TRIPURA UNIVERSITY
(A Central University)
Suryamaninagar
Tripura West – 799022

No.TU/FIN/Equip/Engg/187/Vol-II/EE/12 **Date: 04-02-2026**

NOTICE INVITING e- TENDER

Tripura University invite e- Tender from the bonafide Manufacturers/Authorized Dealers for Supply and Installation of Equipment's for the Department of Electrical Engineering, Tripura University. The Details can be seen at Tripura University website: *www.tripurauniv.ac.in*. However, for submission of documents please visit https://eprocure.gov.in/eprocure/app

Sd/-
[Dr. Nirmalya Debnath]
Drawing & Disbursing Officer (DDO)

TRIPURA UNIVERSITY

(A CENTRAL UNIVERSITY)

Tender No:- No.TU/FIN/Equip/Engg/187/Vol-II/EE/12

E-TENDER Document for:

Name of the Item: - Supply and Installation of Equipment's for the Department of Electrical Engineering Tripura University, Suryamaninagar.

TRIPURA UNIVERSITY

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Suryamaninagar – 799022

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No.TU/FIN/Equip/Engg/187/Vol-II/EE/12 **Date: 04-02-2026**

Name of Item: Supply and Installation of Equipment's for the Department of Electrical Engineering Tripura University.

Certified that this Notice Inviting e-Tender contains 12 (Twelve) pages numbered from 1 to 12 and schedule of the e-Tender is shown in Section – I

(Dr. Nirmalya Debnath)
Drawing & Disbursing Officer (DDO)

SECTION- I

NOTICE INVITING TENDERS

LIST OF DATES

TRIPURA UNIVERSITY

(A Central University)

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NOTICE INVITING e-TENDER

1. Tripura University invite e- Tender from the bonafide Manufacturers/authorized Dealers for Supply and Installation of Equipment's for the Department of Electrical Engineering Tripura University, Suryamaninagar. The Details can be seen at Tripura University website: *www.tripurauniv.ac.in*. However, for submission of documents please visit https://eprocure.gov.in/eprocure/app

List of Items with Specification and quantity

<table>
<tr><th>Sl No</th><th>Name of the item with Specification</th><th>Qty</th></tr>
<tr><td>01</td><td>MATLAB Base License (2 Users) with Toolboxes (Latest Version): Perpetual Concurrent Network License: Academic Version; Windows/Linux/Mac Platform
MATLAB (2-User License) with the following Toolboxes:
– Simulink (2 Users)
– Control System Toolbox(2 Users)
– Deep Learning Toolbox (2 Users)
– Statistics and Machine Learning Toolbox (2 Users)
– Signal Processing Toolbox
– DSP System Toolbox (2 Users)
– Optimization Toolbox (2 User)
– Simscape (2 Users)
– Simscape Electrical(2 Users)</td><td>01 No</td></tr>
<tr><td>02</td><td>IoT-Enabled AI-Based Digital Relay for Microgrid Fault Detection
1. Technical Specifications
<table><tr><th>Parameter</th><th>Specification</th></tr><tr><td>Controller</td><td>Xtensa Dual Core microcontroller with WiFi and Bluetooth capability</td></tr><tr><td>Sensors</td><td>RMS Voltage and Current sensors (±0.5% accuracy)</td></tr><tr><td>AI Hardware</td><td>ARM Based SOC (Edge ML compute)</td></tr><tr><td>Threshold Config</td><td>Programmable via onboard interface or serial CLI</td></tr><tr><td>Output</td><td>Relay signal (dry contact) with LED indicators per phase</td></tr><tr><td>Cloud Protocols</td><td>MQTT, HTTP POST, optional NodeRED integration</td></tr><tr><td>Power Supply</td><td>5V DC (USB or adapter)</td></tr><tr><td>Form Factor</td><td>DIN Rail mountable, compact enclosure</td></tr></table>2. Electrical Specifications: -
Parameter Specification
System Voltage 12V DC nominal</td><td>01 No</td></tr>
</table>

	Operating Voltage Range	11.5V – 14.8V DC	
	Max Load Current	5A (customizable)	
	Max Load Power	60W (at 12V)	
	System Frequency (if AC)	Optional inverter @ 50/60Hz	
	5. Solar Photovoltaic (PV) Subsystem		
	Parameter	**Specification**	
	PV Panel Type	Monocrystalline / Polycrystalline	
	Max PV Input Voltage	12V.	
	Rated PV Power (Typical)	100W to 140W (expandable)	
	Solar Charge Controller	MPPT preferred; 12V input/output	
	Controller Efficiency	≥ 95%	
	Protection	Overvoltage, reverse polarity, short-circuit	
	6. Wind Turbine Subsystem		
	Parameter	**Specification**	
	Rated Power Output	50W-100W (12V DC output)	
	Startup Wind Speed	≤ 2.5 m/s	
	Rated Wind Speed	~12 m/s	
	Turbine Output Voltage	12V DC	
	Wind Charge Controller	Integrated or standalone 12V type	
	Braking System	Electronic / Manual dump load	
	Mounting	Laboratory module with stand fan-1no.	
	7. Battery Energy Storage Subsystem		
	Parameter	**Specification**	
	Battery Type	Deep cycle AGM / LiFePO4	
	Battery Voltage	12V nominal	
	Battery Capacity	30Ah, 12volt dry cell type.	
	Max Charging Current	Depends on controller & battery	
	Cycle Life	AGM: ~500 cycles.	
	Protection	Overcharge, deep discharge, temp.	
	8. Load and Distribution		
	Parameter	**Specification**	
	DC Load Bus Voltage	12V ±10%	

	Fuse/Breaker Protection Per load segment **DC Loads** LED lighting, fans, pumps, USBs **AC Loads (Optional)** Via inverter (12VDC to 230VAC or 120VAC) **Power Distribution** Central DC bus with inline fuses	
03	**IoT Enabled DC Distribution Network Analyzer with Different Fault** **Technical Specifications**:- Details of the set-up are following : a) DC Power Supply : Isolated, 0-50V / 2A variable DC power supply with over load and short circuit protected – 2 nos. b) Voltmeter: Digital DC voltmeter (0-199.9 volts count), panel mount flash type, 96 mm X 45 mm, Aux. supply : 230V AC (MECO make) – 5 nos. c)Ammeter: Digital DC voltmeter (0-1.999 amps count), panel mount flash type, 96 mm X 45 mm, Aux. supply : 230V AC (MECO make) – 5 nos. d)Resistance: 0.5Ω, 1 Ω, 2Ω, 3Ω, 4Ω,5Ω, 10Ω, 15Ω, 20Ω, 25Ω, 30Ω, 50Ω wire wound resistance (All values resistance assembly having six nos., All are 10 Wattage). e) Resistive Load : 200 Ω/1.5A – 1 no., 300 Ω/1.25A – 1 no., 500 Ω/1A – 1 no each. All terminals of the meters, load, etc. are brought out on BS-4 terminals for flexible connection. All meters, Power source, resistances, loads are fitted/mount on Bakelite sheet which fitted on self stand, foot mounted, Table top, power coated MS sheet panel with required fan for cooling & connection with required Armstrong's Patch chords, operating manual etc. Emergency Switch:- Two nos. emergency switch must be provided on both side of the panel for emergency purpose. Over Current/Over load protection: Trainer should be protected from over current and short circuit. All meters are mounting / fittings on a Class "F" insulation panel board with resolution print and fittings to a powder coated panel box and stand with trolley mounted for easily movement. Panel must use for automatic cooling system on above 40degree temperature. All inbuilt connection must marking proper circuit diagram with ferule numbing and provide circuit diagram. Patch cord are must used ISO make multi jack and ISO make wire. All the terminals of the Meters, etc. brought out on the panel for flexible connection. With MCB, indicators, terminals, connecting patch cords, operating manuals (both Hard copy and Soft copy). **IoT Module Specification**: The IoT-based parameter monitoring system should be engineered for precise, real-time data acquisition, processing, and visualization, offering both local and remote access capabilities. Locally, it should feature high-contrast OLED display with a minimum resolution of 128x64 pixels, driven by I2C communication for low-latency updates. The system should be powered by a dual-core microcontroller unit (MCU) with a clock speed of 240 MHz, incorporating a hardware floating-point unit for efficient computation and 520 KB SRAM for real-time data buffering. It should integrate 802.11b/g/n Wi-Fi for reliable network connectivity, supporting WPA2 encryption for secure data transmission. Remote monitoring should be enabled via a dedicated cross-platform mobile application and web dashboard, with real-time visualization tools, alerts, and anomaly detection features. User authentication should be enforced through secure ID and password protocols, with optional multifactor authentication for enhanced security. All the parameters must be visualized globally in real time through IoT	01 No

	Cloud Platform login using unique user id and password from any part of the world and the data should be stored up to 7 days and should be exported in CSV/Excel format for detailed offline analysis.	

2. The tenderers fulfilling the required criteria as mentioned may download the tender document from the websitehttps://eprocure.gov.in/eprocure/app and submit online as per the schedule given below. However, the tender documents can also be viewed in the website of the University www.tripurauniv.ac.in.

Date and time of tender publication in the websites.	04-02-2026 at 4.30 PM
Date and time for closing of submission.	14-02-2026 at 4.30 PM
Date and time for opening of technical bid document.	16-02-2026 at 10.00 AM
Date and time for opening of financial bid.	17-02-2026 at 10.00 AM

SECTION- II

General Terms & Condition

General Terms & Condition

1. **Scope of Work:** Scope of work covered under this includes supply, transportation and installation at the Department of Electrical Engineering, Tripura University Suryamaninagar;
2. **Qualifying requirements:** The bidder must either be a manufacturer or authorised dealer having credential of supplying and installation of above-mentioned items.
3. **Processing Fee**

   An online tender fee of ₹1,000/- (Rupees One Thousand only), non-refundable, shall be paid through **RTGS/NEFT**. **A scanned copy of the payment proof** must be uploaded along with the tender documents. The **bank details** are as under:

   Name of the Account : Tripura University Online Deposit Account.
   Type of Account : Savings Bank Account
   Account Number : 44836399405
   IFSC : SBIN0010495

4. **Earnest Money Deposit (EMD)**

   A demand draft for Rs. 20,000.00 (Rupees Twenty Thousand Only) refundable, shall be paid through **RTGS/NEFT**. **A scanned copy of the payment proof** must be uploaded along with the tender documents. The **bank details** are as under:

   Name of the Account : Tripura University Online Deposit Account.
   Type of Account : Savings Bank Account
   Account Number : 44836399405
   IFSC : SBIN0010495

5. **Warranty and Support: Warranty: Minimum 1 years warranty on the instrument after satisfactory installation**.
6. Technical Support: Availability of technical support and service center information.
7. **Forfeiture of EMD**: The Earnest Money is liable to be forfeited in the event of (a) withdrawal of offer during the validity period of the offer, (b) non-acceptance of orders when placed, or (c) Non confirmation of acceptance of orders within the stipulated time after placement of offer, (d) Any unilateral revision made by the bidder during the validity period of the offer.
8. **Rate:** The bidder should quote the rate in Indian Currency i.e. INR and such rates are FOR destination basis i.e. at the site of Tripura University, Suryamaninagar-799022. Bidders are required to quote their rate exclusive of taxes, Government Taxes will be paid as per prevailing Government rules at the time of payment.
9. **Time for Completion**: Delivery and installation of the items must be completed within 21 (Twenty-One) days from the date of issue of purchase order.

10. **Payment Terms**: 95% Payment will be made after satisfactory completion of delivery, 5 % of invoice value will be retained as performance guarantee, and the same will be released after 01(One) year from the date of delivery and installation.
11. **Quotations for part items shall not be entertained.**
12. The contract shall be governed by the Laws and Procedures established by the Government of India and subject to exclusive jurisdiction of competent Court and Forum in Agartala only.
13. Payment will be made strictly through RTGS/NEFT/Bank Transfer.
14. **Note**: Tripura University reserves the right to reject any/all the quotations without assigning any reason thereof for the interest of the University and lowest rate may not be the only criteria for selection of the bid.

SECTION - III

INSTRUCTIONS TO BIDDERS

Tripura University (A Central University), Suryamaninagar, Agartala, Tripura invites E-tenders for: **"Subject:** Supply and Installation of Equipment's for the Department of Electrical Engineering" as per details given in the tender document uploaded onhttps://eprocure.gov.in/eprocure/app.

The offers, in the prescribed format, shall be submitted online at https://eprocure.gov.in/eprocure/appas per the tender document. No tender will be accepted in hard copy, fax, e-mail or any other such means. The intending bidders must be registered with e-tender website https://eprocure.gov.in/eprocure/app.

The tender document is also available on Tripura University (A Central University) website: **https://www.tripurauniv.ac.in/** for reference and viewing only but not for submission. **However, for the purpose of submission, the website**https://eprocure.gov.in/eprocure/app**should be referred to NIT (notice inviting tender).**

Instructions for Online Bid Submission:

The bidders are required to submit soft copies of their bids electronically on the e-tender Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the e-tender Portal, prepare their bids in accordance with the requirements and submitting their bids online on the e-tender Portal.

More information useful for submitting online bids on the e-tender Portal may be obtained at: https://eprocure.gov.in/eprocure/app.

REGISTRATION

Bidders are required to enroll on the e-Procurement Portal (https://eprocure.gov.in/eprocure/app.

1. with clicking on the link "**Online bidder Registration**" on the e-tender Portal by paying the requisite **Registration fee through online banking.**
2. As part of the enrolment process, the bidders will be required to choose a unique user name and assign a password for their accounts.
3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication with the bidder.
4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate **(Only Class III Certificates with signing + encryption key usage)** issued by any Certifying Authority recognized by CCA India (e.g.Sify/ TCS/ nCode/ eMudhra etc.), with their profile.
5. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
6. Bidder then logs in to the site through the secured log-in by entering their user ID/password and the password of the DSC/ e-token.
7. The scanned copies of all original documents should be uploaded on portal**.**

Annexure I

All the documents mentioned should be submitted/uploaded in the Central Procurement Portal

Technical Bid

Sl No	Particulars	
1	Name of the Bidder / Firm / Agency / Vendor	
2	Address of the Bidder/Fire/Agency/ Vendor	
3	PAN and GST Registration along with upto date GST clearance certificate in his/her own name issued by the competent authority (Copies to be submitted)	
4	Experience certificate/Work order supporting execution of similar works put to tender (Copies to be submitted)	
5.	EMD (Refundable) Amount …… Transaction No…… Dt. …….. Name of the drawing Bank ……	
6	Cost of Tender Document (Non Refundable) Amount …… Transaction No…… Dt. …….. Name of the drawing Bank ……	

Declaration by the Bidder/ Firm/Agency/Vendor

I/we am/are submitting my/our best our in response to your NIT vide No …… Dated…… For further course of evaluation. I/We have gone through the terms and conditions as mentioned and understood properly without any short of ambiguity. Therefore, all the informations given by me/us are true to the best of my/our knowledge and belief. I/We bind myself/ourselves for compliance of all the terms and conditions as mentioned if the work is offered.

Signature of the Bidder/Firm/Agency/Vendor with seal