

**BHARATHIYAR CENTENARY MEMORIAL GOVERNMENT WOMEN'S POLYTECHNIC COLLEGE,
ETTAYAPURAM – 628 902.
THOOTHUKUDI DISTRICT. TAMILNADU
NOTICE INVITING TENDER**

(FORE-PROCUREMENT THROUGH THE TNTENDERS PORTAL)

PURCHASE OF LABORATORY EQUIPMENTS FOR RENEWABLE ENERGY

TENDER INVITING AUTHORITY	THE PRINCIPAL, BHARATHIYAR CENTENARY MEORIAL GOVERNMENT WOMEN'S POLYTECHNIC COLLEGE, ETTAYAPURAM– 628 902. TAMILNADU. bcmwoffice@gmail.com
TENDER REFERENCE NO.	DOTE/BCMW ETTAYAPURAM/RES/2026/2

SECTION - I: INVITATION FOR BIDS

1.1 **The Principal, Bharathiyar Centenary Memorial Government women's Polytechnic college, ETTYAPURAM– 628 902** invites online open tenders under a Two-Cover System (Technical Bid and Financial Bid) from reputed Manufacturers or Authorized Dealers/Suppliers for the supply, installation, and commissioning of Laboratory Equipments.

1.2 The bidding process shall be conducted entirely online through the Government of Tamil Nadu e-Procurement portal: <https://tntenders.gov.in>. Manual or physical bids will not be accepted.

CRITICAL DATES:

EVENT	DATE & TIME
Tender Published Date	27.05.2026 6 PM
Bid Document Download Start Date	27.05.2026 6 PM
Bid Submission Start Date	27.05.2026 6 PM
Bid Submission End Date	11.06.2026 11 AM
Technical Bid Opening Date	12.06.2026 12 PM
Financial Bid Opening Date	To be announced online after technical evaluation

SECTION - II: SPECIAL TERMS & CONDITIONS

MANDATORY CLAUSE: TIME-BOUND DELIVERY

1. **Delivery Period:** Time is the essence of this contract. Owing to the tight schedule of the upcoming academic calendar and to prevent any academic loss to the students, the successful bidder must fully deliver, install, check, and commission all the ordered laboratory equipment within exactly 7 (Seven) Days from the date of issuance of the Award of Contract (AoC) / Purchase Order.

2. **Vendor Capability:** Bidders must ensure they have ready stocks available or a guaranteed supply chain before participating in this tender to meet the strict 7-day timeline.

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SECTION-III:INSTRUCTIONSFORONLINEBIDSUBMISSION

1. Registration: Bidders must possess a valid Class-III Digital Signature Certificate (DSC) and be registered on the <https://tntenders.gov.in> portal.
2. Cover-1 (TechnicalBid):The bidder must scan and upload PDF copies of the following documents:
 - TECHNICAL SPECIFICATION COMPLAINCE SHEET in the company's letter head which should be duly filled and signed with company seal. (Refer Section-III Sl.No.4)
 - ValidGSTRegistrationandPANCard.
 - Manufacturer'sAuthorizationForm(ifnotadirectmanufacturer).
 - ProofofpastexperiencesupplyinglabequipmenttoGovernment/Educationali nstitutions.
 - SignedcopyoftheBidder'sUndertaking(Section -VIFORMAT - 1 ofthisdocument)explicitly accepting the 7-day delivery mandate.
 - SignedcopyoftheBidder'sUndertaking(Section - VI FORMAT - 2 ofthisdocument)
 - Proof of EMD payment/Exemption Certificate (MSME/NSIC as per TN procurement rules). (Refer Section-V)
3. Cover-2(FinancialBid/BOQ): The Bill of Quantities(BOQ)templateprovidedin.xlsformat on the portal must be downloaded, filled up with item rates inclusive of taxes, packing, forwarding, freight, and installation, and uploaded securely. Altering the format of the BOQ will lead to rejection.

SECTION - IV:SCHEDULEOFREQUIREMENTS&TECHNICALSPECIFICATIONS

General Technical Instructions to Bidders:

1. Unconditional Compliance: Bidders must explicitly state compliance ("COMPLIED" or "NOT COMPLIED") against each parameter. Broad statements like "Yes", "As per catalog", or leaving blanks will result in technical rejection.
2. Supporting Proof: Bidders must upload relevant product catalogs, datasheets, or technical literature highlighting the specifications of the model they are offering.

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3. Make and Model: The bidder must clearly specify the Make (Manufacturer) and Model Number of the equipment offered.

4.

TECHNICAL SPECIFICATION COMPLIANCE SHEET

Name of the Department: **RENEWABLE ENERGY**

Name of the Laboratory:

Item No.	Name of the Equipment	Specification Required	Quantity	Compliance (Complied / Not Complied)	Deviation (if any)
1	RC PHASE SHIFT OSCILLATOR (Iemcode:0001)	<ul style="list-style-type: none"> • Oscillator Type: RC Phase Shift Oscillator using transistor / Op-Amp configuration. Input Supply: 230 V / 50 Hz ac with regulated • internal DC supply. Output Frequency Range: 100 Hz - 10 kHz • adjustable. Output: Sinusoidal waveform with adjustable • amplitude up to 10 Vpp. RC Network: Three-stage RC phase shift network with frequency control arrangement. CRO Test Points: Dedicated CRO terminals at • amplifier output, each RC stage, and final output for waveform and phase-shift observation. Protection: Over-voltage and short-circuit • protection provided. Indicators and Controls: Power ON LED indication • with frequency and gain adjustment controls. Accessories: Patch cords, circuit diagram. 	1 No.		

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2	STRAIN GUAGE CHARACTERISTI CS KIT(Iemcode:0002)	<ul style="list-style-type: none"> • AC mains power supply: 230 V \pm10%, 50 Hz • Metal foil strain gauge mounted on beam/cantilever. • Strain measurement under applied load. • Wheatstone bridge arrangement. • Signal conditioning and amplification circuit. • Instrumentation amplifiers with 3½ digit display for strain / output voltage. • Zero and gain adjustment controls. • Provision for applying calibrated loads. NO Rs.10,000 2 • Table-top trainer with labelled panel. • Test points for signal measurement. • Built-in DC power supplies and wooden closed cabinet. • Supplied with patch cords 	1 No.		
3	LOAD CELL CHARACTERISTI CS KIT(Item code: 0003)	<p>Input Supply: 230 V / 50 Hz ac with regulated</p> <ul style="list-style-type: none"> • internal DC supply. Sensor: Strain Gauge Load Cell with suitable • mounting arrangement. Load Range: 0 – 10 kg. • Display: Digital display for load/output indication. • CRO / Test Points: Test points provided for • observing bridge output, amplifier output, and signal conditioning stages. • Controls: Zero adjustment and calibration controls provided. •Protection: Overload and short-circuit protection provided. •Accessories: Loading arrangement, connecting Leads. 	1 No.		

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4	MEASUREMENT OF TANK LEVEL USING ROTOMETER(Item code: 0004)	<ul style="list-style-type: none"> •Input Supply: 230 V / 50 Hz ac withregulated internal DC supply. •Tank Arrangement: Transparent tank with 30 liters capacity with suitable supporting stand. •Rotameter Range: 0 – 4000 L/hr calibrated rotameter. •Flow System: Pump, control valves, and piping arrangement provided for continuous flow operation •Measurement Facility: Provision for flow-based tank level measurement and observation. •Display / Observation: Calibrated level indication with flow monitoring arrangement. •Test Points: Output terminals provided for monitoring sensor/output signals. •Accessories: Connecting tubes. 	1 No.		
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5	<p>MEASUREMENT OF TANK LEVEL USING DISPLACER TYPE LEVEL TRANSMITTER(Item code: 0005)</p>	<ul style="list-style-type: none"> • Input Supply: 230 V / 50 Hz ac with regulated internal DC supply unit. • Measurement Principle: Buoyancy(Archimedes principle) using displacer element • Tank Arrangement: Transparent experimental tank with 30 liters capacity and suitable mounting stand. • Level Range: Suitable laboratory-scale level measurement (0-100% tank height). • Sensor System: Displacer type level transmitter with continuous level output signal. • Display Unit: Digital indicator for level display in percentage / engineering units. • Output Signals: Standard analog output (4-20) mA / (0-10) V provided for monitoring. • Test Points: Provided for transmitter output, signal conditioning, and display unit verification. • Controls: Zero and span calibration adjustment provided for setting level reference. • Protection: Over-voltage and short-circuit protection for electronic modules. • Accessories: Connecting cables, piping arrangement, loading medium (water) 	1 No.		
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6	MEASUREMENT OF TEMPERATURE USING PT100(Item code: 0006A)	<ul style="list-style-type: none"> •Input Supply: 230 V / 50 Hz ac with regulated internal DC power supply unit. •Sensor: PT100 Resistance Temperature Detector (RTD) probe with stainless steel sheath •Measurement Principle: Resistance variation of platinum element with temperature. •Temperature Range: 0°C to 150°C (or suitable laboratory range). •Display Unit: Digital temperature indicator with direct °C display. •Accuracy: High accuracy with linearized RTD signal conditioning circuit. •Signal Conditioning: Built-in bridge circuit with amplifier and linearization. •Test Points: Provided for RTD input, bridge output, amplifier output, and final display signal. •Controls: Zero and span calibration adjustment for temperature calibration. •Protection: Over-voltage and short-circuit protection for electronic modules. •Accessories: Temperature bath or heater arrangement, connecting cables,user manual, and circuit diagram included. 	1 No.		
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7	<p>TEMPERATURE MEASUREMENT TRAINER WITH PT 100, NTC, TC (Itemcode: 0006B)</p>	<p>Input Supply: 230 V / 50 Hz ac with regulated</p> <ul style="list-style-type: none"> • internal DC power supply unit. Sensors Provided: PT100 RTD, NTC thermistor, • and Thermocouple (TC – K type). Measurement Principle: Resistance variation • (PT100 & NTC) and Seebeck effect (Thermocouple). Temperature Range: Suitable for laboratory range • (0°C to 150°C or higher depending on sensor). Display Unit: Digital temperature indicator with • selector switch for PT100 / NTC / TC. Signal Conditioning: Separate conditioning • circuits for RTD bridge, thermistor network, and thermocouple amplifier. Test Points: Provided for sensor input, • conditioned output, and final display signal. Controls: Sensor selection switch, zero/span • calibration, and temperature adjustment control. Protection: Over-voltage and short-circuit • protection for electronic modules. Accessories: Heating source or temperature bath connecting leads. 	1 No.		
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8	Bourdon Tube Pressure Gauge(Item code: 0007)	<p>Bourdon Tube Pressure Gauge: Analog indicating type Measurement Range: 0 to 10 bar Dial Size: 100 mm nominal dial diameter Accuracy: $\pm 1.6\%$ of Full Scale (FS)</p> <p>Pressure Element: Bourdon tube made of phosphor bronze / stainless steel Case Material: Mild steel powder coated / SS304 stainless steel Window Material: Clear acrylic / glass Connection Type: Bottom entry / back entry, 1/2" BSP threaded connection (or 1/4" BSP as required) Mounting: Panel mounting / direct mounting Scale: Dual scale: bar, psi Pointer: Micrometer adjustable aluminum pointer Operating Temperature: Ambient: -10°C to $+65^{\circ}\text{C}$, Process fluid temperature: up to 80°C Protection Class: IP54 minimum Over Pressure Limit: 130% of full scale value. Calibration: Factory calibrated with calibration certificate</p>	1 No.		
9	Differential Pressure Transmitter(Item code: 0009)	<ul style="list-style-type: none"> • Input Supply: 230 V / 50 Hz ac with regulated internal DC power supply unit. • Tank Arrangement: Transparent tank with mounting stand for real-time liquid level observation. • Tank Capacity: Laboratory-scale transparent tank with capacity 30 liters suitable for 0–100% level measurement. • Differential pressure range: 0–100 mbar to 0–10 bar. Accessories: Complete piping, control valves, and pump system for continuous water circulation and level variation. • Display Unit: Digital indicator for real-time level measurement and monitoring. 	1 No.		

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10	Solenoid Kit(Item code: 0010)	Valve code: <ul style="list-style-type: none">• Type: Electrically operated solenoid valve trainer / kit.• Valve type: 2/2 way and 3/2 way normally closed (NC) solenoid valves.• Operating voltage: 12 V DC / 24 V DC / 230 V AC. • Port size: 1/4" BSP threaded connection.• Body material: Brass / stainless steel.• Seal material: Nitrile (NBR) / Viton.• Operating pressure: 0–10 bar. • Flow media: Air, water, and non-corrosive fluids.• Coil insulation class: Class F or better.• Protection class: IP65 minimum.• Response time: Fast switching operation. • Mounting: Panel/base mounting arrangement.• Indicators: LED indication for valve ON/OFF status.• Accessories: Connecting tubes, fittings, power cord, and control switches.	1 No.		
11	GAUGE Assembly (Item code: 0011)	GLASS (Item code: <ul style="list-style-type: none">• Type: Gauge Glass Assembly for liquid level indication.• Tube material: Toughened borosilicate glass. • Glass length: 150 mm / 200 mm / 300 mm (as required).• Glass outer diameter: 12 mm to 20 mm.• Working pressure: Up to 10 kg/cm².• Working temperature: Up to 150°C.• End connection: 1/2" BSP threaded connection.• Valve type: Isolation valves provided at top and bottom.• Body material: Brass / SS304 / SS316.• Packing material: PTFE / rubber sealing gasket.• Mounting: Vertical panel/tank side mounting.• Safety feature: Protective guard / transparent shield provided.• Drain arrangement: Bottom drain valve provision.• Accessories: Mounting hardware, sealing washers, and connecting fittings.	1 No.		

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12	ULTRASONIC LEVEL METER(Itemcode: 0012)	<ul style="list-style-type: none"> • Measurement principle: Non-contact ultrasonic level sensing. • Measuring range: 0.2 m to 4 m minimum. • Display: Digital LCD/LED display for level indication. • Output signal: 4–20 mA / 0–10 V analog output. • Sensor type: Ultrasonic transducer with transmitter module. • Operating frequency: 30–60 kHz ultrasonic frequency range. • Accuracy: $\pm 1\%$ of full scale or better. • Resolution: 1 mm minimum. • Supply voltage: 230 V AC mains input with built-in power supply. • Tank material: Transparent acrylic tank with graduated scale. • Mounting arrangement: Rigid sensor mounting with adjustable height. • Control features: Level set point adjustment and alarm indication. • Communication: Optional RS485 / MODBUS interface. • Protection class: IP65 sensor enclosure minimum. • Accessories: Interconnecting leads, trainer panel, user manual, and experiment guide. 	1 No.		
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13	THERMOCOUPLE (Itemcode: 0013)	<ul style="list-style-type: none"> • Type: Thermocouple Trainer Kit for temperature measurement experiments. • Thermocouple types: J, K, and T type thermocouples provided. • Temperature range: 0°C to 400°C minimum. • Sensor material: Industrial grade thermocouple probes with SS sheath. • Display: Digital temperature indicator with LED/LCD display. • Accuracy: $\pm 1^\circ\text{C}$ or better. • Resolution: 0.1°C / 1°C selectable. • Cold junction compensation: Built-in automatic compensation. • Signal conditioning: Amplifier and filtering circuit provided. • Output signal: Analog output terminals for experimentation. • Heating arrangement: Built-in heater with temperature control. • Power supply: 230 V AC mains operated. • Protection: Fuse and over-temperature protection provided. • Mounting: Table-top trainer with front panel layout. • Accessories: Connecting leads, experiment manual, and thermocouple probes. 	1 No.		
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14	CALORIMETER(Item code: 0014)	<ul style="list-style-type: none"> • Vessel material: Copper / aluminum calorimeter vessel. • Capacity: 250 ml / 500 ml minimum. • Insulation: Double-walled insulated outer container. • Stirrer: Non-corrosive stirrer provided. • Thermometer provision: Suitable slot for thermometer/temperature sensor. • Lid arrangement: Insulated lid with openings for stirrer and thermometer. • Temperature range: Ambient to 100°C. • Least count compatibility: Suitable for 0.1°C thermometer. • Heating arrangement: Compatible with external heater / immersion heater. • Mounting: Table-top laboratory model. • Accessories: Stirrer, lid, thermometer, measuring cup, and connecting accessories. 	1 No.		
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INSTALLATION, TRAINING, AND READINESS MATRIX

(To reinforce the strict 7-day delivery timeline)

Requirement	Institutional Criteria	Bidder's Agreement (Yes/No)
Site Inspection	The bidder agrees to verify site readiness (power points, floorspace) immediately upon receiving the Advance Copy of the Purchase Order via email.	
Installation Timeline	Installation and calibration must be completed within 48 hours of the physical delivery of items at the college premises (strictly within the overall 7-day window).	
Faculty Training	Hands-on operational training must be provided to at least two faculty members/lab technicians immediately upon	

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	successful installation.	
Manuals & Software	Hard copies of Operation Manuals and original licensed Software media (where applicable) must be handed over at the time of delivery.	

SECTION - V: GENERAL TERMS & CONDITIONS

- Earnest Money Deposit (EMD): EMD of Rs.2,210/- (Rupees Two Thousand and Two Hundred and Ten Only) payable through online mode in tntenders.gov.in on or before last date of bid submission time as mentioned in critical dates without which the bid quotations will not be considered. The scanned copy of EMD should also be uploaded with other documents. Tenders without EMD will be rejected. EMD Exemption Certificate, if any, should be uploaded.
- Performance Security: The successful bidder must deposit an amount equal 3% to 5% of the contract value as a Performance Bank Guarantee (PBG) or Demand Draft within 2 days of receiving the AoC, prior to formalizing the delivery.
- On-Site Warranty: All lab equipment must be covered by a minimum [2 years] comprehensive on-site warranty from the date of commissioning.
- Payment Terms: 100% payment will be cleared via online transfer (NEFT/RTGS) within a reasonable timeframe only after complete delivery, physical inspection, satisfactory installation, and verification by the Institutional Purchase/Lab Committee. No advance payments will be made.

SECTION - VI: FORMATS TO BE SUBMITTED BY BIDDERS

FORMAT - 1

(To be printed on Bidder's Official Letterhead, scanned, and uploaded into Technical Cover-1)

To

The Principal / Dean,
[Insert College Name]

Subject: Acceptance of Terms & Conditions for Tender Ref No:

Sir/Madam,

1. I/We hereby certify that I/we have read, examined, and completely understood the entire tender document, including all clauses, schedules, and technical specifications.

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2. I/We explicitly note, understand, and agree to the mandatory delivery condition: That the entire order of laboratory equipment will be delivered, installed, and commissioned within 7 (Seven) Days from the absolute date of the Award of Contract. 3. I/We confirm that we possess the necessary stock/infrastructure to execute this order within the 7-day window. I/We understand that any failure to meet this timeline due to the short academic year will invoke immediate Liquidated Damages, contract termination, and risk of institutional blacklisting.
3. All information provided in our online application is true and accurate to the best of our knowledge.

Date: _____

Place: _____

Signature of Authorized Signatory: _____

Name & Designation: _____

Company Seal:

FORMAT - 2

(To be printed on Bidder's Official Letter head, scanned, and uploaded into Technical Cover-1)

UNDERTAKING BY THE BIDDER COMPANY PARTICIPATING IN e-TENDER

Tender Inviting Institution	BHARATHIYAR CENTENARY MEMORIAL GOVERNMENT WOMEN'S POLYTECHNIC COLLEGE, ETTAYAPURAM- 628 902.
Tender No	
Tender Id	
Name of the Bidder Company	

- 1) It is **CONFIRMED THAT NONE** of the family members of the bidder company is working in *BHARATHIYAR CENTENARY MEMORIAL GOVERNMENT WOMEN'S POLYTECHNIC COLLEGE, ETTAYAPURA- 628 008.*

(or)

If working, the details are listed below:

Sl.No.	Name of the family member	Designation in which	Relationship with the
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	working in this Institution	he/she is working	bidder

*(** Please strike out whichever is not applicable**)*

- 2) It is *CONFIRMED THAT* the bidder company has not submitted more than one or multiple bids for this e-Tender from a same IP address. If found wrong, the bidder company is aware of the rejection of bids/cancellation of tender by the tender inviting authority without any notice.

Sign and seal of bidder
company