Indian Institute of Information Technology, Design and Manufacturing, Kurnool
Jagannathagattu, Dinidevarapadu, Kurnool.

Tender Document

For

Supply and Installation of Thermal Lab Equipment's

Date: 28 May 2019

Item	:	**Supply and Installation of Thermal Lab equipment's -8 No's (Specification Enclosed as Annexure A & B)**
Tender Enquiry No	:	**IIITKL/19-20/S&P/Thermal Lab Equipments/10 Dated 28.May.2019**
EMD	:	Earnest Money Deposit (EMD) for Rs.31,900/- (Rupees Thirty one Thousand Nine hundred Only) in the form of Demand Draft/Bankers Cheque/Bank guarantee drawn in favor of "**The Registrar ,"IIITD&M Kurnool" payable at Kurnool.**
Submission of Offer	:	**Two Bid System:** 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 Registrar I/c** Indian Institute of Information Technology, Design and Manufacturing Kurnool Jagnnathagattu, Dinnidevarapadu, Kurnool, Andhrapradesh-518007.
Due Date (For submission of bids)	:	**02.00 PM 21.06.2019** (any bid received after the due date and time by any means will be summarily rejected)
Opening of Technical Bid	:	**04:00 PM, 21.06.2019**
Delivery Period	:	04 weeks from the date of Purchase Order

Important :
All communications are to be addressed to in the name of Registrar, IIITD&M 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 Registrar, Indian Institute of Information Technology, Design and Manufacturing, Kurnool, Jagannathagattu, Dinnidevarapadu, Kurnool-518007 **on or before 21.06.2019(02.00 PM).** 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. **Eligibility Criteria:**

   I. The tenderers / Bidders should have experience in supply of similar item with one work value of Rs. 12,76,000/ (excluding taxes) or above (or) Two works value of RS.9,57,000/-(excluding taxes) or above executed on or after 1st January 2017 with reputed organizations ,educational institutions,etc.

6. **Envelope No-1 : Technical Bid**

   i) EMD for Rs. 31,900 /- (Rupees Thirty one thousand Nine hundred only) in the form of Demand Draft/ Bankers Cheque /Bank guarantee drawn in favor of "**The Registrar**, **IIITD&M 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 / MSME 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 **90 days.**

   vi) The technical offer **should not contain any price information**.

   vii) The tenders not meeting the eligibility criteria will be similarly rejected. Hence the tenderers are advised to attach relevant documents in support of their eligibility

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

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

8. **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.

9. **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.

10. **Opening of Commercial Bids**

IIITD&M Kurnool 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.

11. **Delivery Period / Timelines**

The deliveries and installation must be completed **within 04 weeks** 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.

12. **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 - 518007.

13. **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, and Andhra Pradesh**.
iii) The packing, forwarding, freight, insurance and commissioning charges, if any extra may be quoted separately in commercial bid.

14. **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 15 days of the arrival of the item at site.

15. **Warranty / Support**

i) The items supplied shall carry a minimum of Two year warranty from the date of acceptance of item.

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

16. **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.

17. **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, and Andhra Pradesh.

18. **Payment**

100% payment after delivery, and acceptance by IIITDM on submission of Bank Guarantee for an equivalent value of 10% 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**.

19. **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) IIITD&M 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.

20. **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.

21. **Jurisdiction**

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

22. **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.

23. **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 Registrar, IIITDM Kurnool. The Venue for arbitration shall be Chennai / Hyderabad, India.

24. **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.

25. **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 Registrar, IIITD&M Kurnool shall be final and binding on all parties. The IIITD&M Kurnool reserves the right to accept the offer in full or in parts or reject the offer summarily or partly without assigning any reasons.

कुलसचिव **/ Registrar I/c**
IIITD&M KURNOOL

Technical Specification

Annexure-A

Sl.No	Description of Material	Quantity
1.	**Sectional model of light weight SI Engine (4-Stroke)** It should be table top setup sectional cut provided on Cylinder head and walls without disturbing Valves and rings. The setup should consist all the parts from Carburetor to Fly wheel including Valves &cams which are used to run an IC Engine. It should be light in weight and sectional cut should be done which makes all the components of engine visible**.**	**1 No**
2.	**Sectional model of CI Engine:** A table top setup of light weight cross sectional view of Diesel Engine for demonstration purpose. Setup should consist of all the parts sectional view from fuel pump to Flywheel including Valves & cams.	**1 No**
3.	**Wankel Engine model:** The model should demonstrate the principle operation and cut way to show the internal constructional details.	**1 No**

Annexure-B

Technical Specification

Sl.No	Description of Material	Quantity
4.	**Bomb Calorimeter** It should be a table top setup, made up of stainless steel material and silver in color. It should be a Microprocessor based and Beckmann Thermometer (High Precision) with a least count of 0.001^0C should be used. Selectable type of test. **Technical Specifications:** Least count 0.001^0C Accuracy $\pm0.01^0$C Range 500 – 100000 kJ/Kg Power Consumption 220V(1 phase) AC **Salient Features:** 1.Automatic Measurement & Calculation of Calorific value/Water Equivalent 2.Big Jumbo LCD 20x4 display (Blue Color) 3..PC Software for Data Record 4.16 soft touch keypad 5. It should be Weight of mass feed able, Water Equivalent value feed able & Final Test report printout with Date & Time. 6.Alarm on Firing & Final reading, Fuse wire Open detection & LED indication 7.Real Time Clock 8.Internal Data Logger with Computer Interface 9.Push-n-Fit type Gas filling System	**1 No**
5.	**Exhaust Gas Analyzer:** **Product Details:** Conforms to ISO 3930 NDIR technology Engine RPM measurement facility 7 Segment LED display Automatic condensate discharge Automatic zero calibration Digital span calibration RS232C serial port for PC interface NOx measurement (Optional) Engine oil temperature measurement (Optional) Portable light weight design	**1 No**

DC operation suitable for “Road tests” using vehicle battery
Display of Lambda / AFR / PEF
Petrol / CNG / LPG selection
Indication for Low / High flow
Indication for battery Low / High voltage
Electronic leak check facility
Gas scrubber for cleaning of impure particles
HC residue test

Technical Specifications:

Measurement parameters	Range	Resolution
CO (Carbon Monoxide)	0 – 15%	0.01%
CO2 (Carbon Dioxide)	0 – 19.9%	0.01%
HC(Hydro Carbon)	0 - 20000 PPM	1 PPM
O2 (Oxygen)	0 – 25%	0.01%
NOx (Oxides of Nitrogen)	0 - 5000 PPM	1 PPM
AFR	0 - 30%	0 - 30%
Lambda	0.20 to 2.00	0.001
Engine RPM (Battery based)	400 to 9990 RPM	10 RPM
Engine Oil temperature	0 – 150°C	1°C

Annexure-c

Technical Specification

Sl.No	Description of Material	Quantity
6.	**Renewable Energy Setup:** **Product Description:** Solar/photovoltaic, wind hydrogen Generation and fuel cell) With Conventional power systems (battery bank and grid power, 230 v) the lab is integrated in a rack(except Solar panels and wind turbine)and comprises of the following components Solar panels(photovoltaics):1200 wp or more, Wind generator(turbine):400 wp or more, Fuel cell power module(air cooled, 1200 wp or more Battery bank: 55 Ah or more, (Electrolyser (hydrogen generator(liters/hour(optional 60) Metal hydride canisters: 1500 liters or more Hydrogen storage capacity Central energy management, Module Controller with monitor and Educational software Solar radiation and wind sensors Electronic load 1.5 kw or more.	**1 No**

Annexure-D

Technical Specification

<table>
<tr><th>Sl.No</th><th>Description of Material</th><th>Quantity</th></tr>
<tr><td>7.</td><td>
Solar PV Trainer kit:

Product Description:

Should be a standalone equipment and enable student to understand in detail concepts in PV systems and should have a research scope.

Experiments can be conducted indoor (using artificial source) as well as outdoor (Real time).

Intensity of radiation can be controlled, various types of PV modules can be used for experimentations, Manual tracking of PV modules should be provided.

Should also provide with cooling mechanism to control PV module temperature, Manual & Automatic control of DC-DC converter and MPPT algorithm testing, Suitable Measuring devices, Manual & Automatic control of inverter, PC interfacing for data logging and plotting.

The setup should have following technical specifications
<table>
<tr><th>Component</th><th>Description</th></tr>
<tr><td>Power Generating Unit</td><td>Solar Module
No. of Modules : 2
Type :Polycrystalline/ amorphous silicon cell
Total Power rating>80Wp</td></tr>
<tr><td>Artificial source of radiation</td><td>Halogen Light with regulator
Total power rating< 1800W</td></tr>
<tr><td>Power Conditioning Unit (PCU)</td><td>DC-DC Converter- Auto & Manual mode
Power rating25W
Nominal system voltage 12V
Maximum Load Current 2Amps
Type Buckling type
Inverter- Auto &Manual mode
Power rating 50W
Output Voltage Variable</td></tr>
</table>
</td><td>1 No</td></tr>
</table>

	Control & Measuring Units	Temperature measurement with sensors and meters DC voltmeter AC voltmeter DC ammeter AC ammeter **Battery bank (2 batteries)** Capacity 4.5 Ah/12V **Loads** AC & DC	
	Data Logger and Plotter	Voltage Range 0-200 V Current Range 0-2 A	
	Accessories	**Radiation Measurement meter** Range 0-1999(W/m^2) **Battery Charger** – 12V **Module cooling system**	

Annexure-E

Technical Specification

<table>
<tr><th>Sl.No</th><th>Description of Material</th><th>Quantity</th></tr>
<tr><td>8.</td><td>Wind Energy Training System:

Product Description:
should be standalone setup and system should give the insight about individual components and consequences of changing the operating points of any wind turbine defined in terms of wind speed and pitch angle.
Wind speed can be controlled externally
Turbine can be replaced
System can be expanded to develop a hybrid system
Performance can be evaluated from low wind speed to high wind speed

Technical Specifications:

<table>
<tr><th>Component</th><th>Description</th></tr>
<tr><td>Generating Unit</td><td>Generator
Type : PMSG(3 phase)
Power Rating : 300 W
Rotor
No. of Blades : 3 or 5
Swept Area: 1.5 m^2 Approx.
Performance
Rated wind speed : 10-25 m/s
Power Generation @ rated speed 0.3-0.5 kW
Cut-in & Cut-out Speeds: 3.5 & 25 m/s
Blade material: Carbon Fiber</td></tr>
<tr><td>Artificial Wind Generating Unit</td><td>Induction motor : 15-20HP
Generated wind speed : 0-25m/s</td></tr>
<tr><td>Control Unit</td><td>Battery Capacity: 42 Ah/12 V
Inverter
Rated Power :650VA
Input Voltage :10-15 V
Charge Controller
Rated Power : 400W
Rated load Voltage : 12V
DC & AC Voltmeters & Ammeters
Power analyzers
Current rating : 18A
Tachometer photo pickup sensor
Anemometer</td></tr>
</table>
</td><td>1 No</td></tr>
</table>
