

 IIT PALAKKAD	भारतीय प्रौद्योगिकी संस्थान पालक्काड <b>Indian Institute of Technology Palakkad</b> अहलिआ एकीकृत कैम्पस, कोज़िहपारा Ahalia Integrated Campus, Kozhipara पालक्काड- 678557 Palakkad – 678 557	दूरभाषसंख्या/ Phone no: 04923 – 226300/ 590/ 586 ईमेल/ Email : purchase@iitpkd.ac.in
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Ref No: IITPKD/CIE/ATHI/096/2017

Date: 01.01.2018

Due Date of the tender: 15.01.2018 at 3.00 PM

**TENDER FOR INVITING QUOTATIONS**

Dear Sirs,

On Behalf of Indian Institute of Technology Palakkad quotations are invited for “**Environmental Engineering Laboratory Equipment – Phase I**” confirming to the specification in the Annexure.

1. **Preparation of Bids:** - The tenders should be submitted **under two-bid system** (i.e.) Technical bid and Financial bid. The technical bid should consist of all technical details along with commercial terms and conditions. No prices should be included in technical bid. Financial Bid should indicate item – wise prices for the items mentioned in the technical bid. The technical and the financial bids should be put in separate cover and sealed. Both sealed covers should be put into a bigger cover.
2. **Compliance sheet for the specification & OEM Brochure has to be attached along with Technical bid. Vendor has to fill the compliance sheet and mention page number or reference number in OEM brochure. Unfilled / partial filled sheets lead to disqualification.**
3. The Quotations duly sealed and superscribed on the envelope **with the reference No. and due date, should be addressed to the undersigned so as to reach him on or before the due date stipulated above. Fax and Email quotation are not acceptable.**
4. The price should be quoted per unit and packing and delivery charges should be indicated separately. The offer/bids should be exclusive of Taxes and Duties, which will be paid by the purchaser as applicable. However the percentage and of taxes and duties as on date should be clearly indicated.
5. The Quotations should be valid for **sixty days** from the due date and the period of delivery required should also be clearly indicated.
6. **Local Firms:** Quotations should be for free delivery to this Institute. If Quotations for Ex-Godown delivery charges should be indicated separately.
7. **Outside Palakkad:** Quotations should be for **F.O.R. at IIT Palakkad**. If F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If Ex-Godown, packing, forwarding and freight charges must be indicated.

8. Goods shall not be supplied without an official supply order.
9. **Custom Duty:** Custom Duty which will be paid at a concessional rate against duty exemption certificate.
10. **Payment:** Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later. No advance payment will be made. The Tenderer have to furnish the bank details along with tender like Account No, Account Name, IFSC Code, Bank address etc.
11. **Submission of Bids:** Quotation should be sent to the following address “**The Registrar, Indian Institute of Technology Palakkad, Ahalia Integrated Campus, Kozhipara, Palakkad -678 557, Kerala**”, Phone No: **04923 226 586/590**, Email: **[purchase@iitpkd.ac.in](mailto:purchase@iitpkd.ac.in)**.
12. **Delivery Period:** Delivery clause should be indicated clearly.
13. **Warranty:** Warranty terms and condition should be indicated.
14. **Delay in Supply or Liquidate damages:** If the supplier fails to deliver the stores within the time specified in the purchase order, the purchaser will recover from the supplier as liquidated damages a sum of one- half of one percent (0.5%) of the P.O value of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed five percent (5%) of the P.O price of the unit or units so delayed. Stores will be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delayed until such time as the missing parts are delivered.
15. **Late offer:** The quotation received after due date will not be considered. Please ensure that your offer is sent well in advance to reach the Institute by the due date.
16. **Loading and unloading charges will be borne by the supplier.**
17. **Acceptance and Rejection:** IIT Palakkad has the right to accept the whole or any parts of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

Yours faithfully,

Encl: Specifications

**Registrar, IIT Palakkad**

The bidder should fill the last two columns of this document, sign and submit along with the technical bid. Incomplete forms may be rejected.

† In this column, the bidder should provide confirmation whether they will be able to supply the items with the desired specifications by stating ‘YES’ or ‘NO’.

‡ In this column, the bidder should provide the page number and serial number from their catalogue, which shows the specification of the item.

EXPERIMENT	EQUIPMENT/APPARATUS	QUANTITY	SPECIFICATIONS/ REQUIREMENTS	CONFIRMATION BY BIDDER (YES/NO) †	PAGE NO. / SL. NO. ‡
<b>Determination of Turbidity</b>	Microprocessor Based Turbidity Meter	1	The equipment should be a microprocessor- based turbidity meter with LCD display		...../.....
			The equipment should be waterproof and dustproof		...../.....
			The equipment should have auto calibration facility with minimum 4 point calibration		...../.....
			Turbidity range: 0.01 to 1000 NTU with a resolution : 0.01 NTU		...../.....
			Accuracy: ±2% of reading or better (0 to 500 NTU)		...../.....
			Temperature range: 0 to 50 °C		...../.....

			The light source should be LED or better		...../.....
			Data logging facility is preferred for outdoor measurements.		...../.....
			The equipment should have a built-in rechargeable battery so that it can be used in the field also		...../.....
			The equipment should be provided along with all the necessary accessories required for turbidity measurements (cuvettes, primary standards, batteries, field carrying case etc.)		...../.....
			The system should also have a complete accessory case for outdoor use		...../.....
			The equipment should meet all the performance criteria prescribed by competent authorities (IES/ISO/NIST)		...../.....
<b>Determination of chemical oxygen demand</b>	Chemical Oxygen Demand Digester	1	A thermo-reactor for thermal digestion of samples up to 165°C		...../.....
			The system should have fixed and user-defined programs to set temperature and digestion time		...../..... ...../.....
			The system should have the capability to hold minimum 2 x 8 standard cuvette shafts		...../.....

			Reaction time setting: 20 min, 30 min, 60 min, 120 min (via fixed programs)		...../.....
			The system should have alarm and automatic shutdown facilities to indicate end of the digestion cycle.		...../.....
			It should have good temperature stability ( $\pm 1$ °C or better)		...../.....
			Temperature range: 37 to 165°C with a regulating accuracy of $\pm 1$ °C or better		...../.....
			All accessories including cuvettes, external temperature sensor, cracks for heavy metal digestion and nitrate degradation for total nitrogen analysis should be provided with the system.		...../.....
Determination of biological oxygen demand	Biological Oxygen Demand Incubator	1	Benchtop shaking incubator with PID control for temperature and speed adjustment		...../.....
			The system should have the facility to control temperature uniformly and precisely		...../.....
			Brushless induction motors are preferred for stable shaking movement for long-term operation		...../.....

			The vertical staking facility for multiple units is preferred to save the lab space		...../.....
			A system with minimum footprint is preferred		...../.....
			The provision for controlling humidity and CO2 is preferred		...../.....
			Digital display		...../.....
			LED Light source		...../.....
			Timer: 0 to 999		...../.....
			Shaking speed: $\leq 30$ to $\geq 300$ rpm		...../.....
			Speed accuracy: $\pm 2$ rpm		...../.....
			Shaking mode: orbital		...../.....
			Noise level: $\leq 70$ db		...../.....
			Capacity: 150 - 250 L		...../.....
			Temperature Range: 15 to 40 °C or better		...../.....
			Temperature accuracy: $\pm 0.1$ °C or better		...../.....
			Humidity: 40 to 90% RH		...../.....
			Humidity accuracy: $\pm 1\%$ RH		...../.....
			Photosynthetic lighting: LED (~400 nm to 700		...../.....

			nm)	
			Light intensity: 13,000 lux (50% Red; 50% Blue)	...../.....
<b>Determination of solids</b>	Muffle furnace	1	Temperature programmable Muffle Furnace for heating samples at elevated temperature as high as 1200 °C.	...../.....
			The system should be compact and bench-top type	...../.....
			The footprint should not be more than < 0.2 m <sup>2</sup>	...../.....
			The furnace should have robust safety features including door safety switch, over temperature protection, temperature alarm, and thermocouple break protection.	...../.....
			A port in chamber rear for monitoring temperatures with independent measuring devices is preferred.	...../.....
			The system should have the facility to control the heating rate and heat distribution in the chamber must be uniform	...../.....
			A display unit to show both set point and actual furnace temperatures in °C	...../.....
			The system should have temperature ramping facility to vary the heat-up rate and dwell cycles	...../.....

		Capacity : 3 to 4 L	...../.....
		Maximum Temperature: 1200 ° C	...../.....
		Temperature Accuracy: $\pm 2^{\circ}$ C or better	...../.....
		Temperature Control: Through microprocessor-based PID controller	...../.....
		Accessories including stainless Steel Tongs (15-20 Inch, 2 nos.) and furnace gloves (2 pairs) should be provided with the system	...../.....

**Technical Compliance:**

1. The bidder should submit the catalogue showing the technical specifications of all the equipment along with the technical bid. This will be used for verification of the technical bid. Please ensure that the specifications are basic essence of the product. It must be ensured that the offers must be strictly as per our specifications. At the same time it must be kept in mind that merely copying of our specifications in the quotation shall not make the parties eligible for consideration of the quotation. The quoted model should not become obsolete for a minimum period of 10 years (This is for the availability of spares). Therefore the model quoted should invariably be highlighted in the leaflet/literature enclosed with the quotation. Non-compliance of the above shall be treated as incomplete/ambiguous and the offer can be ignored without giving an opportunity for clarification/negotiation etc. to the bidder.

2. Performance Certification: The bidder should have supplied similar equipment to IITs, NITs, DRDO, or ISRO in the past two years (proof to be enclosed). The bidder should provide the details of such customers along with the technical bid. IIT Palakkad may get a feedback about the performance and after sales service of equipment before shortlisting the technical bid. Feedback may also be sought from the customers whose details are not furnished by the bidder. If required, the bidder should arrange for performance test of the installed equipment. The

bidder should furnish minimum 2 satisfactory Performance certificates obtained from the responsible officials of the concerned Educational Institution/Research Organization for whom similar job/ work/ system/ project was executed by the bidder along with technical bid.

3. The bidder should have an authorized service centre at Palakkad or nearby cities like Chennai and Bangalore. The details of the service provider should be provided along with the technical bid. In case of breakdown of the equipment, the bidder/authorized service provider of the bidder should have the capability to arrange for the required service within 24 hours.

4. The bidder must be an Original Equipment Manufacturer (OEM) or his Authorized Dealer/Authorized Distributor/ Authorized Stockist/ Channel Partner having a Direct Purchase and Support agreement with the OEM. In case, if the Bidder is a Dealer/Distributor, the bidder should provide a copy of valid LETTER OF AUTHORIZATION from the Original Equipment Manufacturer for Dealership.

5. The bidder should provide the requirements that have to be arranged in the institute for proper functioning of the equipment within two weeks after the release of purchase order.

6. The bidder should provide user/technical/maintenance manuals and certificate of calibration and inspection.

7. The bidder should provide a list of important spare parts and accessories with their part number and costing.

8. The successful bidder shall provide standard warranty along with extended warranty put together three years of warranty after the completion of installation and final acceptance including on-site. The warranty should also cover all the accessories.

9. The successful bidder should deliver the equipment within 4-5 weeks after the release of purchase order.

10. Training of End user: The successful bidder shall provide comprehensive training for operation and management of all the equipment installed.

11. The above mentioned basic eligibility conditions are broad guidelines for pre-qualification and the Registrar, IITPKD hereby reserves the right to relax / alter / modify / add, any or all the conditions.