



INDIAN INSTITUTE OF TECHNOLOGY MADRAS
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Prof. Pradeep T
Project Coordinator

Ref: CHY/TPRA/2019-20/008/SPLX
Dated: 10.01.2020

Limited Tender No: CHY/TPRA/2019-20/008/SPLX

Due Date: 30.01.2020, 5:00pm

Pre-Bid meeting: - Not required.

Bid opening meeting on Due Date: 31.01.2020, 4:00pm

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of **“QUANTITATIVE SPECTROPHOTOMETER FOR WATER QUALITY ANALYSIS”** conforming to the specifications given in (**Annexure-I**).

Terms and Conditions of Limited Tender

- 1. Preparation of Bids:** - The Limited tenders should be submitted under **Two bid system** (i.e.) Technical- and -Financial bid.
- 2. Delivery of the tender:** - The tender shall be sent to the below-mentioned addresses either by post or by courier (duly sealed and super scribed on the envelope with the reference No and due date) so as to reach the following address before the due date and time specified in our Schedule:
Prof. Pradeep T,
Department of Chemistry
IIT Madras
Chennai - 600 036.
- 3. Price:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to **Department of Chemistry**.
 - a. The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for concessional GST and relevant certificate will be issued.
 - b. In case of import supply, the price should be quoted without custom duty. IIT Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not exceeding 5%) and the price should be quoted on EX-WORKS and CIP (stating the Cost, Insurance, Freight separately) and indicating the mode of shipment.
- 4. Terms of Delivery:** - The item should be supplied to our Departments as per Purchase Order. In case of import supply, the item should be delivered at the cost of the supplier to our Institution. The Installation/Commissioning should be completed as specified in our important conditions.
- 5. Catalogue:** Original catalogue (not any photocopy) of the quoted model duly signed must accompany the quotation in the Technical-cum-financial bid
- 6. Late offer:** - The offers received after the due date and time will not be considered

7. **Payment:** - No Advance payment will be made for Indigenous purchase. However, 90% Payment against Delivery and 10% after installation are agreed to wherever the installation is involved. In case of import supplies the payment will be made only through 100% Letter of Credit i.e. (90% payment will be released against shipping documents and 10% after successful installation wherever the installation is being done).
8. **Advance Payment:** - No advance payment is generally admissible. In case of specific percentage of advance payment is required, the Foreign Vendor has to submit a Bank Guarantee equal to the amount of advance payment and it should be routed through the Beneficiary Bank to the end user Bank. Otherwise, the Indian Agent of the foreign vendor has to submit a Bank Guarantee through a Nationalized Bank of India.
9. **On-site Installation:** - The equipment or machinery has to be installed or commissioned by the successful bidder within number of days (as prescribed by PI's) from the date of receipt of the item at site of IIT Madras.
10. **Warranty/Guarantee:** - The offer should clearly specify the warranty or guarantee period for the machinery/equipment.
11. **Validity:** Validity of Quotation not less than 60 days from the due date of tender
12. **Technical Bid Opening:** The technical bid will be opened on **31.01.2020, 4:00pm** at the **Department of Chemistry**, IIT Madras and the **financial bids** of those tenders who are technically qualified will be opened at a **later date under intimation to them**.
13. **Performance Security:** -The successful bidder should submit Performance Security for an amount of 5% of the value of the contract/supply within 21 days from the issue of work/purchase order. The Performance Security should be furnished in the form of an Account Payee DD / FD Receipt from the commercial bank (or) Bank Guarantee from any nationalized bank in India.
14. **Accept /Reject:** IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.
15. **Settlement of Disputes:** Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Chennai in Tamil Nadu.
16. **Risk Purchase Clause:** - In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.
17. **Unsolicited offers:** "This notice is being published **for information only** and is not an open invitation to quote in this limited tender. Participation in this tender is by invitation only and is limited to the selected registered suppliers. Unsolicited offers are liable to be ignored. However, suppliers who desire to participate in such tenders in future may apply for registration as per procedure." The Website for Registration of vendors is <http://web.iitm.ac.in/supplier/> and the mail address for queries is "workflow@rt.iitm.ac.in".

Yours sincerely,

**Prof. Pradeep T,
Department of Chemistry
IIT Madras
Chennai - 600 036.**

**TECHNICAL SPECIFICATION FOR QUANTITATIVE SPECTROPHOTOMETER
FOR WATER QUALITY ANALYSIS**

Application	<p>a. Quantitative analysis of water samples using pre-programmed spectrophotometric methods.</p> <p>b. Programmable spectrophotometer for analytical measurements with liquid samples.</p> <p>c. Spectrophotometer should be compliant with the specifications mentioned by BIS/APHA/EPA methods for water quality analysis.</p>
Measuring technology	Spectrophotometer with reference beam technology
Operating Mode	Concentration, absorbance, transmission, multi wavelengths, spectra and kinetics in absorbance and transmission mode
Source Lamp	Xenon flash lamp
Wavelength Range	190 – 1,100 nm
Wavelength Accuracy	± 1 nm or better
Wavelength Reproducibility	± 0.1 nm or better
Wavelength Resolution	0.1 nm or better
Wavelength Selection	Automatic, based on method selection
Spectral Bandwidth	1.8 nm or lower
Photometric Measuring Range	± 3.3 Abs or more
Photometric Accuracy	<p>at 230 – 900 nm</p> <p>1 absorbance: ± 0.004 absorbance</p> <p>2 absorbance: ± 0.004 absorbance</p> <p>2.5 absorbance: ± 0.006 absorbance</p>
Scanning Speed	750 nm/min or better
Live ID barcode	Option for automatic barcode reading for cells and reagent kits
Ambient light protection	Possibility of measurements with open shaft
Display	Touch screen for operation and data readout
Data Logger	Should be able to store >1000 data points.
Preprogrammed Methods	Should have 200 or more preprogrammed methods
User Programs	Should be able to store 80 or more user programmed methods

Sample Cell Compatibility	<p>a. 10, 20, 50 and 100 mm rectangular cells with automatic recognition</p> <p>b. An option to use 16 mm round cells</p>
Operating Conditions	<p>a. Non-condensing upto 80% relative humidity</p> <p>b. 10 - 35°C or better</p>
Interfaces	USB and Ethernet with ports for Printer, USB memory devices, bar code reader, keyboard
Warranty	3 years comprehensive warranty after satisfactory installation and working including consumable parts and accessories.
Calibration certificates	<p>a. Certificates for the calibration of detectors and other necessary components should be supplied along with the equipment.</p> <p>b. Manufacturer and Supplier should have ISO certification for quality standards.</p> <p>c. Equipment should be FDA/CE/BIS approved product</p> <p>d. Equipment should fit into the requirements for NABL accreditation of the lab.</p>
Power supply	Indian power supply sockets.
Accessories	<p>a. Please quote for all the essential accessories to start work from the day of installation.</p> <p>b. Please exclude UPS and computer from the quotation. Minimum specifications of the required computer should be provided.</p> <p>d. Please quote for NIST traceable standards for the calibration of detectors. Quantity should be enough to do at least 10 calibrations.</p> <p>d. Please quote for the all-inclusive reagent kits with NIST traceable standards for the list of analyses/parameters as per the TABLE 1 (Please mention all the parameters as per the blank columns while quoting kits)</p> <p>e. Reagent kits and all the chemical components must have >12 months shelf life</p>
Installation and training	The supplier will have to carry out successful installation at the laboratory premises (wherever the system has to be installed) and provide on – site comprehensive training for a minimum of two scientific personnel operating the system and support services till customer satisfaction
Manuals	Soft copy and hard copy of the operation and service manuals for the instrument should be provided.
Operation and maintenance support	Supplier should provide support for five 2 days visits to program methods which are not a part of pre-programmed methods.

TABLE 1 *			
Sl. No.	Test	a. Cost for the pack of 500 tests including all the chemical kit components b. Please quote for NIST traceable standards enough for 25 or more calibrations.	Please mention the method followed by quoted test. Please mention the method number and source such as BIS/APHA/EPA/etc.
1	Colour		
2	Total alkalinity as calcium carbonate		
3	Total hardness (as CaCO ₃)		
4	Ammonia (as total ammonia-N)		
5	Free residual chlorine		
6	Chloride (as Cl)		
7	Nitrate (as NO ₃)		
8	Nitrite		
9	Sulphate (as SO ₄)		
10	Sulphide (as H ₂ S)		
11	Monochloramine		
12	Chloramines (as Cl ₂)		
13	Phenolic compounds (as C ₆ H ₅ OH)		
14	Polychlorinated biphenyls		
15	Cyanide (as CN)		
16	Anionic detergents (as MBAS)		
17	Soluble silica (as SiO ₂)		

* Within BIS/USEPA/WHO limits in drinking water