

	<b>INDIAN INSTITUTE OF TECHNOLOGY MADRAS</b> <b>Chennai 600 036</b>  Telephone: (044) 2257 4691 E-mail: gmoorthy@iitm.ac.in	
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Prof R Gnanamoorthy  
Project Coordinator

Ref: MEE/GNAN/2019/002  
Dated: 20.09.2019

Limited Tender No: MEE/GNAN/2019/002

**Due Date: 09.10.2019, 4:00pm**

**Technical Bid opening meeting on Due Date: 09.10.2019, 4:30pm**

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of “**Test Unit for Evaluating Network Structures**” conforming to the specifications given in **(Annexure-I)**:

**Instructions to the Bidder**

- I. **Preparation of Bids:** - The Limited tenders should be submitted under two-bid system (i.e.) Technical bid and Financial bid.
- II. **Delivery of the tender:** - The tender shall be sent to the below-mentioned addresses either by post or by courier so as to reach the following address before the due date and time specified in our Schedule:  
**Prof R Gnanamoorthy**  
**Department of Mechanical Engineering**  
**IIT Madras**  
**Chennai - 600 036**
- III. **Opening of the tender:** - The offer/Bids will be opened by a committee duly constituted for this purpose. The technical bids will be opened first and it will be examined by a technical committee which will decide the suitability of the bid as per our specifications and requirements. The bidders will be invited for opening of Technical bids. In respect of opening of financial bid, those bidders who are technically qualified only will be called for.
- IV. **Prices:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to **Department of Mechanical Engineering**.

The offer/bid should be exclusive of taxes and duties, which will be paid by the purchaser as applicable. However the percentage of tax & duties should be clearly indicated. The price should be quoted without custom duty and excise duty, since I.I.T. Madras is exempt from payment of excise duty, and the custom duty will be paid at concessional rate against duty

exemption certificate. In case of import supply, the price should be quoted on EX-WORKS and CIP basis indicating the mode of shipment.

- V. **Agency Commission:** - Agency commission, if any, will be paid to the Indian agents in Rupees on receipt of the equipment and after satisfactory installation. Agency Commission will not be paid in foreign currency under any circumstances. The tenderer should indicate the percentage of agency commission to be paid to the Indian agent. The foreign Principal should indicate about the percentage of payment and it should be included in the originally quoted basic price, if any.
- VI. **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.
- VII. **Technical Bid Opening:** The technical bid will be opened on **09.10.2019; 4:30pm** at the Department of Mechanical Engineering, IIT Madras and the financial bids of those tenders who are technically qualified will be opened at a later date under intimation to them.
- VIII. IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.

Yours sincerely,

**Prof R Gnanamoorthy**  
**Department of Mechanical Engineering**  
**IIT Madras**  
**Chennai - 600 036**

## SCHEDULE

### Important Conditions of the tender

1. The due date for the submission of the tender is **09.10.2019, 4:00pm**.  
The offers / bids should be submitted in two bids systems (i.e.) Technical bid and financial bid. The Technical bid should consist of all technical details / specifications only. The Financial bid should indicate item-wise price for each item and it should contain all Commercial Terms and Conditions including Taxes, transportation, packing & forwarding, installation, guarantee, payment terms, pricing terms etc. The Technical bid and financial bid should be put in separate covers and sealed. Both the sealed covers should be put in a bigger cover. The Limited Tender for supply of **“Test Unit for Evaluating Network Structures”** should be written on the left side of the Outer bigger cover and sealed.
  
2. **Indian Agent:** If an Indian agent is involved, the following documents must be enclosed:  
Foreign principal's proforma invoice indicating the commission payable to the Indian Agent and nature of after-sales service to be rendered by the Indian Agent.
  - ✓ Copy of the agency agreement with the foreign principal and the precise relationship between them and their mutual interest in the business.
  
3. The offer/bids should be sent only for a machine that is available in the market and supplied to a number of customers. A list of customers in India and abroad with details must accompany the quotations. Quotations for a prototype machine will not be accepted.
  
4. Original catalogue (not any photocopy) of the quoted model duly signed by the principals must accompany the quotation in the Technical bid. No prices should ever be included in the Technical bid.
  
5. Compliance or Confirmation report with reference to the specifications and other terms & conditions should also be obtained from the principal.
  
6. **Validity:** Validity of Quotation not less than 60 days from the due date of tender.
  
7. **Delivery Schedule:** - The tenderer should indicate clearly the time required for delivery of the item. In case there is any deviation in the delivery schedule, liquidated damages clause will be enforced or penalty for the delayed supply period will be levied.
  
8. **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.

9. **Payment:** -

- I. No Advance payment will be made for Indigenous purchase. However 90% Payment against Delivery and 10% after installation, commissioning and training. 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).
- II. **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.

10. **On-site Installation:** - The equipment or machinery has to be installed or commissioned by the successful bidder within 30 to 45 days from the date of receipt of the item at site of IIT Madras.

11. **Warranty/Guarantee:** - The offer should clearly specify the warranty or guarantee period for the machinery/equipment. Any extended warranty offered for the same has to be mentioned separately. (For more details please refer our Technical Specifications).

12. **Late offer:** - The offers received after the due date and time will not be considered. The Institute shall not be responsible for the late receipt of Tender on account of Postal, Courier or any other delay.

13. **Acceptance and Rejection:** - I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

14. **Do not quote the optional items or additional items unless otherwise mentioned in the Tender documents / Specifications.**

**15. Disputes and Jurisdiction: -**

- a. **Settlement of Disputes:** Any dispute, controversy or claim arising out of or in connection with this PO including any question regarding its existence, validity, breach or termination, shall in the first instance be attempted to be resolved amicably by both the Parties. If attempts for such amicable resolution fails or no decision is reached within 30 days whichever is earlier, then such disputes shall be settled by arbitration in accordance with the Arbitration and Conciliation Act, 1996. Unless the Parties agree on a sole arbitrator, within 30 days from the receipt of a written request by one Party from the other Party to so agree, the arbitral panel shall comprise of three arbitrators. In that event, the supplier will nominate one arbitrator and the Project Coordinator of IITM shall nominate one arbitrator. The Dean IC&SR will nominate the Presiding Arbitrator of the arbitral tribunal. The arbitration proceedings shall be carried out in English language. The cost of arbitration and fees of the arbitrator(s) shall be shared equally by the Parties. The seat of arbitration shall be at IC&SR IIT Madras, Chennai.
- b. **The Applicable Law:** This Purchase Order shall be construed, interpreted and governed by the Laws of India, Court at Chennai shall have exclusive jurisdiction subject to the arbitration clause.
- c. 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. All Amendments, time extension, clarifications etc., will be uploaded on the website only and will not be published in newspapers. Bidders should regularly visit the above website to keep themselves updated. No extension in the bid due date/ time shall be considered on account of delay in receipt of any document by mail.

**Acknowledgement:** - It is hereby acknowledged that the tenderer has gone through all the conditions mentioned above and agrees to abide by them.

**SIGNATURE OF TENDERER  
ALONG WITH SEAL OF THE COMPANY WITH DATE**

## A. Item Required: Test Unit for Evaluating Network Structures No.1

Sl No	Item	Qty
1	<p><b>Test Unit Frame and Drive Specification</b></p> <ul style="list-style-type: none"> <li>• Dual Column Table Top Model Max Frame Capacity 10kN</li> <li>• Frame Rigidity Not less than 40kN/mm</li> <li>• AC Servomotor Drive</li> <li>• Having Anti Backlash Ball Screws</li> <li>• Force and Strain Control Function with auto gain setting – real time Compatible to ISO 6892-2009 or ASTM equivalent</li> <li>• Capability to Use Load Cell upto 1 N</li> <li>• Cross head speed range min 0.005 to 1000 mm / min at all loads</li> <li>• Maximum Speed at maximum Load capacity 1000 mm/min</li> <li>• Return Speed 1200 mm/min or better</li> <li>• <u>Capable of cyclic loading at low frequencies</u></li> <li>• Cross head position control Resolution 0.02 microns</li> <li>• Cross-head speed &amp; position accuracy <math>\pm 0.1</math> % or better</li> <li>• Cross-head display resolution 0.001mm</li> <li>• Data Sampling: A minimum of 500Hz.</li> <li>• Integrated operational panel for stand-alone operation of machine</li> </ul> <p><i>Safety Features: Two or more emergency stop switches to be placed at prominent positions in the machine frame. Overload limiter to protect the load cell.</i></p>	1
2	<p><b>Software Need:</b></p> <ul style="list-style-type: none"> <li>• Compatible with Windows OS,</li> <li>• Built in library of ASTM &amp; ISO methods for testing metal and flexible materials.</li> <li>• <u>Software for user defined and controlled cyclic testing and data analysis</u></li> <li>• Control type software for testing at user defined settings for metals, composites &amp; other similar materials.</li> <li>• Real time data display &amp; curves. (in SI units)</li> <li>• Should permit post data analysis in an another pc.</li> <li>• With Perpetual Licence</li> </ul>	
3	Load cell Capacity 10kN (20N to 10kN). / Class 1 Type (within +-1%)	1
4	Tensile Grip Wedge Type for 10kN with serrated grip face (sample thickness ~ 7mm)	1
5	Compression Platens at least 40 mm diameter with hardness more than 60 HRC	1
6	Three / Four Point Bend Grips	1
7	Strain gage based Extensometer with amplifier Measurement range: 50% Gauge length: 25 mm / Accuracy: Class 1 ( $\pm 1$ % of the specified value) (for sample size 3 to 10 mm dia / thickness upto 10mm) compliant with ASTM E83	1
8	A branded Personal Computer (HP/Dell/Lenova) (CPU, Display, keyboard, mouse) (Not less than Core i5, 64 bit 8 GB, 1TB, with at least 20 inch FHD screen)	1
9	The quote must include ONE Year warranty Warranty for Additional 2 year and 3 Year	

**Note:**

(i) The total cost including the price of the total unit (comprising items 1 to 9), shipping, installation and training charges, and with the warranty for 1 year will be considered to arrive at Lowest Tender Firm which meets the technical specifications.

(ii) However, order will be placed for A FEW OR ALL all the items depending upon the budget availability.

(iii) Quote must have the individual break up for each of 9 items i.e., quote against each item 1 to 9

**B. Vendor Eligibility Criteria:**

The quoting firm/vendor must have supplied and installed at least 8 machines in India from Jan 2018 to till date.

*‘Antibacklash Screw Driven Testing unit with capacity less than 10kN each worth at least INR 15 Lakh above’*

## CHECK LIST

(to be submitted by the Quoting Firm)

		Yes/No	Remarks (if mentioned as NO in earlier column)
1a	<b>Test Unit Frame and Drive Specification</b> • Dual Column Table Top Model Max Frame Capacity 10kN		
1b	<b>Test Unit Frame and Drive Specification</b> • Frame Rigidity Not less than 40kN/mm		
1c	<b>Test Unit Frame and Drive Specification</b> • AC Servomotor Drive • Cross head speed range min 0.005 to 1000 mm / min at all loads • Maximum Speed at maximum Load capacity 1000 mm/min • Return Speed 1200 mm/min or better • Cross head position control Resolution 0.02 microns • Cross-head speed & position accuracy $\pm 0.1$ % or better • Cross-head display resolution 0.001mm		
1d	<b>Test Unit Frame and Drive Specification</b> • Anti Backlash Ball Screws		
1e	<b>Test Unit Frame and Drive Specification</b> • Force and Strain Control Function with auto gain setting – real time Compatible to ISO 6892-2009 or ASTM equivalent		
1f	<b>Test Unit Frame and Drive Specification</b> • <u>Capable of cyclic loading at low frequencies</u>		
1g	<b>Test Unit Frame and Drive Specification</b> • Integrated operational panel for stand-alone operation of machine <i>Safety Features: Two or more emergency stop switches to be placed at prominent positions in the machine frame. Overload limiter to protect the load cell.</i>		
2	<b><u>Software Needed as Mentioned in Specification :</u></b> • <u>Software for user defined and controlled cyclic testing and data analysis</u>		
3	Load cell Capacity 10kN (20N to 10kN). / Class 1 Type (within +-1%)		
4	Tensile Grip Screw Type for 1kN with serrated grip face		
5	Compression Platens at least 40 mm diameter with hardness 60 HRC		
6	Three / Four Point Bend Grips		
7	Strain gage based Extensometer with amplifier Measurement range: 50% /Gauge length: 25 mm / Accuracy: Class 1 ( $\pm 1$ % of the specified value) /(for sample size 3 to 10 mm dia / thickness upto 10mm) /compliant ASTM E83		
8	A branded Personal Computer (HP/Dell/Lenova)		
9	The quote must include ONE Year warranty Warranty for Additional 2 year and 3 Year		
10	We have SUPPLIED and INSTALLED 08 machines (during Jan 2018 to Till date) <b><i>‘Antibacklash Screw Driven Testing unit with capacity less than 10kN each worth at least INR 15 Lakh above’. Provide the List Enclose Last 8 Purchase Orders supplied and installed as a Proof</i></b>		
11	We have mentioned the cost for each item 1 to 9 independently to facilitate to order part of the items, if needed.		
12	Technical and Commercial Bid submitted in sealed covers in separate covers		

Signature of firm quoting with seal