

**Indian Institute of Information Technology,  
Design and Manufacturing, Kurnool  
(IIITDM Kancheepuram Campus)  
Chennai – 600 127**

**Tender Document**

**For**

**Supply and Installation of  
Sensing and Instrumentation Lab Equipment**

<b>Item</b>	:	<b>Supply and Installation of Sensing and Instrumentation Lab Equipment (Specification and Quantity enclosed as Annexure)</b>
<b>Tender Enquiry No</b>	:	<b>IIITKL/18-19/S&amp;P/Sensing Lab Eqpt./007 Dt.09.04.2018</b>
<b>EMD</b>	:	Earnest Money Deposit (EMD) for Rs.5,000/- (Rupees Five Thousand Only) in the form of Demand Draft drawn in favour of <b>"IIIT Kurnool"</b> payable at Chennai.
<b>Submission of Offer</b>	:	<b><u>Two Bid System:</u></b> Two bid system will be followed in this tender. In this system the bidder must submit his offer in <b>two separate sealed envelopes</b> . Both the technical bid and commercial bid envelopes should be securely sealed and stamped separately and clearly marked as <b>"Envelope No: 1 – Technical Bid"</b> and <b>"Envelope No: 2 – Commercial Bid"</b> respectively. <b>EMD should be placed in the Technical Bid. This two separate sealed envelopes should be placed in single envelope superscribing the tender No and description of the item.</b>
<b>Place of Submission Bid</b>	:	The Mentor Director Indian Institute of Information Technology, Design and Manufacturing Kurnool IIITDM Kancheepuram campus Off Vandalur – Kelambakkam Road, Melakkottaiyur, Chennai – 600 127.
<b>Due Date (For submission of bids)</b>	:	<b>02.00 PM 08.05.2018</b> (any bid received after the due date and time by any means will be summarily rejected)
<b>Opening of Technical Bid</b>	:	<b>03:30 PM, 08.05.2018</b>
<b>Delivery Period</b>	:	06 weeks from the date of Purchase Order

**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](mailto:purchase@iiitk.ac.in)

## Terms and Conditions

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

<b>Envelope-I</b>	<b>:</b>	<b>Technical Bid</b>
<b>Envelope-II</b>	<b>:</b>	<b>Commercial Bid</b>
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](http://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, IIITDM Kancheepuram Campus, Off Vandalur – Kelambakkam Road, Melakkottaiyur, Chennai – 600 127 **on or before due date 02.00 PM, 08.05.2018.** 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.5,000/- (Rupees Five Thousand only) in the form of Demand Draft drawn in favour of **“IIIT Kurnool” payable at Chennai.** (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 **within 06 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.

## 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  
Dinnedavarapadu village,  
Kurnool, Kurnool District  
Andhra Pradesh.**

The Institute will not provide any accommodation / transportation for the engineers / representatives for attending installation, commissioning and demonstration work. It is the absolute responsibility of the principal supplier / agent to make their own arrangements.

## 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 15 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, installation 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 Chennai / Hyderabad, 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.

Sd/-  
Mentor Director

<b>SENSING AND INSTRUMENTATION LAB EQUIPMENTS</b>			
<b>SL. NO</b>	<b>NAME OF THE TRAINER / MODULE</b>	<b>SPECIFICATIONS</b>	<b>QTY</b>
1	LOAD CELL TRAINER MODULE	<ul style="list-style-type: none"> <li>➤ Strain gauge based load cell sensor of 5Kg capacity</li> <li>➤ A pan provision for placing the standard weights</li> <li>➤ Signal conditioner for load cell (output 0-5V)</li> <li>➤ Built in Instrumentation power supply</li> <li>➤ Offset variable provision.</li> <li>➤ 3½ digit digital indicator to display the applied load.</li> <li>➤ Mounted in a elegant powder coated cabinet with mimic diagram</li> </ul>	1 No.
2	THERMOCOUPLE MODULE	<ul style="list-style-type: none"> <li>➤ One 'J' type Thermocouple as a temperature sensor</li> <li>➤ One AD590 sensor for cold junction compensation</li> <li>➤ Signal conditioner for 'J' type thermocouple output: 0-5V</li> <li>➤ Built in Instrumentation power supply</li> <li>➤ 3½ digit digital indicator to display the temperature.</li> <li>➤ Water bath as heat source</li> <li>➤ Offset variable provision</li> <li>➤ Thermometer provided to monitor the temperature</li> <li>➤ Mounted in a elegant powder coated cabinet</li> <li>➤ Logical diagram in the panel</li> <li>➤ Detailed documentation</li> </ul>	1 No.
3	RTD MODULE	<ul style="list-style-type: none"> <li>➤ PT100 type RTD as a Temperature sensor</li> <li>➤ 3 Wire configurations</li> <li>➤ Signal conditioner for RTD output 0-5V</li> <li>➤ Built-in Instrumentation power supply</li> <li>➤ A 3½ Digit Digital Indicator to display the temperature</li> <li>➤ Water bath as heat source.</li> <li>➤ Thermometer provided to monitor the actual temperature</li> <li>➤ Mounted in a closed cabinet.</li> <li>➤ Detailed Documentation.</li> </ul>	1 No.
4	THERMISTOR MODULE	<ul style="list-style-type: none"> <li>➤ One negative temperature co-efficient type thermistor sensor as a temperature sensor.</li> <li>➤ Signal conditioner for Thermistor Transducer: output 0-5V</li> <li>➤ Built in Instrumentation Power supply</li> <li>➤ A 3½ Digit Digital indicator for voltage display</li> <li>➤ Offset variable provision</li> <li>➤ Water bath as heat source.</li> <li>➤ Thermometer provided to monitor the actual temperature.</li> <li>➤ Mounted in an elegant cabinet.</li> </ul>	1 No.

5	DISPLACEMENT MEASUREMENT TRAINER USING LVDT	<ul style="list-style-type: none"> <li>➤ LVDT sensor with Micrometer (Range: 0-25mm)</li> <li>➤ Signal Conditioner for LVDT</li> <li>➤ Displacement calibrated Range for +10mm</li> <li>➤ Output voltage: 0-5V</li> <li>➤ Built in Instrumentation Power Supply</li> <li>➤ A 3½ Digit digital indicator to display the Displacement</li> <li>➤ Mounted in a elegant powder coated cabinet.</li> <li>➤ Logical diagram in the panel</li> <li>➤ Detailed documentation</li> </ul>	1 No.
6	TORQUE MEASUREMENT TRAINER	<ul style="list-style-type: none"> <li>➤ Reaction type torque transducer of Range 1Kg. with fulcrum arm.</li> <li>➤ Signal conditioner</li> <li>➤ Slotted weights with pan provision to applied the load in steps of 100 gms.</li> <li>➤ A mechanical holder provided to hold the sensor with the table rigidly</li> <li>➤ A 3½ digit digital indicator to display the torque</li> <li>➤ Built-in Instrumentation power supply</li> <li>➤ Offset and gain variable provision.</li> <li>➤ Mounted in a sleek Cabinet.</li> <li>➤ Detailed documentation</li> </ul>	1 No.
7	ANGULAR DISPLACEMENT MODULE	<ul style="list-style-type: none"> <li>➤ One angular displacement transducer (Resistive Type)</li> <li>➤ 0-360° protector.</li> <li>➤ Signal conditioner for Angular displacement transducer</li> <li>➤ A 3½ digit digital display to indicate the angle position of the transducer from (0-300)</li> <li>➤ Test points are provided to measure the output of the signal conditioner</li> <li>➤ Built in instrumentation power supply</li> <li>➤ All are mounted in a fine fiber cabinet</li> <li>➤ Detailed Documentation</li> </ul>	1 No.
8	PRESSURE MEASUREMENT TRAINER MODULE	<ul style="list-style-type: none"> <li>➤ One metal pressure tank fitted with strain gauge type pressure cell(0-100)</li> <li>➤ A needle valve fitted in a pressure tank to release the pressure.</li> <li>➤ Bourdon type pressure gauge provided in the tank to indicate pressure.</li> <li>➤ One manually operated foot pump to generate a pressure of the tank.</li> <li>➤ Signal conditioner for pressure cell (output 0-5V)</li> <li>➤ Offset and gain variable provision.</li> <li>➤ A 3½ digit digital display indicator to indicate the pressure inside the tank</li> </ul>	1 No.
9	STRAIN MEASUREMENT TRAINER MODULE	<ul style="list-style-type: none"> <li>➤ Cantilever beam of maximum weight upto 1Kg.</li> <li>➤ A pan with slotted weights to vary the strain.</li> <li>➤ Built in Instrumentation power supply</li> <li>➤ Signal conditioning card for the strain gauge</li> <li>➤ 3½ Digit Digital display for displaying the strain</li> <li>➤ Offset and gain variable provision</li> <li>➤ Logical diagram with panel.</li> <li>➤ Mounted in sleek cabinet</li> </ul>	1 No.



10	INDUCTIVE PICKUP MODULE	<ul style="list-style-type: none"> <li>➤ A variable inductor with movable core</li> <li>➤ A 15cm metal scale fixed in base to measure displacement of the core physically.</li> <li>➤ Signal conditioner for inductor (output 0-5V)</li> <li>➤ Built in Instrumentation Power Supply</li> <li>➤ A 3½ digit digital indicator to display the signal conditioner output voltage</li> <li>➤ Test points are provided with suitable connectors</li> <li>➤ A 15cm length ferrite core provided to vary the inductance value</li> <li>➤ 1 KHz sinusoidal excitation source for bridge supply.</li> <li>➤ Logical diagram in the panel</li> <li>➤ Miniature connectors are provided to interface with Microprocessor or PC</li> <li>➤ All the components are mounted in the closed powder coated cabinet</li> </ul>	1 No.
11	LDR/ PHOTODIODE/ PHOTO TRANSISTOR TRAINER	<ul style="list-style-type: none"> <li>➤ High quality photodiode</li> <li>➤ LDR and Phototransistor</li> <li>➤ Mounted in a desk top powder coated metallic cabinet to carry out the characteristics.</li> <li>➤ 5 volt/12 volt DC Lamp fitted in a tubular frame</li> <li>➤ A 15 cm scale to indicate the distance between the light source and the sensor under test</li> <li>➤ All the sensors are mounted in a single tubular frame with adjustable knob provision to vary</li> <li>➤ The distance between light and sensor.</li> <li>➤ A miniature connector provided to interface the digital meters</li> <li>➤ Built in Instrumentation power supply</li> </ul>	1 No.
12	HALL EFFECT TRANSDUCER	<p><b>VOLTAGE MEASUREMENT:</b></p> <ul style="list-style-type: none"> <li>➤ Hall Effect Voltage Sensor of Range (0-230) V AC provided.</li> <li>➤ Signal Conditioner for above sensor.</li> <li>➤ Output Voltage Range: (0-5V)</li> <li>➤ One Analog meter provided to indicate the input voltage.</li> <li>➤ Auto Transformer provided to vary the input Voltage</li> </ul> <p><b>CURRENT MEASUREMENT:</b></p> <ul style="list-style-type: none"> <li>➤ Hall Effect Voltage Sensor of Range (0-5) Amps.</li> <li>➤ Signal Conditioner for above sensor.</li> <li>➤ Output Voltage Range: (0-5V)</li> <li>➤ One Analog meter provided to indicate the input current.</li> <li>➤ Built-in Power Supply.</li> <li>➤ 3½ digit digital indicator to display the signal conditioner output voltage.</li> <li>➤ Source for varying input voltage and current of each transducer.</li> <li>➤ All are mounted in closed metal cabinet.</li> </ul>	1 No.
13	HUMIDITY & TEMPERATURE MEASUREMENT TRAINER MODULE	<ul style="list-style-type: none"> <li>➤ One Humidity sensor of Output (0-1) V.</li> <li>➤ In-built temperature Compensation.</li> <li>➤ Signal conditioner for Humidity sensor. Output (0-5) V DC.</li> <li>➤ Regulated power supply.</li> </ul>	1 No.

		<ul style="list-style-type: none"> <li>➤ 3½ digit indicator to display the humidity and also temperature.</li> <li>➤ Powder coated frame with logical diagram.</li> <li>➤ Detailed Documentation.</li> </ul>	
14	PIEZO-ELECTRIC/ VIBRATION/ACCELERATION TRANSDUCER TRAINER	<ul style="list-style-type: none"> <li>➤ Vibration/ acceleration sensor of Piezo electric type mounted in the base plate to sense the vibration of the material.</li> <li>➤ An excitation source of 4KHz and peak to peak voltage of 2V for vibration sensor.</li> <li>➤ Precision Rectifier circuit for above sensor.</li> <li>➤ Signal Conditioner of (0-10)VDC</li> <li>➤ IC regulated power supply</li> <li>➤ 3½ digit digital indicator to display the voltage.</li> <li>➤ Provision to interface with µp (or)PC</li> <li>➤ Logical diagram in the panel</li> <li>➤ Mounted in a powder coated closed cabinet.</li> </ul> <p><b>Vibrator Exciter</b></p> <ul style="list-style-type: none"> <li>➤ One mechanical setup</li> <li>➤ One vibration motor to vibrate the mechanical setup</li> </ul> <p>I/P : 230V AC/50 Hz Power : Max: 0.5 HP</p> <ul style="list-style-type: none"> <li>➤ One Auto transformer is to vary the input voltage for meter</li> </ul>	1 No.

**Important Note:**

- The quotation should consist of all photograph of equipment for each experimental setup and labeling should be done all signals.
- It also contains photograph of list of equipment and accessories to be supplied.
- The successful demonstration of all equipment should be given after supply and equipment specifications should as per given tender documents.
- The unsuccessful demonstration of experiment as well as supply of equipment with lower specification may lead to cancellation of the order.
- **Warranty:** One year from the date of successful demonstration of experimental setup
- **Installation:** Free of cost