

**Indian Institute of Information Technology,
Design and Manufacturing, Kurnool
Jagannathagattu, Dinnedeverapadu
Kurnool – 518007**



RE-Tender Document

For

Supply and Installation of Thermal Engineering Lab

Date: 23.07.2018

Item	:	Supply and Installation of Thermal Engineering Lab Setup (Specification and Quantity enclosed as Annexure)
Tender Enquiry No	:	IIITKL/18-19/S&P/Thermal Lab/012 Dt.23.07.2018
EMD	:	Earnest Money Deposit (EMD) for Rs.19,000/- (Rupees Nineteen Thousand Only) in the form of Demand Draft / Banker Cheque / Bank Guarantee drawn in favour of "IIITDM Kurnool" payable at Kurnool.
Submission of Offer	:	<u>Two Bid System:</u> Two bid system will be followed in this tender. In this system the bidder must submit his offer in two separate sealed envelopes . Both the technical bid and commercial bid envelopes should be securely sealed and stamped separately and clearly marked as " Envelope No: 1 – Technical Bid " and " Envelope No: 2 – Commercial Bid " respectively. EMD should be placed in the Technical Bid. This two separate sealed envelopes should be placed in single envelope super scribing the tender No and description of the item.
Place of Submission Bid	:	The Mentor Director Indian Institute of Information Technology, Design and Manufacturing Kurnool Jangannathagattu, Dinnedavarapadu, Kurnool 518007
Due Date (For submission of bids)	:	02:00 PM 06.08.2018 (any bid received after the due date and time by any means will be summarily rejected)
Opening of Technical Bid	:	03:00 PM, 06.08.2018
Delivery Period	:	On or before 24 August 2018

Important :

All communications are to be addressed to in the name of Mentor Director, IIITDM Kurnool only and not in the name of any officer and mails has to be sent to official purchase email id purchase@iiitk.ac.in

Terms and Conditions

1. The Bidders are requested to give detailed tender in two bid format.

Envelope-I	:	Technical Bid
Envelope-II	:	Commercial Bid

2. The bidder has to accept all terms and conditions of the Institute and conditional offers will not be accepted.

3. The tender document can be downloaded from the IIITDM Kurnool website www.iiitdmkl.ac.in at free of cost. The duly filled tenders should be submitted to The Mentor Director, Indian Institute of Information Technology, Design and Manufacturing, Kurnool, Jagannathagattu, Kurnool - 518007 **on or before due date 02.00 PM, 06.08.2018**. Extension of due date will not be entertained.

4. Tenders which are submitted without following the two bid offer system will summarily be rejected.

5. **Envelope No-1 : Technical Bid**
 - i) EMD for Rs.19,000/- (Rupees Nineteen Thousand Only) in the form of Demand Draft / Banker Cheque / Bank Guarantee drawn in favour of **"IIITDM Kurnool"** payable at **Kurnool**. (The EMD without interest shall be returned to the unsuccessful bidders after finalization of the tender).
 - ii) The firms registered and having valid NSIC Certificate are exempt from submission of EMD.
 - iii) The leaflet / catalogue of the product quoted.
 - iv) The copies of purchase orders received from Industry / Educational / Research Institution etc.
 - v) Bids should have a validity of **60 days**.
 - vi) The technical offer **should not contain any price information**.

6. **Envelope No-2 : Commercial Bid**

This should contain only the price information along with commercial terms and conditions.

7. **Opening of Technical Bids**

The technical bids will be opened on the scheduled date in the presence of the bidders or their authorized representatives who choose to attend the technical bid opening.

8. Technical Evaluation

- i) All the technical aspects of the bids received will be evaluated for suitability and specification. If required, the Institute may seek additional clarification from the bidders.
- ii) The technical recommendation shall be final and binding on all the parties.
- iii) The technically qualified firms will be intimated about Price Bid opening by email.

9. Opening of Commercial Bids

The Institute will open commercial bids of only the shortlisted bidders in technical evaluation in the presence of the bidders or their authorized representatives who choose to attend the commercial bid opening. The representatives of shortlisted firms only will be allowed for commercial bid opening.

10. Delivery Period / Timelines

The deliveries and installation must be completed **on or before 24 August 2018** from the date of purchase order. The time is the essence of the contract. It is mandatory for the bidders who respond to this bid to meet this expectation, as this is linked to student's admission.

11. Locations for the supply / services

The bidders may note that the items covered by this document is required to be supplied and installed at

**IIITDM Kurnool,
Jagannathagattu,
Near Pullareddy Engineering College
Dinnedevarapadu village,
Kurnool, Kurnool District
Andhra Pradesh-518002.**

12. Price

- i) **The price should be quoted in INR only. GST payable extra.**
- ii) **The price quoted shall be for supply, delivery and Installation at specified room of IIITDM KURNOOL, Kurnool District, Andhra Pradesh.**
- iii) The packing, forwarding, freight, insurance and commissioning charges, if any extra may be quoted separately in commercial bid.

13. Installation

- i) Bidder shall be responsible for installation as applicable and for after sales service during the warranty and thereafter.
- ii) Installation to be arranged by the supplier free of cost and the same is to be done within 07 days of the arrival of the item at site.

14. **Warranty / Support**

- i) The items supplied shall carry the warranty as per the requirement mentioned in the technical specification.
- ii) The defects, if any, during the guarantee / warranty period are to be rectified free of charge by arranging free replacement wherever necessary. This includes cost, insurance, freight, custom duty, octroi, local taxes if any and should be borne by the beneficiary or his agent.
- iii) The bidder should arrange for technical support during warranty period within 24 Hours of lodging of complaint

15. **Indemnity**

The vendor shall indemnify, protect and save IIITDM Kurnool against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc., or such other statutory infringements in respect of all the items supplied by them.

16. **Freight and Insurance**

The items to be supplied will be insured by the vendor at his cost against all risks of loss or damage from the date of shipment till such time it is delivered at IIITDM Kurnool, Kurnool District, Andhra Pradesh.

17. **Payment**

100% payment after delivery, and acceptance by IIITDM on submission of Bank Guarantee for an equivalent value of 5% of PO value valid till warranty period plus 2 months.

The bidders may note that **other modes of payment like advance payment and payment against delivery is not considered.**

18. **Penalty for delayed services / LD**

- i) As time is the essence of the contract, delivery period mentioned in the purchase order should be strictly adhered to. Otherwise the LD clause will be applied / enforced.
- ii) If the supplier fails to supply, and fix the item as per specifications mentioned in the order within the due date, the supplier is liable to pay liquidated damages of 1% of order value for delay of every week or or part thereof subject to a maximum of 10% beyond the due date. Such money will be deducted from any amount due or which may become due to the supplier.
- iii) IIITDM Kurnool reserves the right to cancel the order in case the delay is more than 04 weeks and the contractor is not eligible for any damage from the Institute and contractor will forfeit his claim for EMD.

19. Purchasers right to vary quantities at the time of award

IIITDM Kurnool reserves the right at the time of award of contract to increase or decrease the quantity of items specified in the schedule of requirements without any change in price or other terms and conditions.

20. Jurisdiction

The disputes, legal matters, court matters, if any, shall be subject to Courts in the district of Kurnool Jurisdiction only.

21. Force Majeure

- a) IIITDM Kurnool may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that the delay, in performance or other failure to perform its obligations under the contract, is the result of a force majeure.
- b) If the due date of submission of tender / Tender opening is declared a holiday for the Institute, the due date for submission of tender / Tender will be extended to same time on next working day.

22. Arbitration

All disputes of any kind arising out of supply, commissioning, acceptance, warranty maintenance etc., shall be referred by either party (IIITDM Kurnool or the bidder) after issuance of 30 days notice in writing to the other party clearly mentioning the nature of dispute and will be referred to the arbitrator to be nominated by The Mentor Director, IIITDM Kurnool. The Venue for arbitration shall be Kurnool, Andhra Pradesh, India.

23. Acceptance of the terms and conditions of tender document

The bidders has to accept all the terms and conditions of this tender document and it is made known that the bidders quoting for this tender had impliedly accepted the terms and conditions of this tender.

24. Interpretation of the clauses in the Tender Document

In case of any ambiguity / dispute in the interpretation of any of the clause in this tender document, interpretation of The Mentor Director, IIITDM Kurnool shall be final and binding on all parties. The IIITDM Kurnool reserves the right to accept the offer in full or in parts or reject the offer summarily or partly without assigning any reasons.

Mentor Director

Sd/-

**1. Specification of Setup for measurement of thermal conductivity of non-metallic materials
(Qty - 1 No.)**

This experimental should enable experiments to be performed on steady-state heat conduction in non-metallic materials such as polystyrene, PMMA, cork or plaster to measure thermal conductivity of these materials. The setup should have provision to place specimen sheets between a heater plate and a water-cooled plate with help a clamping device which ensures that the clamping pressure and thermal contact are reproducible.

Technical Specifications:

The experimental setup should have following features/ components

1. Should be a table top, standalone equipment.
2. Determination of the thermal conductivity of different materials.
3. Determination of the thermal resistance.
4. Thermal conductivity of several specimens connected in series (up to a thickness of 50mm).
5. Should contain a heater plate and water-cooled plate and clamping device.
6. Should be equipped with PID controllers to maintain hot and cold plate temperature.
7. Heat flux sensor to measure the amount of heat flux
8. Measurement range: 0 to 1500 or more W/m^2
9. Temperature measurement along the sample and cooling water circuit on cooling circuit:
Minimum 3 locations (inlet, outlet an middle of cooling plate)

on specimen surface: Minimum 2 locations

- A minimum of 6 samples of different materials such as Arma flex, grey cardboard, PMMA, polystyrene, PS, POM, cork, plaster etc should be supplied along with the setup. - Should have independent display and control unit.

Operation and maintenances manual provided along with the equipment.

2. Specification of Heat transfer through Pin-Fin (Qty - 1 No.)

Objectives: To study the temperature distribution along the length of the fin, to compare its performance under natural and forced convection conditions

Technical specifications:

1. A pin fin with heater at one end, heat flows along the rod by conduction and heat is lost along the rod by combined convection and radiation
2. Inter changeable fins of different materials and cross sections (square, circular, etc.)
3. At least four thermocouples mounted on the fin at equal intervals to measure temperature gradient
4. Provision for measuring ambient air temperature
5. Provision for controlling power supply to the heater

Should be self contained unit with all accessories

Operation and maintenances manual provided along with the equipment.

3. Specification of Heat Exchangers experimental setup (Qty - 1 No.)

This experimental unit should enable students to investigate and compare different heat exchanger designs and determine the mean heat transfer coefficient for different heat exchanger types. The complete experimental setup should consist two main elements: Hot and cold water supply and control unit and choice of heat exchanger: Tubular heat exchanger, plate heat exchanger, shell and tube heat exchanger and jacketed vessel with stirrer and coil. Water is used as the medium. The main supply and control unit should provide the required cold and hot water circuits. The supply unit should be equipped with a heated tank and pump for the hot water circuit, connections for the cold water circuit which can be taken from chiller unit and a switch cabinet with displays and controls. The unit should control the temperature of hot water through controller and the flow rate in the hot water and cold water circuit using adjustable valves.

Technical Specifications:

The experimental setup should have following features/ components

Should be a table top, standalone equipment

Should contain a supply unit for heat exchangers

Should be a table top, standalone equipment

Should contain a supply unit for heat exchangers

Hot water circuit with tank, heater, temperature controller, pump and protection against lack of water

Tank capacity : 10 or more Liters

Flow rate : 5 to 10 LPM or more with 0.1 LPM resolution

Should include cold water circuit with chiller, water tank and circulating pump

Tank capacity : 15 or more Liters

Flow rate : 5 to 10 LPM or more with 0.1 LPM resolution

At least four different types of heat exchangers should be supplied

Concentric Tube Heat Exchanger

Plate Heat Exchanger

Shell and Tube Heat Exchanger

Jacketed Vessel with Coil and Stirrer

Both parallel and counter flow heat exchange process should be possible by interchanging water connections.

Should be fitted with thermocouples in cold and hot water circuit

Temperature controllers to control the temperature of hot and cold water

Flow adjustable valves to control hot and cold water flow rate - System should have digital on board display for temperatures and flow rates

Water connections should have quick-release couplings

Operation and maintenance manual provided along with the equipment.