

	INDIAN INSTITUTE OF TECHNOLOGY MADRAS Chennai 600 036 Telephone: (044) 2257 4757 E-mail: tjuthomas@iitm.ac.in	
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Dr. Tiju Thomas
Project Coordinator

Ref: MET/2019/3192/TIJU
Dated: 06.12.2019

Limited Tender No: MET/2019/3192/TIJU

Due Date: 26.12.2019, 5:00pm

Pre-Bid meeting: - Not required.

Bid opening meeting on Due Date: 02.01.2020, 2:00pm

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of “**IMPEDANCE ANALYZER**” 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 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:
Dr. Tiju Thomas,
Department of Metallurgical and Materials 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.
- IV. **Price:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to the **Department of Metallurgical and Materials Engineering.**

The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for concessional GST and relevant certificate will be issued.

In case of import supply, the price should be quoted without custom duty. IIT Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not

exceeding 5%) and the price should be quoted on EX-WORKS and CIP (stating the Cost, Insurance, Freight separately) and 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 details should be explicitly shown in Tender even in the case of 'Nil' commission. 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. **Bid Opening:** The bid will be opened on **02.01.2020, 2:00 pm** at the **Department of Metallurgical and Materials Engineering**, IIT Madras.
- VIII. IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.

Yours sincerely,

Dr. Tiju Thomas,
Department of Metallurgical and Materials Engineering
IIT Madras
Chennai - 600 036.

SCHEDULE

Important Conditions of the tender

1. The due date for the submission of the tender is **26.12.2019, 5:00pm.**
The offers / bids should be submitted in two bid systems (i.e.) Technical and financial bid. Also, it should contain all Commercial Terms and Conditions including Taxes, transportation, packing & forwarding, installation, guarantee, payment terms, pricing terms etc. The bid should be put in cover and sealed. The Limited Tender for supply of “**IMPEDANCE ANALYZER**” should be written on the left side of the 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 and financial 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. If there is delay, the penalty will be @1% per week of delay subject to a max of 10% of the value of purchase order and if the delay is more than accepted time frame by IITM, the PO would be cancelled, and liquidated damages will be enforced.
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 are agreed to wherever the installation is involved. 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 number of days (as prescribed by PI's) from the date of receipt of the item at site of IIT Madras.
11. **Warranty/Guarantee:** - 1 year warranty (manufacturing and parts) and 2 year free repair Service.
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**

TECHNICAL SPECIFICATIONS FOR IMPEDANCE ANALYZER

Sl.no	Parameters	Specifications
1	Measurement modes	The following modes are required: LCR, Analyzer, Continuous measurement Measurement Method selection and Display is essential.
2	Measurement parameters	Impedance, Admittance, Reactance, Phase angle, ESR, Parallel-equivalent resistance, DC resistance, Conductance, Susceptance, equivalent series static capacitance, equivalent parallel static capacitance, equivalent series inductance, parallel-equivalent inductance, Loss coefficient i.e. $\tan \delta$, Q factor
3	Measurement range	At least 100 m Ω to 100 M Ω
4	Display range	Z, Y, Rs, Rp, Rdc, X, G, B, Ls, Lp, Cs, Cp : (in relevant units) $\pm(0.000000$ to $9.999999G)$ θ : (0.000° to 180.000°) D :(0.000000 to 9.999999) Q :(0.00 to 99999.99) Δ % : <999.9999%
5	Basic accuracy	Z - at least $\pm 0.1\%$ rdg; at least θ : $\pm 0.05^\circ$
6	Measurement frequency	Minimum resolution: 10 mHz Range: 4Hz to at least 5MHz
7	Measurement signal level	Voltage: (rms) 5 mV - 5 V (with resolution of 1 mV) Current : (rms) 10 μ A to 100 mA (with resolution of 10-20 μ A)
8	Output Impedance	Less than 100 Ohms
10	No. of display digits setting	# of display digits needs to be set from 3 to 7
9	Display	Color LCD (TFT), at least 5 inches.

11	Measurement time	At least 0.5 ms
12	Measurement speed	At least 3 speed levels
13	DC bias measurement	0 VDC to 2.50 VDC (10 mV steps)
14	DC resistance measurement	DC: 100 mV to 2.50 V (should allow steps of 10 mV)
15	Residual charge protection function	$V = \sqrt{10/C}$ where C: Capacitance [in F] of test sample Here V = max. 400 V
16	Interval measurement	100 μ s to 10,000 s, at least 750 points
17	Memory function	At least 32,000 data items to equipment memory
18	Interfaces	USB,GPIB,LAN, EXT I/O, LAN Preferred: provision of RS232C
19	Operating Temperature and Humidity ranges	At least +5 °C to +40 °C. Humidity 20% to 80% at wet bulb temperature < +29 °C (non-condensation)
20	Storage temperature and humidity ranges	At least 0-50°C, 80% RH or less, no condensation
21	Accessory	Power Cord, Instruction Manual (CD), Instruction Manual (hard copy), Communication Instruction Manual (CD and hardcopy)
22	Measurement Terminal	4 terminal
23	Sweep Range	20-200 segments with at least 780 points
24	Max discharge withstand voltage	1000 V @ C < 2 μ F, $\sqrt{(2/C)}$ V @ C \geq 2 μ F
25	Features Required	BIN Measurement Compensation Comparator Panel Loading/Saving Trigger Synchronous output function Averaging
26	Power supply	90 to 260 V AC, 50Hz.