>b. Hydrogen [H]:</b>	1.0% RSD or better				
	<b>c. Nitrogen [N]</b>	1.0% RSD or better				
	<b>d. Sulfur [S]</b>	1.0% RSD or better				
<b>7.</b>	<b>Compliance to standards</b>	Conform to ASTM D 5373-93, ASTM D5291-91, ASTM D 1552-16, ASTM D 4239 and/or ASTM/ISO/DIN/AS/BS/BSI/US EPA/NIST or equivalent national/international standard(s). <i>(acceptable if it's up to the satisfaction of Purchase Advisory Committee, IIT(ISM) Dhanbad)</i>				
<b>8.</b>	<b>Analysis Time</b>	Depending on element content and weight, but less than 20 minutes in any case for a sample.				
	<b>a. Analysis time for CHN</b>	Specify time required for analysis along with weight of the sample (maximum 20 minutes)				
	<b>b. Analysis time for S</b>	Specify time required for analysis along with weight of the sample (maximum 10				



Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No##	Cost of part /module /item
		minutes)				
9.	<b>Analytical gases</b>	Specify Nitrogen/Helium and Oxygen as may be needed /as per standard test methods.				
10.	<b>Detector System</b>	Carbon, Hydrogen and Nitrogen must be detected using TCD/IR detectors.				
11.	<b>Auto Sampler</b>	Auto sampler system with <b>60 positions</b> or more (CHN/CHNS).	<b>01</b>			
12.	<b>Consumables</b>	All consumables required for operation of the equipment during the three year warranty period.				
		<u>Atleast 1000 samples kit/year</u> for 3 years for solid samples.				
		Atleast <b>1000 samples kit</b> for liquid samples).				
		Leak test kit and accessories, if any.				

SI. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No##	Cost of part /module /item
		<b>Provide list of consumables along with the quantity</b> to be supplied with the equipment. Add additional rows below, if required.				
13.	<b>Online Display System/Data Acquisition Unit</b>	Online display system/data acquisition unit showing status of the analysis (graphical/text). Display of set and actual pressure, flow rate, temperature, no. of sample analyzed.				
14.	<b>Data Acquisition Unit (DAU)</b>	Suitable interface with the hardware along with inbuilt licensed (perpetual) software package for controlling settings of the equipment, display of online status of sample analysis and building/saving reports in table(s)/database(s).	<b>01</b>			
	<b>a. DAU configuration/specification</b>	2.0 GHz, 240 GB HDD or more, 4GB RAM or more, CD/DVD Writer, 24" Colour monitor or better, Serial and parallel ports: if required, USB 2/3 ports, Multimedia Kit, and A4 color laser printer (with LAN port/Wifi). 500 GB SSD.				
	<b>b. OS and Office requirements</b>	Microsoft Windows 7pro/10pro with Office 2016 standard, Antivirus (Eset/McAfee/Norton/Avira/Kaspersky) with a Genuine license in the form of CD/Key Card/Sticker or Label from Microsoft/OEM/Dealer/ Retailer).  Or				

SI. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No##	Cost of part /module /item
		DAU with other OS (such as Linux/Mac) along with office (or the equivalent of MS Office – Word, Excel, Powerpoint).				
	c. DAU with provision for maintenance interval and leak check.	Provision for setting maintenance interval with a warning regarding maintenance needed. Online display of graphics and text data should have a leak check through software mode and/or manual mode.  Self-diagnosis and leak-check facility.				
15.	<b>Data Acquisition Software</b>	Necessary software for data acquisition and interface with the equipment. Perpetual license. Software tools to support acquisition, analysis and storage in the standard file formats.	01			
	a. Name of software, if any	Name and latest version number.				
	b. License count	01 (One)				
	c. License type	Perpetual license.				
	d. Basic Measurements	Required				
	e. Report generation	i. Descriptive/Basic Statistics ii. Excel/Word/html report generation				
16.	<b>Data Analysis Unit</b>	For data analysis, storage and report generation	01			
		Please mention make/OEM/Manufacturer <ul style="list-style-type: none"> <li>• name and</li> <li>• model number.</li> </ul>				

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No##	Cost of part /module /item
	<b>a. Processor</b>	Intel Xeon E5/E7 series or Intel Core i7/i9 Desktop/workstation Processor Series or newer Intel series or AMD series				
	<b>b. Processor (Core and Speed)</b>	<ul style="list-style-type: none"> <li>8 core (minimum) and</li> <li>2.8 GHz (minimum)</li> </ul>				
	<b>c. Motherboard</b>	<ul style="list-style-type: none"> <li>Support for SATA III,</li> <li>Support for DDR4 Memory (DDR4-2133MHz)</li> </ul>				
	<b>d. Hard Drive</b>	480/500GB SSD				
	<b>e. Additional Hard Drive</b>	4000GB 3.5inch SATA/SAS (7,200 Rpm) HDD				
	<b>f. Video Card/Graphics Card</b>	Graphics Card 4GB or more				
	<b>g. Memory</b>	32 GB DDR4-2133MHz (minimum)				
	<b>h. Keyboard</b>	Keyboard (wired), full-size keyboard				
	<b>i. Mouse</b>	Laser Scroll USB (wired), minimum 1000dpi				
	<b>j. Monitor</b>	<ul style="list-style-type: none"> <li>IPS LED Monitor</li> <li>Screen Size: between 26 to 32 inch</li> <li>Resolution (minimum): 4K /5K display or higher</li> <li>Brightness (nit) (minimum): 250</li> <li>Contrast Ratio: 10000000:1</li> <li>Response Time: 5ms (or lower)</li> <li>Viewing Angle: 170/170 (or higher)</li> <li>Color Depth: 16.7 million (or higher)</li> <li>HDMI: Yes</li> <li>Speakers: 5W×2 (inbuilt or Soundbar)</li> <li>Tilt: Yes</li> </ul>	<b>01</b>			
		Please mention make/OEM/Manufacturer <ul style="list-style-type: none"> <li>name and</li> <li>model number.</li> </ul>				
	<b>k. Optical Drive</b>	DVD+/-RW Drive				

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No <sup>##</sup>	Cost of part /module /item
	<b>i. Network Speed</b>	10/100/1000 (1Gbit) NIC				
	<b>m. Cabinet/Chassis Design</b>	Tower				
	<b>n. Operating System</b>	Windows 10 Pro 64bit, English or latest version.	<b>01</b>			
	<b>o. Microsoft Office Pro</b>	2019 version or latest version	<b>01</b>			
	<b>p. Internet Security (Antivirus with anti-malware and firewall)</b>	3 years (Eset/McAfee/Norton/Avira/Kaspersky)	<b>01</b>			
	<b>q. Power Supply</b>	≥500 Watt and ≥90% Efficiency				
	<b>r. Standard Warranty</b>	Minimum 3 Yrs Next Business Day Onsite Service for workstation unit only				
	<b>s. Manufacturer/OEM</b>	Workstation should be from a reputed Original Equipment Manufacturer (OEM) having its own registered trademark such as Dell/HP/HCL/Fujitsu etc.				
<b>17.</b>	<b>Consumables</b>	All consumables required for operation of the equipment during the three year warranty period (at least 1000 samples/year).  Provide list of consumables and kit along with the quantity to be supplied with the equipment.				
		<b>Space for list of consumables &amp; quantity, if any. Add additional rows below, if required.</b>				
<b>18.</b>	<b>Certified Reference Material (CRM) / Certified Standards for Standardization/Calibration</b>  (with certificate for each	All CRM/certified standards required for standardization/calibration of the equipment during the warranty period (atleast once/year or as requested by the Indentor/Faculty-in-Charge/Person-in-Charge).				

SI. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No##	Cost of part /module /item
	CRM/standard)	Provide list of CRM/certified standards along with the quantity to be supplied with the equipment.				
	a. CALCIUM CARBONATE (50×4 pack= 200g)		01			
	b. EDTA (50×4 pack= 200g)		01			
	c. Phenylalanine/ L- Phenylalanine/Equivalent 50g		01			
	d. GRAPHITE POWDER (50×4 pack= 200g)		01			
	e. ZINC SULFIDE (50×4 pack= 200g)		01			
	f. 0.25% S COAL (50g)		01			
	g. 0.50% S COAL (50g)		01			
	h. 1.00% S COAL (50g)		01			
	i. COAL (50g) (80% < C < 85% , known H, N)		01			
	j. COAL (50g) (75% < C < 79%C, known H, N)		01			
	k. COAL (50g) (70% < C < 74%C, known H, N)		01			
	l. PETROLEUM COKE (50g) (Known C,H,N)		01			
	m. SUCROSE (50×4 pack= 200g)		01			
		<i>Space for list of consumables &amp; quantity, if any. Add additional rows below, if required.</i>	01			
19.	<b>Sample Packing</b>	Should be supplied with required accessories for solid and liquid sample				

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No <sup>##</sup>	Cost of part /module /item
		packing.				
20.	<b>Digital semi-micro/micro balance Operation Control Weighing Range</b>	Mettler or Sartorius semimicro or micro balance capable of direct transferring the data to the analyzer/PC.  Weighing Range: 2000 mg or more Resolution: 0.01 mg Linearity: ± 2 to 4 mg  Minimum Weight = 2mg or better Auto Calibration.	<b>01</b>			
21.	<b>Essential power supply unit, internal or external batteries, chargers, cables and operating manuals for power backup</b>	At least minimum number of units (batteries, chargers, cables etc.) required for the smooth operation of equipment in the laboratory should be part of the standard supply.	<b>01 set or as required.</b>			
22.	<b>Tool kit</b>	Suitable and essential tool kits must be provided with the instrument for the required maintenance	<b>01 set or as required.</b>			
23.	<b>Hard boxes/containers</b>	Adequate number of containers should be provided to house the equipment and accessories during transportation and storage.	<b>01 set or as required.</b>			
24.	<b>Operational Environment</b>	Adequate inbuilt protection of equipment against water, sand and dust				
	<b>a. Ambient Temperature during operation</b>	+20°C to +40°C or wider range				
	<b>b. Storage Temperature</b>	+10°C to +60°C or wider range				
	<b>c. Humidity</b>	75% (preferably 95%) or higher				

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No##	Cost of part /module /item
25.	<b>Power Backup Unit 1/UPS Unit 1</b>	A suitable true online UPS (with automatic voltage regulator) of atleast 8±0.5 KVA capacity with at least one hour backup (output 220±10% V), and requisite external batteries (AMARON/EXIDE/LUMINOUS only, at least 40Ah capacity each) and trolley for the equipment. Compatible with power supply in India.	<b>01</b>			
		Movable trolley with minimum four wheels/castors, metallic frame and legs, and table top (wooden/ply) for UPS and trolley/rack for holding Batteries.  <b>Minimum 3 Years onsite Warranty for UPS and Battery unit only.</b> Next business day support.	<b>01 set</b>			
		Should be from a reputed Original Equipment Manufacturer (OEM) having its own registered trademark.				
26.	<b>Power Backup Unit 2/UPS Unit 2 (for DAU/Data Analysis Unit)</b>	Sinewave 1±0.1 KVA UPS System with 1 number of external lead-acid tubular batteries (12V) including onsite installation.				
		<b>a. UPS Unit (1.0±0.1 KVA)</b> Sinewave UPS Please mention make/OEM/Manufacturer <ul style="list-style-type: none"> <li>• name and</li> <li>• model number.</li> </ul>	<b>01</b>			
		<b>i. Output Power Capacity</b>	1000VA±100VA			



Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No <sup>##</sup>	Cost of part /module /item
	ii. Output Voltage	220±10% V				
	iii. Efficiency at full load	Atleast 85%				
	iv. Input Voltage	Standard mode/range: 130 to 290 V and Narrow mode/range: 180 to 260 Volt				
	v. Output Waveform	Sinewave (UPS Mode)				
	vi. Input Connections	Hard Wire 3 Wire (1 PH+N+G)				
	vii. Input voltage for main operations	Single Phase UPS.				
	viii. Waveform Type	Sine wave (Output)				
	ix. LCD/LED Control Panel	Multi-function LCD (status and control console) Display/indicators for Mains/UPS ON, Battery Charging, Overload, Battery Low, Fault				
	x. Switchover from Mains to UPS/UPS to Mains	Automatic				
	xi. UPS Transfer Time	≤ 15 msec (or lower)				
	xii. Auto Reset Feature	Yes				
	xiii. Battery Charging Current	~10±2 Amps or appropriate charging current to charge 12V lead-acid (150Ah) tubular batteries connected to the sinewave UPS system.				
	xiv. Protection	<ul style="list-style-type: none"> <li>• UPS Overload protection (100%)</li> <li>• UPS Short circuit protection (250%)</li> <li>• Input over voltage protection (280/300V),</li> <li>• Input under voltage protection (100/120V),</li> <li>• Low battery &amp; battery over charge protection</li> </ul> Battery Deep Discharge protection				
	xv. Weight	Less than 50 Kg (for UPS unit)				

SI. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No <sup>##</sup>	Cost of part /module /item	
	<b>b. Battery Unit and Volt</b> (number of Batteries required for one Sinewave UPS Unit)	<ul style="list-style-type: none"> <li>12V/24V</li> <li>1 (12V, 150 Ah each) number of batteries.</li> <li>UPS Charging support for 1 (12V, 150 Ah each) lead-acid tubular batteries for UPS to function normally.</li> </ul>	<b>01 or 02 as required</b>				
		Please mention make/OEM/Manufacturer <ul style="list-style-type: none"> <li>name and</li> <li>model number.</li> </ul>					
	<b>c. Trolley</b>	<b>a.</b> Movable trolley with minimum four wheels/castors, metallic frame and legs, and table top (wooden/ply) for UPS and holding a Battery.	<b>01 or 02 as required</b>				
		<b>b.</b> Load Capacity: Atleast 50 Kg					
		<b>c.</b> Battery size/holding capacity: Approx. 19×8.5×18 inches (L×B×H) to accommodate tubular lead-acid battery.					
<b>d. Warranty (for UPS and Battery Units only)</b>	<b>Minimum 3 Years onsite Warranty for UPS and Battery unit only.</b> Next business day support.						
<b>e. Manufacturer/OEM of UPS Unit/Battery Unit</b>	UPS/Batteries should be from a reputed Original Equipment Manufacturer (OEM) having its own registered trademark such as APC/Microtek/Exide/Luminous etc.						
<b>27.</b>	<b>Availability of Spares (Except DAU/Data Analysis Unit/UPS Units/Battery Unit/Balance)</b>	The original equipment manufacturer (OEM) should confirm in writing that the spares for the quoted model will be available for a period of ten years after installation of the instrument. In case the OEM is bidding through an Indian agency/agent, the OEM should give a					

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No <sup>##</sup>	Cost of part /module /item
		written undertaking that they will be responsible for providing all the spares as mentioned above, even if there is a change in the Indian agent/agency of the manufacturer.				
28.	<b>Technical Manual, Specification sheet(s) and product brochure(s)</b>	<p>A set of technical manuals are to be supplied which shall cover the description, drawing, installation and commissioning guidance. Parts list and their identification, maintenance kit, instruction manual fault-diagnosing guidance also to be provided.</p> <p>Printed copy of all the specification sheets, and product brochures/manuals related to <b>CHNS Analyzer</b> should be supplied along with the quote.</p> <p>Also soft copy must be provided in a CD/DVD/USB pendrive.</p>	<b>01 set or as required.</b>			
29.	<b>Warranty</b>	Total cost of supply must include 3 (three) year onsite comprehensive warranty (for 1 <sup>st</sup> year, 2 <sup>nd</sup> year and 3 <sup>rd</sup> year since installation) including technical support for equipment, modules, components, accessories and softwares (within 5 business day support). The cost of repair/replacement/shipping, if any, should be borne by the supplier during the warranty period.				
30.	<b>Installation &amp; Testing</b>	<ul style="list-style-type: none"> <li>Installation, Commissioning &amp; Testing of the Equipment and its accessories</li> </ul>				

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No##	Cost of part /module /item
		at site for acceptance.				
		<ul style="list-style-type: none"> <li>• Calibration Certificate: Equipment will be supplied with manufacturer's calibration certificate having reference to NIST or equivalent standard.</li> </ul>				
		<ul style="list-style-type: none"> <li>• Demonstration of Calibration with requisite standards (NIST or equivalent standards for coal and coke) during installation.</li> </ul>				
		<ul style="list-style-type: none"> <li>• Training No. 1: Onsite demonstration and comprehensive training to be provided on operation and maintenance of the equipment, accessories and associated data processing software's by professional person(s) for at least 5 days at IIT(ISM), Dhanbad.</li> </ul>				
		<ul style="list-style-type: none"> <li>• Training No. 2: Another onsite demonstration and comprehensive training to be provided on operation and maintenance of the equipment, accessories and associated data processing software's by professional person(s) for at least 5 days at IIT(ISM), Dhanbad after 1 years of installation or as may be requested by Indentor/Faculty-in-Charge.</li> </ul>				
31.	<b>Any additional component(s)/module(s)/soft</b>	All necessary cables, Glands, connectors, terminations and other accessories				

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No <sup>##</sup>	Cost of part /module /item
	<p>ware(s)/ accessories which is a must/required for full functioning of the equipment must be listed here.</p> <p>Please use additional rows/sheets if required.</p>	<p>necessary for the normal operation of the system should be included.</p> <p>Any sub system that is required for the operation of a function requested in this specification must be automatically included in the scope of supply and must not be added as additional after the order and delivery of the system.</p> <p>Important specification of the component(s)/module(s)/software(s)/ Accessories.</p>				
32.	Any other item. (Add here)	If required. Use additional rows if required.	If required.			
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<sup>#</sup> Part number(s) must be given for each part/unit/module in a separate column.

<sup>##</sup> Specification must be mentioned on a given page no. in the brochure/flyer/OEM certified list/document. Reference Page number of each specification(s) should be provided as given in brochure/flyer/OEM certified list/document. Please mention the exact page number.

**Table 2. Other additional accessories and features (Optional):** separate list may be provided in the quote for additional items and accessories, which are optional in nature, if any.

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No <sup>##</sup>	Cost of part /module /item
A1.	Combustion System/furnace	Sulfur (optional item)	01			
A2.	Combustion System/furnace	Oxygen (optional item)	01			
A3.	Detector System	Oxygen with TCD/IR (optional item).	01			

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No##	Cost of part /module /item
		Oxygen Analysis range: 0.0008 to 2mg or better. Precision: 1% RSD or better.				
<b>A4.</b>	<b>Detector System</b>	Optional Sulphur with I.R (optional item). Sulfur Analysis range: 0.05 to 20% or better. Precision: 1% RSD or better.	<b>01</b>			
<b>A5.</b>	Consumables. <b>More than one kit may be purchased as an optional item, if required.</b>		<b>01</b>			
	a. Rate for Optional 1000 kit consumables should be quoted for solid samples.	1000 Kit for CHNS Analysis	<b>01</b>			
	b. Rate for Optional 1000 kit consumables should be quoted for liquid samples.	1000 Kit for CHNS Analysis	<b>01</b>			
	c. Rate for Optional 1000 kit consumables should be quoted for solid & liquid samples.	1000 Kit for CHNS Analysis	<b>01</b>			
	d. Rate for Optional 1000 kit consumables should be quoted for solid & liquid samples.	1000 Kit for O Analysis (optional item)	<b>01</b>			

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No##	Cost of part /module /item
A6.	<b>Certified Reference Material (CRM) / Certified Standards for Standardization/Calibration</b> . One or more unit (quantity) can be selected for order, if required.	(with certificate for each CRM/standard)				
	a. Acetanilide (C <sub>8</sub> H <sub>9</sub> NO) (2g ×5 pack= 10g)		01			
	b. BBOT (C <sub>26</sub> H <sub>26</sub> N <sub>2</sub> O <sub>2</sub> S) (5g ×5 pack= 50g)		01			
	c. 2.00% S COAL (50g)		01			
	d. 3.00% S COAL (50g)		01			
	e. 4.00% S COAL (50g)		01			
	f. METALLURGICAL COKE (50g) (Known C,H,N)		01			
	g. STD WHITE MINERAL OIL SULFUR, 0.10% (100mL)		01			
	h. STD WHITE MINERAL OIL SULFUR, 1.00% (100mL)		01			
	i. STD WHITE MINERAL OIL SULFUR, 5.00% (100mL)		01			
	j. FLY ASH (20g) Low Sulfur (<1 %)		01			
	k. FLY ASH (20g) High Sulfur (>1%)		01			
	l. SOIL (60g)		01			
	m. BENZOIC ACID (50g)		01			
	n. Paraffin Oil		01			

Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No <sup>##</sup>	Cost of part /module /item
	<b>o.</b> Ore powder (~2% C) (50g)		<b>01</b>			
	<b>p.</b> Synthetic Carbon (50g)		<b>01</b>			
	<b>q.</b> Nicotinic Acid (50g)		<b>01</b>			
	<b>r.</b> Corn Gluten (50g)		<b>01</b>			
		<i>Space for list of other standards, consumables &amp; quantity, if any. Add additional rows below, if required.</i>				
<b>A7.</b>	<b>Minitab (Software, www.minitab.com) Academic License</b>	At least 1 user, perpetual license. At least 1 year technical support with automatic/manual upgrade to higher version, if released.	<b>01</b>			
<b>A8.</b>	<b>Additional Warranty (Optional)</b>  <b>(Except Data Analysis Unit/Data Acquisition Unit/UPS Unit/Battery Unit/Balance)</b>	The cost of annual “comprehensive maintenance contract (CMC)” should be provided <u>separately</u> for extension of warranty for additional 5 years, on year-wise basis (for 4 <sup>th</sup> year, 5 <sup>th</sup> year, 6 <sup>th</sup> year, 7 <sup>th</sup> year, and 8 <sup>th</sup> year), which is beyond the normal 3-year warranty (1 <sup>st</sup> year, 2 <sup>nd</sup> year and 3 <sup>rd</sup> year) period. <b>(Except Data Analysis Unit/Data Acquisition Unit/UPS Unit/Battery Unit).</b>				
	<b>a. Warranty 4<sup>th</sup> year</b>	Cost of annual CMC (accessories, parts and consumables) for 4 <sup>th</sup> year since installation (excluding gas supplies and sample analysis kit).				
	<b>b. Warranty 5<sup>th</sup> year</b>	Cost of annual CMC (accessories, parts and consumables) for 5 <sup>th</sup> year since installation (excluding gas supplies and sample analysis kit)				
	<b>c. Warranty 6<sup>th</sup> year</b>	Cost of annual CMC (accessories, parts and consumables), <b>including furnace, for 6<sup>th</sup> year since installation</b> (excluding gas				



Sl. No.	System Configuration/Feature	Minimum Qualifying Specifications	Minimum Quantity	Part Number(s) #	Specification is on Page No##	Cost of part /module /item
		supplies and sample analysis kit).				
	<b>d. Warranty 7<sup>th</sup> year</b>	Cost of annual CMC (accessories, parts and consumables), <b>including furnace, for 7<sup>th</sup> year since installation</b> (excluding gas supplies and sample analysis kit).				
	<b>e. Warranty 8<sup>th</sup> year</b>	Cost of annual CMC (accessories, parts and consumables), <b>including furnace, for 8<sup>th</sup> year since installation</b> (excluding gas supplies and sample analysis kit).				
<b>A9.</b>	Any other optional component/accessories offered by the OEM.  Please use additional rows/sheets if required.	Specification/details of the component/accessories.				

# Part number(s) must be given for each part/unit/module in a separate column.

## Specification must be mentioned on a given page no. in the brochure/flyer/OEM certified list/document. Reference Page number of each specification(s) should be provided as given in brochure/flyer/OEM certified list/document. Please mention the exact page number.

**Table 3. List of other Certificates/Items to be produced by the OEM/Supplier along with the quote for tendered item.**

<b>Sl. No.</b>	<b>Description</b>	<b>Attached (Yes/No)</b>	<b>Please mention relevant page number</b>
1.	<i>A certificate is required from the original equipment manufacturer (OEM) that their equipment and accessories meet all minimum specifications as given in the Table 1.</i>		
2.	<i>List of all accessories, with part(s) number(s), to be supplied by the OEM is required. All parts and accessories, which is necessary for full functioning of the CHNSO Analyzer must be supplied with the tendered/quoted item.</i>		
3.	<b>Warranty:</b> <i>A three-year onsite comprehensive warranty certificate including technical support is required from the OEM for CHNSO Analyzer and all standard/essential components, fittings and accessories including any consumable, parts, calibration standards as may be required for maintenance and operation of the equipment.</i>		
4.	<i>For Data Acquisition Unit/ Data Analysis Unit / Digital semi-micro or micro balance/ UPS Unit/Battery Unit, separate warranty certificate(s) should be obtained and enclosed from respective OEMs/suppliers.</i>		
5.	<i>Warranty of at least 5 years for all the furnace. A separate <u>5-year</u> warranty certificate for the furnace should be provided by the OEM/principal supplier.</i>		
6.	<i>For Data Acquisition Unit/ Data Analysis Unit /Digital sem-micro or micro balance/ UPS Unit/Battery Unit, separate warranty certificate(s) should be obtained and enclosed from respective OEMs/suppliers.</i>		
7.	<i>In case the local representative of the OEM/Principal Company changes or withdraws; a letter of assurance by the OEM/Principal Company is required stating that they will directly cover the warranty and service the equipment as and when required as per the terms and conditions mentioned in this document.</i>		
8.	<b>Standardization &amp; Calibration:</b> <i>Certificate from OEM is required stating that the equipment should be properly standardized and/or calibrated (for measurements), free of cost, by the OEM/Supplier during the warranty period including any consumables, and standards as may be required. Standardization and/or calibration should be performed by experienced technician/engineer/personnel deputed/authorized by the OEM/Principal Supplier or through its Indian partner/agent/dealer. Total cost should include the cost of standardization and/or calibration on atleast yearly basis or as and when required or requested by the Indentor/Faculty-In-Charge/person-in-charge from IIT(ISM) Dhanbad during the Warranty period.</i>		
9.	<i>The OEM, without any additional cost, must provide undertaking regarding shifting &amp; reinstallation of</i>		

	<i>the system by a professional team to a permanent location if requested by the Indenter/Project (Principal Investigator)/Co-investigator/Faculty-in-Charge. Damage during the shifting, if any, of the equipment must be the liability of the OEM.</i>		
10.	<i>The OEM should certify that the CHNSO Analyzer Configuration and Control is a fully integrated system and all other components/accessories are fully compatible.</i>		
11.	<i>As mentioned in "Table 2: Other additional accessories and features (Optional)", the cost of annual "comprehensive maintenance contract (CMC)" <b>(except Workstation Unit/UPS Unit/Battery Unit/Balance)</b> should be provided separately for extension of warranty for additional 5 years, on year-wise basis (for 4<sup>th</sup> year, 5<sup>th</sup> year, 6<sup>th</sup> year, 7<sup>th</sup> year, and 8<sup>th</sup> year), which is beyond the normal 3 year warranty (1<sup>st</sup> year, 2<sup>nd</sup> year and 3<sup>rd</sup> year) period.</i>		
12.	<i>A guarantee should be given by OEM to supply all the parts, if required, for at least 10 years from the date of installation.</i>		
13.	<i>Certificate for Hardware specifications and calibration(s) for equipment should be supplied (as mentioned in Table 1) including any additional accessories/features required for operation of the equipment. The documentation on specifications, calibration procedure, and results obtained should be provided as a printed document. <b>Soft copy of these documents must also be provided in a CD/DVD/USB pendrive.</b></i>		
14.	<i>Certificate for Hardware specifications and calibration(s) for "optional components" of equipment should be supplied (as mentioned in Table 2) including any other accessories/features. The documentation on such specifications, calibration procedure, and results obtained should be provided as a printed document. <b>Soft copy of these documents must also be provided in a CD/DVD/USB pendrive.</b></i>		
15.	<i>Detailed Catalogue/Product Brochure/Manual/Data Sheet/OEM certified list with part number(s) of the all the quoted item(s) listed in Table 1 (and any other additional accessories/features) and 2. <b>Soft copy of these documents must be provided in a CD/DVD/USB pendrive.</b></i>		
16.	<i>Clientele List (within India and other countries)</i>		
17.	<i>Performance Letter from the Clients (within India and other countries).</i>		