



University of Calcutta

87/1, College Street, Kolkata-700 073

Tender Ref. No: AP/2/ENQ/HOD/24-25 (2nd call)

Dated: 09.04.2025

The University of Calcutta invites e-tenders for the following work from experienced & bonafide firms/organisations having credentials of similar nature of work in any Government/ Semi-Govt./State Aided University/Autonomous Govt. aided Institution.

Name of work: Supply of following ITEMS for setting up measurement and instrumentation Lab for 4 year B.Tech in Electrical Engineering curriculum and application for University of Calcutta.

Name of the Item	Bid Validity Days	Time of completion of work	Earnest Money (EMD) Rs.	Name of the Concerned Department
1. Experimental set-up for Calibration of a wattmeter using DC potentiometer. 2. Experimental set-up for Low resistance measurement using Kelvin's double bridge. 3. Experimental set up for Unknown capacitance measurement using De-Sauty's bridge. 4. Experimental set-up for calibration of a 1-phase watt-hour meter. 5. Experimental set-up for calibration of a 3-phase watt hour meter. 6. Experimental set up for calibration of an LVDT using screw gauge. 7. Experimental set up for temperature measurement and calibration of a thermocouple sensor. 8. Experimental set up for calibration of a load cell sensor.	180 days	60 days	Rs.6800/- (To be deposited Online)	Department of Applied Physics, Rajabazar Science College Campus, University of Calcutta.

9. Experimental set up for temperature measurement and calibration of an RTD sensor.				
10. Experimental set up for calibration of a bourdon tube using dead weight tester.				

- **Time Extension:** Time is the essence of the contract, generally no time extension will be allowed. But, in the case of Force Majeure, the extension of time may be considered on the basis of the actual situation and subject to consideration of the Tender Inviting Authority.
- **Penalty Charges:** Penalty charges will be imposed @ 0.1 % per week on the tendered amount subject to a Maximum @ 10% of the tendered amount, if the work will not be completed within stipulated time period of the tender..
- The bidder should either be an OEM or authorized dealer of the OEM.
- No extra payment will be paid beyond the tendered amount.
- The Tender Inviting Authority reserves the right to accept or reject any tender without assuring any reasons.

Eligibility criteria for participation in the tender:

Resourceful & bonafide bidders having Valid trade License, GST & PAN, ISO Certificate and credential for satisfactory completion of similar nature of job of amounting 75% of the quoted value in a single tender in the last (03) three financial years in Government /Government Undertaking or any State-run University. Original documents may be asked for verification of technical checking on the date of issuing tender paper. Failing to produce original documents, the tender will be rejected.

Bid Opening Place: - University of Calcutta at 87/1 College Street, Darbhanga Building, Ground Floor Kolkata-700073.

Technical Specifications for the E-Tender Notice

B.O.Q.

SL No.	Item Description	Qty.	Unit	Rate (Including all taxes) Rs.
01.	Experimental set-up for Calibration of a wattmeter using DC potentiometer with following features/items: Regulated power supply 2 volts, 100 mA to operate the potentiometer. calibrated electronic standard cell voltage 1.0186 volts. Regulated power supply 0-5 volts/0.5 amps with milliammeter 0- 500mA for current coil of wattmeter.	01	Unit	

	Regulated high voltage power supply 0-250 DC volts with voltmeter 0-250 volts for pressure coil of wattmeter. A panel mounting wattmeter 0-125 watt is required to perform the experiment Galvanometer for null balance. A volt ratio box for measurement of higher voltage. Complete circuit diagram with wattmeter connections to be provided on the front panel of the instrument. with standard accessories			
02	Experimental set-up for Low resistance measurement using Kelvin's double bridge with following features: Range: 0.2 micro ohm to 11 ohms, with an Accuracy of 0.05 % Required accessories: Spot Reflecting Galvanometer. DC Source 10 A with one analog current meter. Attachment of 1 meter length. Brass clamp with terminals for zero setting. with standard accessories	01	Unit	
03	Experimental set up for Unknown capacitance measurement using De-Sauty's bridge with following specifications: Source: Sine wave signal of 1KHz. The Amplitude of AC switch indicating lamp is provided on the Bakelite board. Two sockets are to be provided for the output of AC signals. Detector: For detecting small AC signals in the output, Null Detector is required as in-built with digital display. Circuit Diagram: The circuit layout on the board is to be provided out to facilitate convenient working. 4 or 5 mm socket required for making connection. Features: R2 --- Three decade resistance dials having value 10×1000, 10×100 and 10×10 ohms R1 ---- Single decade resistance dial having value 10× 100 ohms C1 ---- Unknown capacitor. C2 ---- Two fixed standard capacitors having value 0.01mfd 0.1mfd (loss free) With standard accessories	01	Unit	
04	Experimental set-up for calibration of a 1-phase watt-hour meter with following scopes: - To adjust & calibrate a single-phase energy meter by direct loading method - To adjust & calibrate a single-phase energy meter by comparing with a sub-standard meter Specifications: - Static Energy meter single phase: Under test (Local) duly mounted, wired and terminated - Static Energy meter single phase: Sub-standard meter (ISI Mark) duly mounted, wired and terminated - Voltmeter: Moving Iron AC portable of class 1.0 accuracy and range 0 - 300 V AC - Ammeter: Moving Iron AC portable of class 1.0 accuracy and range 0 - 10 A AC	01	Unit	

	- Wattmeter: Dynamometer type AC single phase, multi-range with current coil 5 / 10 Amp and Potential coil 75 / 150 / 300 V AC - Variac: Variable Voltage transformer (Portable – table / floor mounting type with enclosure) Input: 230V AC and Output: 0–270V / 8 Amp AC - Variable Load: Made up of 3 Load resistors of 70 ohms / 700 W each duly mounted and connected / terminated to form different loads (35 to 210 ohms) as per external connections - Digital stop clock: Portable with START / STOP & RESET operation - Set of necessary 4 mm spring loaded patch cords for interconnections - Detailed Instruction Manual Supply to be connected: 230V, 1phase, 50 Hz, AC mains			
05	Experimental set-up for calibration of a 3-phase watt hour meter with following specifications: - To adjust & calibrate a three-phase energy meter by direct loading method - To adjust & calibrate a three-phase energy meter by comparing with a sub-standard meter Specifications: Static Energy meter three phase: Under test (Local) duly mounted, wired and terminated Static Energy meter three phase: Sub-standard meter (ISI Mark) duly mounted, wired and terminated Voltmeter: Moving Iron AC portable of class 1.0 accuracy and range 0 - 300 V AC Ammeter: Moving Iron AC portable of class 1.0 accuracy and range 0 - 10 A AC Wattmeter: Dynamometer type AC single phase, multi-range with current coil 5 / 10 Amp and Potential coil 75 / 150 / 300 V AC Variac: Variable Voltage transformer (Portable – table / floor mounting type with enclosure) Input: 230V AC and Output: 0–270V / 8 Amp AC Variable Load: Made up of 3 Load resistors of 70 ohms / 700 W each duly mounted and connected / terminated to form different loads (35 to 210 ohms) as per external connections Digital stop clock: Portable with START / STOP & RESET operation Set of necessary 4 mm spring loaded patch cords for interconnections Detailed Instruction Manual Supply to be connected: 440 V, 3-phase, 50 Hz, AC mains	01	Unit	
06	Experimental set up for calibration of an LVDT using screw gauge with the following specifications: Measurement Range 10/20 mm Excitation Frequency: 2.5 kHz	01	Unit	

	Sensitivity: 10 mV DC/ mm Linear Range: Full Scale Signal conditioner output: 0.1 V DC or maximum displacement Display: $3\frac{1}{2}$ Digit LED with Polarity Indicator Micrometer Least count: 0.01 mm Inbuilt regulated DC supply Power Supply: 220 V, 50 Hz With standard accessories			
07	Experimental set up for temperature measurement and calibration of a thermocouple sensor with the following specifications: K type thermocouple with digital panel meter Output for monitoring Test pins for monitoring at all stages Mercury thermometer & heater 10 watts (Optional) 3.5 digit DPM as temperature indicator Interconnection: 2/4mm banana sockets DC Supply: Built in IC regulated power supplies 220V±10%, 50Hz mains operated With standard accessories	01	Unit	
08	Experimental set up for calibration of a load cell sensor with the following specifications: Bridge made up of 4 strain gauges mounted on a specially alloy materials type load cell Built in excitation voltage for the bridge 3.5 digit SSD for direct reading stain in Kg. Built in precision signal amplifier. Multi turn potentiometer for zero adjustment. Different loads to be provided for building up of load. Test pins for monitoring at all stage outputs. Interconnection: 2/4mm banana sockets DC Supply: Built in IC regulated power supplies 220V ±10%, 50Hz mains operated With standard accessories	01	Unit	
09	Experimental set up for temperature measurement and calibration of an RTD sensor with the following specifications: Mercury thermometer and heater 10W RTD(Pt-100) probe with protect cover Bridge circuit for transducer Differential amplifier with feedback Lead compensation system Sockets to be provided to study the process to find out the error rate 3.5 digit Digital Panel Meter as temperature indicator Interconnection: 2/4mm banana sockets 220V, 50Hz mains operated With standard accessories	01	Unit	
10	Experimental set up for calibration of a bourdon tube using dead weight tester with the following specifications: Instrument Oil is SAE 10 or 20 or equivalent. Plunger element is clamped in an MS block. Block is the junction for screw assembly, pressure gauge and oil cup.	01	Unit	

	Valves to be used at the bottom of the pressure gauge and oil cup to control oil flow. The unit is to be mounted on a base plate with three leveling screws. Different known weights to be provided for calibration experiments. With standard accessories			
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General terms:

1. Laboratory manuals to be provided All the experimental set-ups.
2. The set-ups are to be installed for 'ready to use'.

Important Dates:

Sl. No.	Items	Publishing Date (s)
1	Date of uploading of N.I.T. & Tender documents (online) from this end	09.04.2025; 06:00 P.M
2	Documents downloading, Starting date (online)	09.04.2025; 06:00 P.M
3	Bid submission, starting date (online)	09.04.2025; 06:00 P.M
4	Bid submission, closing date (online)	18.04.2025, 01:00 P.M
5	Bid opening date for Technical Proposal (online)	21.04.2025, 01:00 P.M
6	Date of uploading of the list of Technically qualified Bidder (online)	To be communicated later
7	Date and Place for opening of Financial Proposal (online)	To be communicated later
8	Date of uploading of the list of bidders along with the approved rate	To be communicated later

INSTRUCTIONS TO BIDDERS

Instructions / Guidelines for electronic submission of tenders have been annexed for assisting the contractors to participate in e- tendering.

- I. **Registration of Bidder:** - Any bidder willing to take part in the process of e –tender will have to be enrolled & registered with the Government e – Procurement system through logging on to <https://wbtenders.gov.in>. The bidder is to click on the link for e – Tendering site as given on the web portal.
- II. **Digital Signature Certificate (DSC):** - Each bidder is required to obtain a class - II or class – III Digital Signature Certificate (DSC) for submission of tenders from the approved service provider.
- III. **Collection of Tender documents:** - The bidder can search & download NIT & Tender documents electronically from computer once he logs on to the website mentioned Clause 1 using the Digital Signature Certificate. This is the only mode of collection of Tender documents.

IV. Cost of Earnest Money (EMD)

Earnest Money (EMD) Quoted INR	Transaction No. & Date	Bank Name
Rs. 6800.00 (To be deposited Online)		

Earnest Money (EMD):- Intending bidders are requested to deposit Rs. 6800.00/- (to be deposited online by each bidder) only to be deposited by the bidder concerned electronically: online – through his net banking enabled bank account, maintained at any bank or: offline – through any bank generating NEFT/RTGS Challan from the e-tendering portal. Intending bidder will get the beneficiary details from e-tender portal with the help of Digital Signature Certificate and may transfer the EMD from their respective Bank as per the Beneficiary Name & Account No., Amount, Beneficiary Bank name (ICICI Bank) & IFSC Code and e-Proc Ref No. Intending bidder who wants to transfer EMD through NEFT/RTGS must read the instruction of the Challan generated from E-Procurement site.

Bidders are also advised to submit EMD of their bid, at least 3 working days before the closing date for bid submission as it requires considerable time for processing of Payment for EMD.

For getting exemption of EMD: - Bidders are requested to upload the relevant NSIC / MSME Registered Certificate against each item work for getting exemption of EMD, failing which their Tender will be rejected. For that they need to select the EMD page as Yes and provide the exemption type as fixed and put the actual EMD amount in Rupees and upload the exemption document.

N.B.: *During evaluation, the bidders may be invited and clarification/ information or additional documents or original hard copy of any of the documents already submitted may be sought from them & if these are not produced within the stipulated time frame, their bid will be liable to rejection.*

Rejection of Bid:

Tender Committee reserves the right to accept or reject any Bid and to cancel the Bidding processes & reject all Bids at any time prior to the award of Contract without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the ground for Tender Committee's action.

I. Submission of Tenders:-

- a. **General process of submission:** - Tenders are to be submitted through online to the website <https://wbtenders.gov.in> in two folders at a time for each work, one is Technical bid and other is Financial Bid before the prescribed date and time using the Digital Signature Certificates.
- b. **Technical Bid:-** Technical Bid contain scanned copies of the followings further in two cover (folder).
- c. **Online bid submission process (Bidder/Contractor)** in <https://wbtenders.gov.in> portal, download the pdf file.

II. Statutory Cover Containing

- i) NIT and Corrigendum if any (Download the NIT and upload the same by digitally sign).

III. NON-STATUTORY/MY DOCUMENTS containing the following documents:

Sl.No.	Category	Sub Category	Sub-Category Description
A.	Certificates	Certificates	1. PAN Card
			2. Professional Tax Registration Certificate
			3. GST Registration Certificate
			4. Valid Trade License
			5. ISO Certificate
			6. <i>NSIC / MSME Registered Certificate for getting Exemption of EMD.</i>
			7. For non-registered organizations under NSIC/MSME, EMD documents are to be enclosed.
			8. Certificate of sole Authorized agent for supplying foreign instrument.
B.	Credential	Credential for satisfactory completion of similar nature of job amounting to 75% of the quoted value in a single tender in the last three (03) financial years in Government, or Government Undertaking or any State Aided University. Only completion certificate of the work will be considered as Credential of works.	

Note: Failure of submission of any of the above-mentioned documents will render the tender liable to be summarily rejected for both statutory & non statutory cover.

IV. Financial Bid: - BOQ in INR (in excel sheet)

- i) The financial bid should contain the following documents in one cover (folder) i.e. Bill of Quantities (BOQ). The contractor is to quote the rate through online in the space marked for quoting rate in the BOQ.
- ii) Only downloaded copies of the above documents are to be uploaded, virus scanned & digitally signed by the contractor.
- iii) The lowest bidder should be the sole authorized agent of the foreign instrument as per specification mentioned in BOQ and purchase order will be issued either to the Indian sole authorized agent (Lowest bidder) or in favour of the manufacturer (For foreign organization only) duly certified by the lowest bidder (sole authorized agent) and as per terms & condition of the lowest bidder.

V. Opening & Evaluation of Tender:-

Opening of Technical Bid:

- i) Technical bid will be opened by the University of Calcutta Officials. Intending bidders may remain present if they so desire. Statutory Cover (folder) would be opened first & if found in order and correct Non Statutory Cover (folder) will be opened. If there is any deficiency in the Statutory & Non statutory documents the tender will summarily be rejected.
- ii) Decrypted (transformed in to readable formats) documents of the non statutory cover will be downloaded & handed over to the evaluation committee.
- iii) List of technically qualified bidders would be uploaded.

NB: While evaluation, the committee may invite the bidders & seek clarification/ information or additional documents or original hard copy of any of the documents already submitted & if they are not produced within the stipulated time frame, their bid will liable for rejection.

VI. Opening and evaluation of Financial Bid:

Financial bid of bidders declared technically eligible by the Committee will be opened electronically from the web portal on the prescribed date and time.

VII. Penalty for suppression / distortion of facts:

Submission of false document by bidder is strictly prohibited and will be liable for rejection of the tender.

VIII. Special conditions related to Payment Terms:

- 1) The rate should be inclusive of all Govt. taxes and cost of loading, un-loading, and commissioning to the University of Calcutta.
- 2) Only one currency will be given.
- 3) The lowest bidder should be the sole authorized agent of the foreign instrument as per specification mentioned in BOQ and purchase order will be issued either to the Indian sole authorized agent (Lowest bidder) or in favour of the manufacturer (For foreign organization only) duly certified by the lowest bidder (sole authorized agent) and as per terms & condition of the lowest bidder.

- 4) The payment terms would be 100% Letter of Credit on submission of shipping documents.
- 5) The quote should be submitted up to CIP Kolkata basis. For clearing, charges will be added to the main system cost in any single currency only.
- 6) The lowest bidder should quote the rate of clearing charge in any single currency only.
- 7) 100% Payment will be made after delivery, successful installation and commissioning of the equipment.
- 8) The vendor should mention the terms & conditions of payment in the Technical Bid (NON-STATUTORY/MY DOCUMENTS).
- 9) The price quote should be broken up into basic rate, all government taxes, loading, unloading carrying etc. all complete.

VIII. Security Deposit : The University authority will retain a sum amounting to 10% of the bill of the contract for a period of six months from the date of completion of work as **Security Deposit**. This will be released after a period of six months from the date of completion of the work on application.

IX. After issuing the work order to the successful tenderer, if he/she fails to commence the work or unable to complete the work, then the EMD and Performance security amount of the said tenderer will be forfeited and no claim will be entertained.

X. Termination Clause:

- i. Failing to supply and commissioning of the items as per work order within the stipulated time, the contract will be rejected except application of Force majeure Clause and EMD will be forfeited.
- ii. If any deviation of quality and specification from the stipulated specification as per B.O.Q observed, the purchase order will be cancelled and EMD will be forfeited.
- iii. In case of deterioration of service the Work order will be cancelled as per rule and EMD may be forfeited.

XI. Force majeure Clause: If the work(s) be delayed for the following reasons:-

Due to war, internal emergency and other conditions such as abnormally bad weather, flood, cyclone natural calamity or serious loss or damage by fire or civil commotion, the contractor shall immediately give notice thereof in writing to the Central Tender Committee but shall nevertheless use constantly his/her best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Central Tender Committee to proceed with the works.

XII. Mode of payment: -After completion of the work as per work order or any subsequent work order against the original work order the triplicates bills (R/A or Final bill) duly checked and verified by the concern department with the completion certificate by the concern department and should be submitted to the office of the undersigned within 10 days after completion of the work.



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