VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY: BURLA

P.O: Engineering College Burla (Siddhi Vihar), Dist: Sambalpur
Odisha– 768018, India
Website :www.vssut.ac.in, E-mail: registrar@vssut.ac.in,Ph:(0663)2430573,Fax-2430592

No.: VSSUT/EE/ 902 **/2026** **Date:** 09 / 11 /2026

TENDER CALL NOTICE

Sealed bids, in two separate covers (Technical bid and Financial bid) are invited from original manufacturers / authorized suppliers/ authorized dealers for the supply, installation, commissioning, Maintenance and demonstration of various equipment for **Advanced Renewable Energy Systems Laboratory (ARESL): PV Emulator, DSO, Probe&Sensors, Electronic Loads etc**for the **Dept. of Electrical Engineering**", VSSUT, Burla, Sambalpur, Odisha.The tenders shall reach the office of the undersigned through **Speed/Registered** post /Courier services only **on or before 02/12/2026 up to 4.30PM**.

For more details, please visit our university website www.vssut.ac.in. The authority the reserve right to accept or reject all the tenders without assigning any reason thereof.

REGISTRAR

Size: 8 × 6 Sqcm

Memo No. VSSUT/EE/ 903 **/2026** **Date:** 09 / 11 /2026

Copy to:-

1. The Director, Department of I & PR, Govt. of Odisha, Bhubaneswar with request to publish above advertisement in one issue of the All Odisha daily edition of "The Samaja" and All India edition of "The New Indian Express + Indian Express" at the I&PR approved/lowest rate. The bill may be sent in triplicate along with a copy of the paper in which the publication is made.
2. University Notice Board of VSSUT, Burla.
3. Comptroller of Finance for information and necessary action.
4. Dean F & P, with a request to upload the notice &documents in the university website.
5. PA to Vice Chancellor for information of the Honorable Vice Chancellor.

REGISTRAR
VSSUT, Burla

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No: VSSUT/EE/ 904 /2026 **Date: 09 / 11 /2026**

TENDER CALL NOTICE

Sealed Bids, in two separate covers **(Technical Bid and Financial Bid)** are invited by the **"The Registrar, Veer Surendra Sai University of Technology, Odisha" from** original manufacturers/authorized suppliers/authorized dealers **for Supply, Installation, Commissioning, Maintenance and Demonstration of Advanced Renewable Energy Systems Laboratory (ARESL): PV Emulator, DSO, Probe&Sensors, Electronic Loads etc.**for the **Department of Electrical Engineering (EE), VSSUT Burla, Odisha,** under FIST (Fund for Improvement of Science & Technology) project funded by Department of Science and Technology(DST), Govt. of India. The sealed quotations shall reach the undersigned by regd. / speed post / Courier services within the office hour by **4.30 P.M.**of date **02/12/2026**. Tender received beyond this date & time shall be rejected. **"Tender for Electrical Engg. Department. for supply of Advanced Renewable Energy Systems Laboratory (ARESL): PV Emulator, DSO, Probe&Sensors, Electronic Loads etc"** must be super scribed on the sealed envelope. The details of the equipment/ firmware/Software and their technical specifications are mentioned below.

Details of the Equipment/Firmware

Table No.1: Detail Specifications of Equipment

Sl. No	Item &Description	Quantity	Specifications
1	AC Clamp Power meter	1	Detail Specifications: • (i) Circuit Measurement Configurations: Fulfill measurements across Single-phase (2-wire/3-wire) and balanced/unbalanced Three-phase (3-wire/4-wire) networks under normal operational supplies. • (ii) Primary Measurement Parameters: Simultaneous capability to capture AC Voltage, AC Current, Voltage/Current Peak values, Active Power, Reactive Power, Apparent Power, Power Factor, Phase Angle, Frequency, and Phase Sequence Detection. • (iii) AC Voltage Measurement Boundary: 80.0 V to 600.0 V AC (True RMS) or wider. • (iv) AC Current Measurement Boundary: 0.060 A to 600.0 A AC (True RMS) across multiple automatic or manual ranges. • (v) Active Power Operational Range: 0.005 kW to 360.0 kW minimum (Single-phase boundary). • (vi) Harmonic Analysis Capability: Support for Voltage and Current harmonic order analysis up to at least the 30th order via integrated digital interfaces or

			dedicated external mobile software applications. • (vii) Phase Angle Adjustments: Measurable from lead -180.0° to lag 179.9°. • (viii) Power Factor Parameters: Operational boundaries from -1.000 to 1.000. • (ix) System Frequency Window: 45.0 Hz to 999.9 Hz response window. • (x) Core Functional Layouts: Peak capture, hardware phase detection, Max/Min/Avg value tracking, Auto-hold display function, reference electric meter comparison utility, and unbalanced 3-phase power estimation capabilities. • (xi) Power Source & Operation: Powered via standard Alkaline batteries providing at least 25 hours of continuous field utilization with the display backlight disabled.
2	Digital Storage Oscilloscope	1	Detail Specifications: (i)Bandwidth 250 MHz or higher (ii)Channels:6 Analog Channels or greater numbers (iii)Sample Rate of Analog Channel: 2 GSa/s Per channel (iv)Memory Depth: 230Mpts or better for all Channels. (v)Vertical Resolution:12-bit and up to 16-bit in high resolution mode (vi)Peak Detection:500 ps glitches Capture Rate (vii)Max. Waveform Capture Rate: At least 100,000 wfms/s (viii) Analog Input Frontend Characteristics:a)Input coupling: DC, AC, or GND b)Input Impedance and Capacitance value: Impedance : 1 MΩ ± 1%, 50 Ω ± 1% , Capacitance: 19 pF ± 3 pF or lower standard value (ix)Probe Attenuation Coefficient: 0.001X to 50000X in all suitable ranges (x)Vertical Sensitivity: 100 µV/div to 10 V/div @ 1MΩ 100 µV/div to 1 V/div @ 50 Ω (xi)Channel-to-Channel Isolation: ≥100:1 (xii) DC Offset Accuracy: ≤±(1.5% of offset setting + 0.5% of full scale) or better (xiii)Time Base Range: 200 ps/div to 500 s/div minimum (xiv)Time Base Resolution: Below 50 ps (xv)Trigger Type: Different options of Edge trigger, Pulse trigger, Slope trigger, Video trigger, Pattern trigger, Duration triggerand common serial bus protocols (e.g., RS232/UART, I2C, SPI). (xvi)Measurement display: Minimum 30 auto measurements; and up to 10 measurements can be displayed at a time. (xvii)Advanced Math Functions: Must include standard arithmetic operators (+, -, ×, /), advanced calculus/algebraic functions (FFT, Integration, Differentiation, Logarithm, Natural Log, Exponential, Square Root, Absolute Value, Linear Fit AX+B), and logical/digital filtering functions (AND, OR, XOR, NOT, LowPass, HighPass, BandPass, and BandStop). (xviii)Voltmeter & Frequency Counter: Standard Voltmeter and 6-digit Frequency Counter (xix)System Architecture: High-speed multi-core embedded hardware processor optimized for real-time waveform calculations and UI responsiveness. (xx)Internal Storage: At least 64 GB of internal non-volatile memory for storing instrument configurations, reference waveforms, and deep data logs. (xxi)Interfaces: USB Host/Device , LAN, HDMI (xxii)Display 10.1-inch capacitive multi-touch gesture-enabled display
3	100kHz, 100A Current Probes	10	Detail Specification: (i) Operating Capability & Bandwidth: Continuous auto-sensing execution across both Alternating Current (AC) and Direct Current (DC) applications, delivering a frequency bandwidth spanning from DC to a minimum of 100 kHz (at the -3dB threshold with appropriate current de-rating). (ii) Peak Current Handling & Dual Sensitivity Ranges: Equipped with dual user-selectable measurement boundaries featuring: Low Range: Up to 10 A DC or peak AC at a sensitivity coefficient of 100 mV/A. High Range: Up to 100 A DC or peak AC at a sensitivity coefficient of 10 mV/A.

			(iii) Signal Output Interface: Terminated in a standard 50 Ω BNC Plug-and-Play interface connector, fully compatible with standard digital oscilloscopes and data logging instruments. (iv) Power Delivery System: Powered via a 5 V DC or 9 V DC USB interface input configuration, natively compatible for execution via standard external AC wall adapters or portable USB battery power packs. (v) DC Measurement Accuracy Thresholds: Precision performance maintaining a maximum allowable error limit of: ≤ 5% for current measurements up to 40 A (or better). ≤ 20% for current measurements within the 40 A to 80 A operational range (or better). (vi) Safety Overvoltage Category Rating: Certified electrical isolation and ruggedness parameters meeting or exceeding CAT III 300 V and CAT II 600 V structural safety ratings at the primary conductor interface.
4	Hall effect Current sensors	40	Detail Specification: (i)Operating Principle: Closed-loop (compensated) current transducer utilizing Hall-effect technology for the electronic measurement of DC, AC, and pulsed currents with galvanic isolation. (ii) Primary Nominal RMS Current: 50 A baseline current rating. (iii) Primary Current Measuring Range: Continuous measurement capabilities spanning 0 to at least ±70 A peak. (iv) Secondary Nominal RMS Output Current : 50 mA output at nominal primary rating (representing a 1:1000 conversion turns ratio configuration). (v) System Supply Voltage Range: Bipolar dual-rail DC supply window handling ±12 V to ±15 V DC ±5% tolerance band). (vi) Dynamic Linearity Tolerance : Linearity error restricted to < 0.15% across the entire primary current spectrum. (vii) Residual Electrical Offset : Maximum offset current error limited to ±0.2 mA when primary current is at zero at an ambient temperature of 25°C. (viii) Remnant Magnetic Offset : Maximum magnetic offset current restricted to ±0.3 mA after sustaining a primary overload condition equivalent to 3 times Primary nominal current (ix) Transient Response Delay: Reaction loop performance delivering a delay time to 90% of primary current of < 1µS. (x) Frequency Bandwidth Performance: Stable operation from DC up to a minimum frequency bandwidth of 200 kHz (measured at the -1dB threshold). (xi) Ambient Thermal Boundaries: Certified industrial operating temperature envelope expanding from -40°C to +85°C. (xii) Winding Thermal Resistance : Internal secondary copper winding resistance limits tracking at 80Ω at 70°C, and moving to 85Ω at 85°C (xiii) Target Application Capabilities: Architecture optimized for deployment within AC variable speed/servo motor drives, static converters for DC motor drives, battery-supplied applications, Uninterruptible Power Supplies (UPS), and Switched Mode Power Supplies (SMPS).
5	Differential Probes for DSO	3	Detail Specifications: (i) System Bandwidth (-3dB): DC to at least 25 MHz (operational across all attenuation selections). (ii) Attenuation Ratios: User-selectable dual-range switchable attenuation supporting 1:20 (X20) and 1:200 (X200) modes. (iii) Absolute DC Measurement Accuracy: Within ± 2.0% (or better) across all hardware attenuation limits. (iv) Maximum Measurable Differential Voltage: Capable of safely evaluating voltages up to at least 140 V Peak (or 1400 V Peak-to-Peak) in X20 mode, and up to 1400 V Peak (or 2800 V Peak-to-Peak) in X200 mode. (v) Maximum Common Mode Voltage to Ground: Certified electrical safety isolation ratings meeting at least 600 Vrms CAT III (or 1000 Vrms CAT II) at the primary input terminals.

			(vi) Hardware Rise Time Response: High-speed transient performance delivering ≤ 14 ns in the X200 range, and ≤ 24 ns in the X20 range. (vii) Common Mode Rejection Ratio (CMRR): Minimum tracking performance maintaining > 80 dB at 60 Hz, > 60 dB at 100 Hz, and > 50 dB at 1 MHz profiles. (viii) Terminal Input Impedance (Differential): Minimum baseline parameters of 4 MΩ in parallel with ≤ 5.5 pF (or lower) to minimize circuit loading. (ix) Terminal Input Impedance (Single-Ended): Minimum baseline parameters of 2 MΩ in parallel with ≤ 11 pF (or lower) relative to the common ground interface. (x) Output Interface: Terminated in a standard 50 Ω BNC connector, fully compatible with any standard digital oscilloscope terminal block. (xi) Power Source Versatility: Dual-power configuration architecture; operational via an external 9V DC power supply adapter or standard internal battery power options for remote fieldwork isolation.
6	Programmable Electronic Load (ac/dc both)	1	Detail Specifications: (i) System Power and Voltage Capability: Continuous power handling rating of at least 1875 W / 1875 VA, with operational voltage capability up to 350 Vrms (AC) and 500 Vdc (DC) minimum. (ii) Operational Frequency Range: Natively operates across DC and an AC frequency window encompassing 40 Hz to 440 Hz. (iii) AC Mode Current Capacity: Continuous execution from 0 Arms up to at least 18.75 Arms, with a peak current handling tolerance of up to 56.25 Apeak. (iv) Current Setting Resolution: Tightly controlled resolution down to 2 mA or better. (vi) AC Operation Modes: Selectable Constant Current (CC), Linear Constant Current (Linear CC), Constant Resistance (CR), Constant Power (CP), and AC Rectifier Load Simulation modes. (vii) Waveform Crest Factor Control: Programmable crest factor scaling from 1.414 up to at least 5.0. (viii) Power Factor Adjustment: Settable from 0.000 to 1.000 (both leading and lagging phases) with adjustment resolution increments of 0.001. (ix) DC Mode Core Limits: Input thresholds handling up to 500 Vdc,continuous current up to 18.75 A, and power absorption up to 1875 W. (x) DC Operation Modes: Selectable Constant Current (CC), Constant Voltage (CV), Constant Resistance (CR), and Constant Power (CP) modes. (xi) Programmable Internal Resistance: Adjustable simulated output resistance encompassing a span from 0 Ω to at least 135 Ω. (xii) Onboard Metrology and Analysis: Integrated measurement loops for RMS Voltage, RMS Current, Active Power (P), Apparent Power (S), Reactive Power (Q), Frequency, Crest Factor, Power Factor, and integrated Total Harmonic Distortion (THD) calculation matrices. (xiii) Transient Response Profiles: Slew performance exhibiting a voltage rise time (no load) ≤ 40 ms and a fall time (full load) ≤ 25 ms. (xiv) Internal System Noise (20Hz to 20MHz): Ripple constraints restricted to ≤ 500 mVp-p for voltage and ≤ 40 mArms for current loops. (xv) Static Load Regulation: Structural regulation maintaining voltage drift ≤ 0.01% + 100 mV and current drift ≤ 0.05% + 20 mA. (xvi) Remote Interfaces: Equipped with structural expansion options for digital control interfaces including USB, LAN, RS-232, or GPIB protocols.
7	Solar PV Emulator	5	Detail Specification: (i)2 kW (96V, 20Amp) each. (ii)Input Voltage: 1 Phase 220-240V AC, 50 Hz. (iii) Output Voltage: 0-96V, 0-20A. (iv) Voltage Resolution: 0.1V. (v)Current Resolution: 0.1A. (vi) Software mode: Available. (vii)Output Ripple and Noise Maximum (mV rms): 650. (viii) Efficiency: up to 95%. (ix) Meter: Digital type. DC side: (x) Read-back accuracy (current): 98%; (Voltage): 98%. (xi) Setup resolution (Current in mA): 10. (xii) Dual mode: solar array emulator and simulator, (xiii) Auto I-V program for automatic I-V curve generation
8	Desktop Computer	1	Detail Specification: (i) Intel core-i7, latest generation (12/13), (ii)16GB RAM (DDR4 or other), (iii) SSD

			512GB or higher NVME +1TB Hard disk, (iv) latest version window (11 or higher), (v) Latest Microsoft office suite (Perpetual License), (vi)Graphic card latest version (4GB or higher), (vii) wired mouse, (viii) led screen (21.5 or higher), (ix)Standard keyboard. (x) Display type: Non touch, (xi) WiFi, IPV6 Ready, (xii) Ports: USB-3 (4 port or higher), HDMI-1 or higher, Type C-1 or higher, (xiii) UPS: 1kVA (Offline).

The Bidders may download the **Tender Documents** directly from the website available at **http://www.vssut.ac.in** and the Earnest Money Deposit (EMD) (2% of quoted price) amount and the Tender cost fee of Rs. 1000/- (Non-refundable) by way of separate Demand Draft drawn in favour of **"The Registrar, Veer Surendra Sai University of Technology, Burla" payable at SBI, Burla** should be enclosed along with the Technical Bid. In case of any bid clarification, responsibility lies with the bidders to collect the same from the website and the purchaser shall have no responsibility for any delay/ omission on part of the bidder.

TIME SCHEDULE:

a) Date of commencement of downloading bidding document **–11/11/2026 at 04.30 PM**

b) Last date and time for Receipt of bids **-02/12/2026 up to 4.30 PM**

c) Time and date of opening of Tender &Technical bid- **03/12/2026 at 11.30AM**

d) Time and date of opening of Financial bid- **05/12 /2026 at 04.30PM**

PLACE OF OPENING OF TENDER AND ADDRESS FOR COMMUNICATION AND RECEIPT OF BID DOCUMENTS

THE REGISTRAR

VEER SURENDRA SAI UNIVERSITY OF TECHNLOGY, ODISHA

At- Burla, Po-Burla Engineering College, Dist-Sambalpur-768018,

Tel. No-0663-2430211 Fax No-0663–2430204

REGISTRAR

VSSUT, Burla

SECTION-1

TECHNICAL PROPOSAL SUBMISSION FORM

LETTER OF BID

To
The Registrar
VSSUT, Burla- 768018

Ref: Invitation for **Tender Notice No.**_____ **, Date:**_____

We, the undersigned, declare that:

1. We have examined and have no reservations to the Bidding Documents, including addenda issued in accordance with Instructions to Bidders.
2. We offer to execute in conformity with the Bidding Documents for **Supply, Installation, Commissioning, Maintenance and Demonstration of Advanced Renewable Energy Systems Laboratory (ARESL):PV Emulator, DSO, Probe&Sensors, Electronic Loads etc for the department of Electrical Engineering VSSUT, BURLA**
3. Our bid shall be valid for a period of **180 days** from the date fixed for the bid submission deadline in accordance with the Bidding Documents and it shall remain binding upon us and maybe accepted at any time before expiry of that period.
4. If our bid is accepted, we commit to submit a performance security in accordance with the Bidding Documents.
5. We also declare that Government of Odisha or any other Government body has not declared us ineligible or black listed on charges of engaging in corrupt, fraudulent, collusive or coercive practices or any failure/lapses of serious nature.
6. We also accept all the terms and conditions of this bidding document and undertake to abide by them, including the condition that you are not bound to accept highest ranked bid / lowest bid or any other bid that you may receive.

Yours sincerely,

Authorized Signatory with company seal (Authorized person shall attach a copy of Authorization for signing on behalf of Bidding Company)

Full Name and Designation

(To be printed on Bidder's letterhead)

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INSTRUCTIONS TO THE BIDDER

General Terms and Conditions

GENERAL TERMS & CONDITIONS OF CONTRACT FOR SUPPLY, INSTALLATION, COMMISSIONING, MAINTENANCE AND DEMONSTRATION OF EV AND DRIVES LAB EQUIPMENTSAS REQUIRED FOR THE DEPARTMENT OF ELECTRICAL ENGINEERING, VSSUT, BURLA, ODISHA.

1. GENERAL INSTRUCTIONS

The department of Electrical Engineering, VSSUT, Burla, requires **Advanced Renewable Energy Systems Laboratory (ARESL):PV Emulator, DSO, Probe&Sensors, Electronic Loads etc.**equipment of mentioned specifications to be supplied, installed, commissioned, maintained and demonstrated at the site. The list of equipment is given in Table 1 below.

Table No.2: List of Equipment Required

Sl. No	Item &Description	Quantity
1	AC/DC Clamp meter	1
2	Digital Storage Oscilloscope	1
3	100kHz, 100A Current Probes for DSO	10
4	Hall effect Current sensors	40
5	Differential Probes for DSO	3
6	Programmable Electronic Load (ac/dc both)	1
7	Solar PV Emulator	5
8	Desktop PC	1

The detailed specification requirement of the equipment is mentioned in the
the tender documents may be downloaded from our university website http://www.vssut.ac.in.

While all efforts have been made to avoid errors in the drafting of the tender documents, the Bidder is advised to check the same carefully get it clarified before submission of tender and no

claim on account of any errors detected later in the tender documents shall be entertained.

Each page of the Tender documents must be stamped, signed and numbered by the bidder submitting the tender in token of his/her having acquainted himself / herself and accepted the entire tender documents including various conditions of contract. **Any Bid with any of the documents not so signed is liable to be rejected at the discretion of the University.**

NO PAGE SHOULD BE REMOVED/ DETACHED FROM THIS BIDDING DOCUMENT.

The bidder shall attach copy of the authorization letter / power of Attorney as the proof of authorization for signing on behalf of the Bidder.

All Bidders are hereby explicitly informed that conditional offer or offers with deviations from the conditions of Contract, the bids not meeting the minimum eligibility criteria, Technical Bids not accompanied with EMD, Non-Responsive Technical Bids or any other requirements, stipulated in the tender documents are **liable to be rejected**.

The parties to the Bid shall be the "Bidders'' (to whom the work can be awarded) and VSSUT, Burla shall be termed as the University who can accept/reject any bid without assigning reasons.

For all purposes of the contract including arbitration there under, the address of the bidder mentioned in the bid shall be final unless the bidder notifies a change of address by a separate letter sent by registered post with acknowledgement to VSSUT, Burla. The bidder shall be solely responsible for the consequences of any omission or error to notify change of address in the aforesaid manner.

The University reserves the right to amend/cancel this tender at any stage/time without assigning any reason. The decision/ interpretation of the competent authority of University shall be final and binding.

1. Document Establishing Bidder's Eligibility & Qualification

The Bidders shall furnish as part of the Bid the following Documents establishing Bidder's eligibility and qualification to the Purchaser's satisfaction.

1.1 Manufacturer / Authorized Distributor / Dealer having valid license / certificates for the quoted item and the direct Importers holding valid Import License Manufacturer / Authorized Distributor / Dealer of the product are eligible to participate in the Bid.

1.2 Bidders should have **ISI or equivalent** certification for quoted instruments and equipment. However, the Purchaser shall have the right to consider the items where ISI or equivalent certification is not applicable.

1.3 The Bidder whether manufacturer/ distributor/ dealer must have experience of supply and installation of similar items as quoted in Bid, at different Govt. Organizations, PSUs / Reputed Government Institution & Universities like IITs, NITs/ Reputed Private Institutions within India during at least last preceding 2(Two) years reckoned from the date of bid opening and the details must be submitted along with documentary proof(**Annexure-VI**). More than 2 years' of experience, shall be preferred.

1.4 The Bidders shall have to produce document in support of their service associates **nearest to an Eastern State of India/ Bhubaneswar/ Sambalpur/in Western Region of Odisha.**

1.5 Bidder shall have to provide demonstration of different hardware component **to Purchaser.**

1.6 The Bidder shall quote items of one reputed Brand/model with all accessories, wherever applicable, with desired specification in complete to perform functionality of Equipment.

1.7 Manufacturer must submit copy Company Incorporation Certificate (CIN) and (GST) Tax Registration Certificate issued from Competent authority. In case of Authorized Distributor / Dealer/Suppliers must submit Manufacture authorization along with copy of above documents of Manufacture Industry.

1.8 The bidder must have GST registration in the state of Odisha. If not registered, an **affidavit must be submitted**, committing to obtain the Odisha GST certificate before finalization of the bid otherwise tenderer have all rights to disqualify the bid of the bidder.

1.9 The bidder may furnish a valid and current registration certificate issued by the National Small Industries Corporation (NSIC). However, submission of this certificate is mandatory for bidders seeking to avail any exemptions or preferences applicable to MSMEs as per the prevailing Public Procurement Policy.

2. Document Establishing Goods' Eligibility

The various equipment, hardware and software offered against the schedule of requirement, should be in accordance with the stipulated specifications and of one reputed brand/model,

wherever applicable (N.B: Variation in specification is allowed upto±5% in case of different hardware)

2.1 The bidder shall submit Product Data Sheets / Catalogues of the quoted products and provide details of the specifications of equipment, hardware and software with major technical features as enlisted in in the **complete sets of Annexure-V.**

2.2The bidder shall clearly specify in the bid the compatibility of the various equipment and individual units.

2.3 The quantity shown in the bid can be increased or decreased to any extent depending upon the actual requirement.

2.4Differentequipment/machine/hardware/software should have testing certificate for its satisfactory functioning.

3. Technical Bid (COVER - A)

The following document should be submitted in **Cover-A, the first page being the Technical Proposal Submission Form (Letter of Bid) mentioned in Section 1,** duly signed in Bidder's letterhead. Any documents not mentioned in this section but mentioned in section 1 & section 2, must also be included in **Cover-A.**

3.1 Tender Cost Fee and the Earnest Money Depositin the form of separate DD, as specified in Tender Call Notice in website of University

3.2 Technical details and specifications of different Equipment/software/hardware in the complete sets of **Annexure-V**.

3.3Copy of the manufacturing license/ import license/ Authorized Distributor/ Dealer certificates

3.4 Copy of the authorization from the Manufacturing Company in case of Authorized Distributor /Dealer(**Annexure-III**) along with Manufacturer Industry Registration and Tax Registration Certificate.

3.5 GST clearance certificate up to date where applicable.

3.6 Certificates declaring Performance credential / Market standing / Installation certificate/ Competency Certificate establishing that the Bidders have executed supply of similar items as mentioned in Schedule of Requirement of equipment, hardware and software to different Govt. Organizations, PSUs/ Reputed Government Institution & Universities like IITs, NITs/ Reputed Private Institutions. (**Annexure-VI**)

3.7 Copy of the IT PAN Card should be submitted.

3.8 Detail name, address, telephone no. fax, e-mail of the firm(bidder) and of the Director/ Managing Director/ Proprietor of the firm(bidder) (As per **Annexure IV**)

3.9 Address, Telephone No., e-mail, Fax of the Branch Office/ Contact Person/ Liaising Office in Odisha. (As per **Annexure IV**)

3.10 Power of Attorney/ Authorization to a person for liaising and monitoring the business on behalf of the manufacturer / bidder/ Joint Venture Consortium but not entitled to raise the bills.

3.11Bidder/OEM must submit mandatory certification i.e. ISO 9001:2015 and some additional certification documents like ISO 14001:2015, ISO 45001:2018, CE, RoHS, GMP, OEM should also be submitted to claim better quality of the equipment.

3.12The original bid document signed & sealed by authorized person in each page as a token of acceptance of all terms and conditions of the tender with original receipt.

3.13 Documentary evidence establishing that the equipment, hardware, software and ancillary services to be supplied by the Bidders shall confirm to the Bidding Document

3.14 Any deviation in the specification of the item including standard accessories / optional accessories in complete for functionality of hardware should be marked in **bold letters.**

3.15 Technical and other details of different hardware, software, equipment if any, should be provided.

3.16 The details of the service station / service associates nearest to Bhubaneswar/Sambalpur/ in Eastern Region of India, shall have to be submitted to qualify in the technical bid.

3.17 All bidders are required to e-mail well in advance to confirm site visit availability. Upon receiving approval, bidders shall visit the site at their own expense and submit a compliance report along with a photograph of the site approval as proof, as well as a layout plan prepared according to the site conditions, to be included with the bid in the Technical Specification Bid.

3.18 Bidder should be affiliated with the relevant Sector Skill Council (SSC) in India related to the specific skill development program or training initiative. Bidders who produce true copy of Bid specific authorization from Sector Skill Council or authorization letter from ASDC, shall be preferred during technical bid evaluation.

3.19 Bidders shall quote only those products (Part of Service delivery) in the bid and must provide necessary declaration by OEM showing the quoted equipment (Hardware/software etc), which are not obsolete in market and has at least 5 years of residual market life, i.e. the offered product shall not be declared end of life by the OEM before this period.

4. **Financial Bid (COVER – B)**

4.1 The hard copy of Financial Bid giving the rates for various instruments & equipment and other items should be submitted along with sealed soft copy of **Financial bid in Excel format through CD/Pen drive** both in separate sealed cover hereinafter called **Cover B (Financial Bid).**

4.2 The price of each item shall be quoted as per the prescribed Price Schedule Format at **Annexure-I** along with price break up of custom duty, Excise Duty, GST, Packing, Forwarding and Handling charges, Insurance charges, ET, Freight up to destination including unloading, commissioning, testing and training with total price per item at thedestination. The bidders are required to submit the individual price of each item as indicated in the schedule of requirements.

4.3 Each quoted item and all accessories should cover the warranty for **2(two)** years from the date of commissioning **(Annexure-II)**.

4.4 The **Cover B** of the **Technically qualified** bidders shall be only opened at the Office of **"The Registrar, Veer Surendra Sai University of Technology, Burla"** on the date and time as specified in the tender document, after evaluation of technical bid in **Cover A** as per eligibility conditions laid down in section 1,2 and 3 of this document and minimum technical

score, by a Technical Committee appointed by the Purchaser (See section 5.16& 5.17 for details)

4.5 The cost of standard accessories shall be included in basic price and optional accessories shall have to be quoted separately.

5 BID CONDITIONS

5.1 The quoted rate shall not vary with the quantum of order placed or destination point.

5.2 A copy of the original bid conditions and the schedules should be signed by the bidder at the bottom of each page with the office seal duly affixed and returned along with the bid. Bid schedule should be duly filled in with an **index** and **page number** for the documents, enclosures & EMD etc. **Page Numbering** must be done for all the documents submitted.

5.4 Bids should be type written or Computerized and every correction/ over writing in the bid should invariably be attested with signature of the bidder with date before submission of the bids to the authorities concerned. No revision of price upward or downward will be allowed once the bid is opened. However, the purchaser shall have the right for considering the exchange rate of foreign currencies on verification of documents.

5.5 Language of Bid

The Bid prepared by the bidders and all correspondence and document relating to the bid exchanged by the Bidders and the *Purchaser*, shall be written in the English language. Supporting document and printed literature furnished by the Bidders may be written in another language provided they are accompanied by an accurate translation of the relevant passages in the English language in which case, for purposes of interpretation of the Bid, the English translation shall govern.

5.6 Bid Price

- The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialling, dating and re-writing.
- All duties, taxes, and other levies payable on the raw materials and components, job contract, software and hardware equipment, shall be included in the total price.
- GST in connection with the sale shall be shown separately.

- The rates quoted by the bidders shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- The price shall be quoted in Indian Rupees only.

5.7 **GST clearance**

Copies of valid GST clearance Certificates shall be furnished by the Bidders, and the originals of the above certificates shall be produced to the purchaser before placement of notification of award if asked for by the Purchaser.

5.8 **EMD**

All bidders are required to submit **EMD of Rs. 50,000/-**in shape of **Demand draft** drawn in favour of **"The Registrar, Veer Surendra Sai University of Technology, Burla" payable at SBI, Burla**only. The EMD shall be in Indian Rupees.

NOTE: Non-submission of EMD or submission of less EMD than the desired one shall result in rejection of Bid. The EMD deposited against other Bids cannot be adjusted or considered for this Bid. No interest is payable on EMD. In the absence of the EMD, technical proposal of the bidder shall be rejected. However, as per the Finance Department, Govt. of Odisha office memorandum no. 21926 dated 12.8.2015, the local MSMEs registered with respective DICs, Khadi, Village, Cottage & Handicraft Industries, OSIC and NSIC are exempted from submission of EMD while participating in tenders of Govt. Departments and Agencies under its control. It is further clarified that the above exemption is applicable to local MSMEs registered in Odisha only. This exemption to the local MSMEs shall be applicable if the kind of service as required under this tender enquiry is clearly specified against the details of the service to be provided in their DIC / NSIC registration certificate (to be furnished in the technical bid).

5.9 **SUBMISSION OF BIDS**

Sealing and Marking of Bids

Bid should be submitted in two Bid system containing two parts as detailed below.

Sealed Cover-A: Technical Bid. (Apart from documents mentioned in section 3, any document mentioned in section 1 & 2 should also be within this cover)

Sealed Cover-B: Financial Bid (hardcopy & sealed soft copy in CD/pen drive)

Both the sealed envelopes of Cover- A and B should then be put in one Outer Coverand each cover should have the following indication:

i) Name of Dept.:_____

ii) Reference No of Bid _____

iii) Bid regarding _____

iv) Due date & time for submission of the Bid _____

v) Due date & time for opening of the Bid _____

vi) Name of the Firm _____

NOTE:

A. Bids submitted without following two Bid system procedures as mentioned above will be summarily rejected.

B. Please Note that **prices should not be indicated in the Technical Bid**. The Prequalification document including EMD as required in the Bid document should invariable be accompanied with the Technical Bid (**Cover A**).

The outer envelope shall indicate the name and address of the bidders to enable the bid to be returned unopened in case it is declared "**late**". If the cover containing the outer envelope is not sealed and marked as required, ***Purchaser*** will assume no responsibility for the bid's misplacement or premature opening.

The above procedure shall be adopted both for the **Technical bid and Financial bid separately**. Telex, cable, email or facsimile bids will be rejected. Note here that, the documents in proof of suppliers and goods eligibility mentioned in section 1, 2 along with Technical Bid documents mentioned in section 3 should be placed in the same order as mentioned in the bid document with proper indexing and page numbering and preferably spiral bound.

5.10 **Deadline for Submission of Bids**

Bids must be received by the ***Purchaser*** at the address specified not later than the time and date specified in the Invitation of Bids. In the event of the specified date for the submission of bids being declared a holiday for the ***Purchaser***, the bids will be received up to the appointed time on the next working day.

The ***Purchaser*** may, at its discretion, extend this deadline for submission of bids by amending the bid document, in which case all previous rights and obligations of the purchasers and bidders will remain same till the extended date.

5.11 **Modification and Withdrawal of Bids**

No Modification and Withdrawal of Bids is allowed between the interval of time of submission and the last date and time of the bids.

No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the bidders on the bid form.

5.12 **BID OPENING**

5.12.1 All the Technical Bids will be opened by the Technical Evaluation Committee authorised by the purchaser, on the specified date and time, at the Office of the **"The Registrar, Veer Surendra Sai University of Technology, Burla"**, in the presence of bidder's representatives who choose to attend the bid opening. The bidders must have submitted authorization letters for the concerned representative.

5.12.2 The bidder's representatives who are present shall sign a register evidencing their attendance. In the event of the specified date of bid opening being declared a holiday for the ***Purchaser***, the bids shall be opened at the appointed time and location on the next working day.

5.12.3 The bidder's names, and the presence or absence of the requisite EMD and such other details as the ***Purchaser***, at its discretion, may consider appropriate, will be announced at the opening of Bids. No bid shall be rejected during bid opening, except for late bids, which shall be returned unopened to the bidders.

5.12.4 All the bidders, whose technical bids are eligible after evaluation of documents by technical committee, are required to **further give a presentation (Modalities and other details of which shall be communicated via mail)** arranged and scheduled by purchaser on a suitable date and time after opening of technical bid.

5.13**Acceptance of the Bid**

5.13.1 Bidders submitting bids would be considered as the ones who have verified and accepted all terms and conditions. No enquiries, verbal or written, shall be entertained in respect of acceptance or rejection of the bid.

5.13.2. Genuine equipment, software/hardware etc. should be supplied. Bidders should indicate the source of supply i.e. name and address of the manufacturers from whom the items are to be sourced.

5.13.3. Supply of equipment means – Installation and Commissioning (except civil works), Demonstration as well as Training and maintenance at site. **No separate charges will be paid on this account.**

5.14**Rejection of the Bid**

The Bid document may be out-rightly rejected under following stipulation and no correspondence will be entertained whatsoever.

5.14.1 If the Bidder has failed to furnish the required **Tender paper cost** and **EMD amount mentioned**/or Failure to provide valid, verifiable regulatory certificates to claim a legal exemption, if applicable.

5.14.2. **Deviation from Core Technical Specifications:** Any "No" or negative deviation listed in the mandatory technical compliance sheet for the customized hardware/machinery. In such case, bidder shall be declared Non-responsive, and the bid rejected.

5.14.3 If the Bidder has not submitted the Financial Bid as per the prescribed format **Annexure-I**

5.14.4 **If the Bidder has not submitted warranty certificate** as per the prescribed format **Annexure-II**

5.14.5 Manufacturing Authorization as per **Annexure-III** and in case of Authorized Distributor / Dealer/Suppliers, has not submitted Manufacture authorization from Manufacturing Industry/Firm, Photo copy of the up-to-date valid manufacturing license/ import license (if it is imported) /dealership certificate/Distributor certificate of the product along with Tax registration Certificate of Manufacturer issued from competent authority. Missing mandatory statutory documents such as a valid GSTIN registration, PAN card, or audited financial balance sheets.

5.14.6 If the bidders, whether manufacturer or authorized distributor/ dealer have not supplied the required information as per **Annexure-IV with supporting documents.**

5.14.7If the bidder has not furnished technical details of the different hardware with **one make & model** as per **Annexure-V.**

5.14.8If the Bidder is found to be blacklisted by any Central/State Government Department or PSU.

5.14.9 If the bidder is found to be Non-responsive due to not meeting the Non-Divisible Package Bid nature of Tender. (See Section 5.17.2)

5.14.10 If the bidders have not agreed to give **bid validity**.

5.15**Purchaser's Right to Accept any Bid and to Reject any Bid**

The Purchaser reserves the right to accept or reject any bid and to annul the bidding process and reject all the bids without assigning any reason thereof at any time prior to award of Contract, without thereby incurring any liability to the affected Bidders or Bidders on the grounds of such action of the purchaser. In case no bidder qualifies as per qualifying criteria and standards, purchaser may at his discretion relax qualification criteria for award of contract.

5.16**Comparison and Evaluation of Bids**

The University shall follow quality and cost-based selection bid evaluation system (QCBS) where both the technical bid and financial bid shall be considered for evaluation after qualifying in the technical bid as per prescribed criteria. Some general criteria that will be adopted for both technical and financial bids as applicable are explained below.

5.16.1 The comparison shall be of FOR destination price basis including the price of all costs wherever applicable as well as duties and taxes (**but excluding GST**) paid or payable on Machineries, instruments & equipment incorporated or to be incorporated in the items including the warrantee/guarantee period from the date of installation.

5.16.2 The Purchaser's evaluation of a bid will consider, in addition to the bid price and the price of incidental services.

5.16.3 The purpose of bid evaluation is to determine substantially responsive bid with the **highest evaluated score of (Technical Bid Score(Ts)+ Financial Bid Score(Fs)), but not necessarily the lowest submitted L1 price**, which should be recommended for award. (See section 5.17)

5.16.4 Evaluation of bids should be made strictly in terms of the provisions in the bid document to ensure compliance with the technical and financial aspects.

5.16.5 The past performance of the suppliers will be considered while evaluating the bids.

5.16.6 Cost of the inland transportation, insurance and other costs within the Purchaser's Country incidental to delivery of the goods to their destination.

5.16.7 Delivery schedule offered in the bid.

5.16.8 Deviations in payment schedule from that specified in the General Terms & Conditions of Contract.

5.16.9 The projected operating and maintenance costs during the life of the equipment/ goods.

5.16.10 The performance and productivity of the equipment/goods offered.

5.16.11 The quality and adaptability as per specifications supported by valid Test reports/waveforms/Test Certificates/Test Accreditation from competent authority/ Customer Factory acceptance certificate etc pertaining to the equipment/ goods offered.

5.16.12 Bidders registered with the National Small Industries Corporation (NSIC) under the Single Point Registration Scheme (SPRS) for the items/services tendered may be eligible for benefits such as exemption from Earnest Money Deposit (EMD) as per Government of India norms. Such bidders must submit a valid NSIC certificate covering the tendered items.

5.16.13. Any other point as deemed proper to be incorporated by the evaluation committee.

5.16.14 Alternative options of offer shall not be allowed.

5.16.15 Each Bidder shall submit only one quotation with one make & model, wherever applicable.

5.16.16 GST in connection with sale of goods shall not be considered in evaluation.

5.17Bid Evaluation Procedure and Award of Bid

The Bid shall be awarded by following QCBS Methodology as explained earlier.

5.17.1 **Technical bid evaluation and scoring procedure**

For technical bid evaluation, marks will be awarded based on the criteria and pattern of marking **as illustrated in Table No.3.**

Table No.3: Pattern of Score/ Mark(Ts) for Technical Bid Evaluation

S/N	Description	Scoring Pattern
1.	**Experience & Scale of Operations** • Years in business (beyond 2-yr minimum) **Max Score: 10 Marks**	5 **marks** for each year in operation for every year beyond minimum requirement of 2 years of operation in similar work
	Employee strength No. of Employee / Service Engineer/ Skilled/Semiskilled/unskilled strength **Max Score: 5Marks**	More than 10 Employee: **5 Marks** 05-10 Employees: **3 Marks** Less than 01-05 Employees: **1 Mark**
2	**In-house Infrastructure & Expertise** • Capabilities for manufacturing, installation, Maintenance & warranty support **Max Score:15 Marks**	OEM with fully in-house production and service/maintenance network: **15 Marks** Authorized system assembler with full service facilities: **12 Marks** Authorized distributor/dealer with local service tie-up: **10 Marks**
3.	**Past Performance** • Supply & commissioning of similar products in last 5 years (As per Annexure –VI) (Last 5 years) **Max Score: 25 Marks**	**4 Marks** for each successful work order **(Max 20 Marks)** • Bonus: 1 additional mark for each order executed at a reputed government institution (e.g., IITs, NITs, Central Labs) **(Max 5 Marks)**
4.	**Technical Presentation* & Customization Design** Review of design layout, engineering specs, and customization roadmap, warranty, delivery, installation, by technical committee **Max Score: 20 Marks**	Highly Satisfactory (80%–100% compliance): **20 Marks** • Satisfactory (60%–79% compliance): **12 Marks** • Marginally satisfactory / Non-appearance (50% to 59%% compliance): **4 Marks** • Unsatisfactory / Non-appearance (below 50%): **0 Mark**
5.	Financial Capability (Annual Turnover) • Average annual turnover of the last 3 financial years **Max Score: 15 Marks**	Average turnover Above ₹50 Lakhs: **15 Marks** • Average turnover ₹10 Lakhs to ₹50 Lakhs: 7 **Marks** • Average turnover Below ₹10 Lakhs: **0 Marks**
6.	Quality & Sector Certifications • Valid industry/regulatory certifications **Max Score: 10 Marks**	National Sector Skill Council (SSC) Certification: 2.5 Marks • ISO 9001 / CE / NSIC or other specified certification: 2.5 Marks each (Max 7.5 Mark
	Total Technical Score:100 Marks	

Bids will first be evaluated against the Technical Scoring Pattern defined in Table No.3.

The bidders securing 55% of the total marks 100, (i.e., 55 Marks) assigned to technical bid, as per criteria of metrics mentioned in Table No.3 shall be declared "Qualified in the Technical evaluation" or "Technically Responsive". Bidders with marks less than 55 shall be termed as "Technically Non-Responsive". Marks assigned to bidders by the appropriate committee and approved by competent authority, VSSUT, Burla shall not be questioned by any bidder. The bidders who qualify in the technical evaluation may be present at the time of opening of financial bids. However, the financial bids of all non-responsive bidders who fail to qualify in technical evaluation with Marks less than 55, shall not be considered any further, and therefore their bid stands disqualified and cancelled.

The Technical Bid Score (Ts) shall be evaluated from the actual technical marks obtained by all Technically responsive bidders by giving 30% weight age to the marks out of 100, as explained below.

Technical Bid Score (Ts) of a Bidder A = 0.30×(Technical Marks of Bidder A out of 100 Marks, as per Table No. 3)

5.17.2: Mandatory Technical Bid Qualification for all equipment

This tender is floated as a Non-Divisible Package Bid for an integrated system requiring the supply, installation, and commissioning of Eight (8) distinct equipment items, as specified in the schedule of requirements, mentioned in Table No.1 and Table.No.2

5.17.2.1 **Absolute Requirement for Multi-Equipment Qualification**

This tender requires the supply, installation, and commissioning of Eight (8) distinct types of equipment, as detailed in the Technical Specifications (See Table No.1). To be considered technically qualified for financial bid opening, a Bidder must successfully meet the minimum technical qualification criteria and score at least the individual passing mark of 55% for each and every one of the Eight (8) equipment items listed.

5.17.2.2 **Consequences of Non-Qualification in Any Single Item**

Qualification is non-divisible and absolute across all item lines. If a Bidder fails to achieve the minimum 55% technical qualification mark in any single equipment category, the entire bid shall be deemed technically non-responsive and shall be summarily rejected and cancelled in its entirety.

5.17.2.3 **Illustrative Scenario for Disqualification**

For the avoidance of doubt, even if a Bidder satisfies or exceeds the 55% technical qualification mark in Seven (7) or less than 8 out of the Eight (8) equipment items, the failure to qualify in the remaining equipment item will result in the immediate rejection and cancellation of the entire package bid. No partial evaluations, partial awards, or split orders will be entertained under this tender.

5.17.3Financial Bid opening, Scoring procedure and Award of bid

The Financial Bids of all Technically Qualified or Responsive Bidders in the technical bid shall be opened on the appointed date and time in presence of the qualified bidders/their authorized representatives, who choose to be present at the time of opening of the financial bids. Absence of bidders or their authorized representatives shall not impair the legality of the process.

The financial bid shall have 70% weight age out of total combined (Technical+Financial) score of 100, which shall be judged based on equipment price and other charges as per **Annexure-I** offered by the bidders. The qualified bidder with lowest price quotes shall get highest Financial Bid Score of 70 and others getting inverse-proportionately lesser Score, as explained by following method

Financial Bid Score(Fs) of a Bidder A =
70× (Price quoted by L1 Bidder) / (Price Quoted by Bidder A)

5.17.4Important Note: CVC-compliant Abnormally Low Bid (ALB): If the financial quote of a bidder appears unrealistically low to the extent that it raises material concerns regarding the bidder's capability to deliver the customized item to the specified quality standards, the Technical Committee reserves the right to seek detailed price justifications and cost breakdowns from the bidder. Failure to provide a satisfactory justification demonstrating commercial viability shall result in the bid being rejected as non-responsive.

5.17.5Combined Score and Award of BID

The Bid shall be awarded to the Responsive Bidder that will score highest Combined Score Cs = Technical Bid Score (Ts) + Financial Bid Score (Fs), as obtained from above.

Note: In case more than one bidder gets the same highest score, then the bidder with the highest Technical Bid Score (Ts) shall be awarded the contract.

6. Pre-dispatch Inspection, Delivery, Installation& Commissioning and Warranty Conditions

6.1 Delivery of Goods/ Equipment

The delivery of goods shall be made by the supplier to the Consignee in accordance with the order placed as shall be detailed in the Schedule of requirements & technical specifications.

6.2 Equipment Set up Demonstration and Training

The supplier shall arrange suitable operation demonstration, give suitable operating manual and facilitate training to staff members at the purchaser's Laboratory premises, after installation and commissioning of equipment is completed. .

6.3 Inspection/ Test/Training

6.3.1: The supplier shall get each equipment inspected in manufacturer's works and submit a test certificate (New & Unused) and guarantee/warranty certificate that the equipment confirms to laid down specifications.

6.3.2 The supplier shall invite the purchaser for pre-dispatch inspection. The Purchaser or his representative shall have the right to inspect/ examine/ test the goods in conformity with the contract awarded/supply order during the production or before dispatch from the manufacturer's premises. Such inspection and clearance will not prejudice the right of the consignee to inspect and test the equipment on receipt at destination.The Technical Evaluation Committee (or its authorized representative) have the right to ask the successful bidder to arrange a comprehensive, live physical performance demonstration at their factory testing bay or an approved testing facility at their own cost.

6.3.3 The purchaser's right to inspect/ examine/test & where necessary to reject the instruments after the arrival of the goods at the destination, shall in no way be limited or waived by the reason of the goods having been inspected and tested by the manufacturer previously. In case of rejection of the goods at the final destination after inspection and test as stipulated above and in case any inspected/ tested goods fail to conform to the specification/ working condition, the purchaser may reject them, and the supplier shall replace/ repair the same free of cost.

6.4 **Warrantee Period (comprehensive)**

The Bidders must quote for a minimum period of **2 (Two) years** of comprehensive **warranty** from the date of completion of the satisfactory commissioning as per (**Annexure-II**). This also includes all accessories related to instruments & equipment quoted for.

6.5 **Up time Warrantee**

The Bidders should provide uptime guarantee of 95%.

6.6 **Downtime Penalty Clause**

During the warranty period, desired uptime of 95% of 365 days (24 hours) if downtime exceeds 5%, penalty in the form of extended warranty, double the number of days or more will be applied for which the equipment goes out of service.

6.7 **Payment Terms**

No advance payment will be made by the Purchaser to the supplier for performance of the contract. 100% of the contract price shall be paid within 30 (thirty) days after satisfactory supply, installation, demonstration, Commissioning & training and stock entry of bills of the goods within due date of delivery.

6.8 **Transportation**

The Supplier shall be required to meet all transport and storage expenses until commissioning of the instrument(s) / equipment covered in the contract.

6.9 **Taxes and Duties**

The Supplier shall be entirely responsible for payment of all Taxes, Duties etc. incurred until delivery of the contract goods to the Consignee subject to recovery afterwards in the bill as claimed in the Bid offer. GST will be paid to the supplier

Entry Tax, if paid by the Supplier, at the local (destination head) Corporation/ Municipality/ NAC is allowed once only on production of money receipt for such payment, if claimed in the Bid offer. Any other statutory levy imposed by the Govt. of India/ Govt. of Odisha from time to time will be considered extra on demand with adequate proof thereof The service tax

and the work contract tax shall be levied (Wherever applicable). Income Tax as applicable shall be deducted at source.

6.10 **Incidental Services**

The Supplier shall be required to provide any or all the following services: (The cost should be included in the quoted Price)

- Furnishing of detailed literature/pamphlets/ circuit diagram/ operation & maintenance manual / drawings (as applicable) for each appropriate unit of supplied goods.
- Furnishing of tools required for assembly and / or maintenance of the supplied goods.
- Performance or supervision of on-site assembly and the supplied goods.
- Performance or supervision or maintenance and/ or repair of the supplied goods, for a period agreed by the parties, provided that this service shall not relieve the supplier of any warranty/ guarantee obligations under the contract.

6.11 **Period of Validity of Bids**

- The bid rates should be kept open/ valid for a period of **180** days from the date the Bids are opened.
- A bid valid for a shorter period i.e. less than **180** days shall be rejected, as nonresponsive.
- In absence of any indication of the date of validity in the bid, it will be presumed that the offer will remain valid for the minimum period i.e. **180** days as prescribed above.
- In exceptional circumstances the purchaser may solicit the bidder's consent for extension of the period of validity. If agreed upon, the bid security so deposited shall also be suitably extended.

6.12 **Installation and Commissioning Period**

Maximum Installation and Commissioning period is **30 days** from the date of supply(receipt at destination) OR **90 days from the date of issue of Purchase Order whichever is earlier,** failing which the purchaser will have the right to impose penalty for the delay period @ **0.5% per week of the contract value of item/items excluding taxes from the bill amount subject to maximum of 10%.** However, Purchaser/ Registrar has the right to extend the delivery period/commissioning period in special cases.

6.13 **Penalty against Non-Supply/Non-Delivery**

In case of non-supply of Stores within the due date i.e. within the date of delivery the EMD deposited by the bidder shall be forfeited.

6.14 **Rejected items**

No payment shall be made for rejected supplied items. Rejected items must be removed by the bidders within two weeks of the date of rejection at their own cost and replace immediately. In case these are not removed these will be auctioned by the purchaser (at the risk and responsibility of the suppliers) without any further notice.

6.15 **Annual Maintenance Contract**

The Cost of Annual maintenance contract for next 3 years after warranty period shall be submitted as per the **Annexure at I(b).** The after sales service during and after the warranty / guarantee period should be available from companies own engineers.

6.16 Jurisdiction of the Court

The Purchaser and the Supplier shall agree that the competent Court at Sambalpur shall have the jurisdiction to try and decide any dispute arising between the two parties, and they may approach the Competent Court at Sambalpur if required at any time.

REGISTRAR
VSSUT, Burla

ANNEXURE-I (a)

PRICE SCHEDULE (ITEM WISE)PRICE SCHEDULE (ITEM WISE)

Item Serial No	Item Description	Country of origin with make& model	Quantity & Unit									
				Exwarehouse/ Ex-showroom/ Off-the-shelf (a)	Excise duty/Costum duty, if any (b)	Packing & Forwarding (c)	Inland transportation, insurance and other local csts incidental to delivery (d)	CST/ Entry tax, if any (e)	Unit price (a+b+c+d+e)	GST (f)	Any other	Total Price (a+b+c+d+e+f)

ANNEXURE-I (b)

PRICE SCHEDULE (ITEM WISE) - B
PRICE SCHEDULE FOR ANNUAL MAINTANCE CONTRACT AFTER COMPLETION OF WARRANTY PERIOD.

Sl.No	Brief description of Goods Total annual	Quantity in nos.				Annual Maintenance Contract cost 3 years i.e. 3x (4a+4b+4c)	
1	2	3	4			5	
			1st yr.	2nd yr.	3rd yr.		
			(a)	(b)	(c)		

** After Completion of warranty period3** Note:-**

1. In case of discrepancy between unit price and total prices, THE UNIT PRICE shall prevail.

2. The cost of Annual Maintenance Contract (AMC) which includes preventive maintenance including testing & calibration as per technical/ service/ operational manual, labour and spares, after satisfactory completion of warranty period may be quoted for next 3 years on yearly basis for complete equipment and turnkey (if any).
3. The cost of AMC may be quoted along with taxes applicable on the date of bid opening. The taxes to be paid extra, to be specifically stated. In absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
4. Cost of AMC will not be added for Ranking/Evaluation purpose. However, the cost of AMC for lowest evaluated bidder is subject to negotiation.
5. The payment of AMC will be made as per payment terms of the bid document.
6. The uptime warranty and down time penalty shall be as per the bid document.
7. All software updates should be provided free of cost during AMC period.
8. The stipulations in Technical Specification will supersede above provisions.
9. The supplier shall keep sufficient stock of spares require during Annual Comprehensive Maintenance Contract period. In case the spares are required to be imported, it would be the responsibility of the supplier to import and get them custom cleared and pay all necessary duties.

Place:
Date:

Signature of Bidder
Business Address
Seal of the Bidder

ANNEXURE-II

WARRANTY MAINTENANCE CONTRACT AGREEMENT.

THIS AGREEMENT made the.....day of ....., 20___ between the **"The Registrar, Veer SurendraSai University of Technology, Burla"** (hereinafter "the Purchaser") of the one part and M/s..... (hereinafter called "the Supplier") of the other part:

WHEREAS the Purchaser invited bids for certain Goods & ancillary services viz, supply and commissioning of the instruments & equipment at VSSUT, Burla, Sambalpur, Odishaincluding Comprehensive Warranty Maintenance Services and has accepted a bid by the Supplier for the instruments & equipment specified below at the Consignee site including Comprehensive Warranty maintenance Services for a period of 2 (Two) year from the date of installation & commissioning of the instruments & equipment as per award of Contract No..... dated

Name of the Equipment & machineries Qty

(To be filled in as per details of goods in the award of Contract)

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. Maintenance Services shall consist of Preventive and Corrective maintenance of equipment specified above & will include repair and replacement of parts free of cost.
2. Preventive maintenance, monthly once, which includes:
2.1 Check-up to ensure that device connection is proper, cabling is at proper condition etc.
2.2 Cleaning of the above instruments &equipments and checking the System Performance.
3. The Supplier is to furnish the tentative schedule of the preventive maintenance of Warranty Maintenance Contract (WMC) to be carried out.
4 The parts replaced must be new parts or equivalent in performance to new parts.
5. The Supplier will also provide the same maintenance service in case of the movement of equipment from the place of original installation to a different place or location, if the equipment is shifted by the Purchaser to another place or location at the cost and risk of the purchaser.
6. Any complaint informed through telephone must be acknowledged with a Complaint No. by the Supplier which will be noted by Consignee. All further contact with the Supplier on such complaint will be initiated through that Complaint No. Once rectification done, that No. will be cancelled by both parties. A register is to be maintained by the Supplier where complaints are to be noted along with Complaint No.
7. The maintenance shall normally be done at the earliest.
8. The Service Engineer of the Supplier will be allowed to handle the respective plant & machineries only in presence of the officer in charge at the Consignee site.
9. The Supplier should ensure that maintenance job is not hampered/delayed due to paucity of spares/inadequate manpower etc.

10. The Supplier should submit the services call report, to the Consignee for each service call without fail.
11. The Supplier evaluation data format for the WMC of Consignee systems may be filled up for necessary action.
12. All formats after filled up should be signed at the end of each page by the Supplier.
13. After completion of the work/repair/maintenance, the Purchaser shall issue a certificate of completion to the supplier to that effect.

Signature	Signature
For the Purchaser	For the Supplier
Name:	Name:
Designation:	Designation:
Address:	Address:
Telephone No:	Telephone No:

ANNEXURE-III

MANUFACTURES' AUTHORISATION FORM

No._____/ Date _____/

To

The Registrar,
VSSUT Odisha
Burla, Sambalpur.

Dear Sir, Bid No._____

We _____who are established and reputable manufacturers of _____having factories at _____ _____ (Address of Factory) dothereby authorize M/s._____ (Nameand address of Agent) to submit a bid and sign the contract with you againstthe above bid.

* No company or firm or individual other than M/s._____ are authorized to bid and conclude the contract in regard to this business against this specific invitation for bid.

We hereby extend our full guaranty and warranty as per general conditions of contract for the goods and services offered by the above firm against this bid.

Yours faithfully,
(Signature for and on behalf of Manufacturers)

Note: This letter of authority should be on the letterhead of the manufacturer and should be signed by a person, competent and having the power of attorney to bind the manufacturer. It should be included original by the Bidders in its bid.

- This para should be deleted for simple items where manufacturers sellthe product through different stockiest.
- The Supplier/Managing Director of the Company (if the supplier is a Company) or the Power of Attorney Holder having specific power to signthe contract can only sign the contract/execute the agreement.

ANNEXURE-IV

DETAILS OF THE BIDDERS

Bid Reference No.
Name and address of the Bidder:

01 Name of the bidder (Director/ Managing Director/ Proprietor of the firm)
- a) Full postal address
- b) Full address of the premises
- c) Telephone number
- d) Fax number
- e) E mail:
- f) PAN No
- g) TIN No

02 Total annual turn-over (value in Rupees) with proof

03 Quality control arrangement details

04 Test certificate held
- a) Type test
- b) BIS/ISO certification
- c) Any other

05 Details of staff
- a) Technical
- b) Skilled
- c) Unskilled

06 Branch Office/ Contact Person/ Liaisoning Office in Odisha.
- a) Address
- b) Telephone No.
- c) e-mail,
- d) Fax

Signature and seal of the Bidder

ANNEXURE-V-1

Technical details of the Equipment (Table No.1 Sl.No.1: AC CLAMP POWER METER) to be supplied by the bidder

S/N	University's Required Technical Specifications	Pre-Populated Parameter Baseline	Bidder's Offered Specification (Make & Model)	Compliance Status (Yes / No)	Deviation, if any (with technical justification)	Exact Page No. of Proof in Bidder's Catalog
1	COMPONENT A: **AC CLAMP POWER METER**					
1.1	Circuit Measurement Configurations	Circuit Measurement Configurations: Fulfill measurements across Single-phase (2-wire/3-wire) and balanced/unbalanced Three-phase (3-wire/4-wire) networks under normal operational supplies.				
1.2	Primary Measurement Parameters	Primary Measurement Parameters: Simultaneous capability to capture AC Voltage, AC Current, Voltage/Current Peak values, Active Power, Reactive Power, Apparent Power, Power Factor, Phase Angle, Frequency, and Phase Sequence Detection.				
1.3	AC Voltage Measurement Boundary	AC Voltage Measurement Boundary: 80.0 V to 600.0 V AC (True RMS) or wider.				
1.4	AC Current Measurement Boundary	AC Current Measurement Boundary: 0.060 A to 600.0 A AC (True RMS) across multiple automatic or manual ranges.				
1.5	Active Power Operational Range	Active Power Operational Range: 0.005 kW to 360.0 kW minimum (Single-phase boundary).				
1.6	Harmonic Analysis Capability	Harmonic Analysis Capability: Support for Voltage and Current harmonic order analysis up to at least the 30th order via integrated digital interfaces or dedicated external mobile software applications.				
1.7	Phase Angle Adjustments	Phase Angle Adjustments: Measurable from lead -180.0° to lag 179.9°.				

1.8	Power Factor Parameters	Power Factor Parameters: Operational boundaries from -1.000 to 1.000.				
1.9	System Frequency Window	System Frequency Window: 45.0 Hz to 999.9 Hz response window.				
1.10	Core Functional Layouts	Core Functional Layouts: Peak capture, hardware phase detection, Max/Min/Avg value tracking, Auto-hold display function, reference electric meter comparison utility, and unbalanced 3-phase power estimation capabilities.				
1.11	Power Source & Operation	Power Source & Operation: Powered via standard Alkaline batteries providing at least 25 hours of continuous field utilization with the display backlight disabled.				

ANNEXURE-V-2

Technical details of the Equipment (Table No.1 Sl.No.2: DIGITAL STORAGE OSCILLOSCOPE) to be supplied by the bidder

S./N.	University's Required Technical Specifications	Pre-Populated Parameter	Bidder's Offered Specification (Make, Model & Rating)	Compliance Status (Yes / No)	Deviation, if any (with technical justification)	Exact Page No. of Proof in Bidder's Catalog
	COMPONENT **DIGITAL STORAGE OSCILLOSCOPE**					
2.1	Bandwidth: 250 MHz or higher	Bandwidth: 250 MHz or higher				
2.2	Number of Analog Channels	Channels: 6 Analog Channels or greater numbers				
2.3	Analog Channel Sampling Rate	Sample Rate of Analog Channel: 2 GSa/s Per channel				
2.4	Memory Depth	Memory Depth: 230Mpts or better for all Channels.				
2.5	Vertical Resolution	Vertical Resolution: 12-bit and up to 16-bit in high resolution mode				
2.6	Peak Detection Capability	Peak Detection: 500 ps glitches Capture Rate				
2.7	Maximum Waveform Capture Rate	Max. Waveform Capture Rate: At least 100,000 wfms/s				
2.8	Analog Input Frontend Characteristics	Analog Input Frontend Characteristics: a) Input coupling: DC, AC, or GND b) Input Impedance and Capacitance value: Impedance: 1 MΩ ± 1%, 50 Ω ± 1%, Capacitance: 19 pF ± 3 pF or lower standard value				
2.9	Probe Attenuation Coefficient	Probe Attenuation Coefficient: 0.001X to 50000X in all suitable ranges				
2.10	Vertical Sensitivity	Vertical Sensitivity: 100 µV/div to 10 V/div @ 1MΩ; 100 µV/div to 1 V/div @ 50 Ω				
2.11	Channel-to-Channel Isolation	Channel-to-Channel Isolation: ≥100:1				

2.12	DC Offset Accuracy	DC Offset Accuracy: ≤ ± (1.5% of offset setting + 0.5% of full scale) or better				
2.13	Time Base Range	Time Base Range: 200 ps/div to 500 s/div minimum				
2.14	Time Base Resolution	Time Base Resolution: Below 50 ps				
2.15	Trigger Types and Protocol Support	Trigger Type: Different options of Edge trigger, Pulse trigger, Slope trigger, Video trigger, Pattern trigger, Duration trigger and common serial bus protocols (e.g., RS232/UART, I2C, SPI).				
2.16	Automatic Measurement Display	Measurement display: Minimum 30 auto measurements; and up to 10 measurements can be displayed at a time.				
2.17	Advanced Mathematical Functions	Advanced Math Functions: Must include standard arithmetic operators (+, -, ×, /), advanced calculus/algebraic functions (FFT, Integration, Differentiation, Logarithm, Natural Log, Exponential, Square Root, Absolute Value, Linear Fit AX+B), and logical/digital filtering functions (AND, OR, XOR, NOT, Low Pass, High Pass, Band Pass, and Band Stop).				
2.18	Voltmeter and Frequency Counter	Voltmeter & Frequency Counter: Standard Voltmeter and 6-digit Frequency Counter				
2.19	System Architecture	System Architecture: High-speed multi-core embedded hardware processor optimized for real-time waveform calculations and UI responsiveness.				
2.20	Internal Storage Capacity	Internal Storage: At least 64 GB of internal non-volatile memory for storing instrument configurations, reference waveforms, and deep data logs.				
2.21	Communication Interfaces	Interfaces: USB Host/Device, LAN, HDMI				
2.22	Display Specifications	Display: 10.1-inch capacitive multi-touch gesture-enabled display				

ANNEXURE-V-3

Technical details of the (Table.No.1 Sl.No.3: 100kHz, 100A CURRENT PROBES) to be supplied by the bidder

S/N	University's Required Technical Specifications	Pre-Populated Parameter Baseline	Bidder's Offered Specification (Make & Model)	Compliance Status (Yes / No)	Deviation, if any (with technical justification)	Exact Page No. of Proof in Bidder's Catalog
COMPONENT **100kHz, 100A CURRENT PROBES**						
3.1	Operating Capability & Bandwidth	Operating Capability & Bandwidth: Continuous auto-sensing execution across both Alternating Current (AC) and Direct Current (DC) applications, delivering a frequency bandwidth spanning from DC to a minimum of 100 kHz (at the -3dB threshold with appropriate current de-rating).				
3.2	Peak Current Handling & Dual Sensitivity Ranges	Peak Current Handling & Dual Sensitivity Ranges: • Low Range: Up to 10 A DC or peak AC at a sensitivity coefficient of 100 mV/A. • High Range: Up to 100 A DC or peak AC at a sensitivity coefficient of 10 mV/A.				
3.3	Signal Output Interface	Signal Output Interface: Terminated in a standard 50 Ω BNC Plug-and-Play interface connector, fully compatible with standard digital oscilloscopes and data logging instruments.				
3.4	Power Delivery System	Power Delivery System: Powered via a 5 V DC or 9 V DC USB interface input configuration, natively compatible for execution via standard external AC wall adapters or portable USB battery power packs.				
3.5	DC Measurement Accuracy	DC Measurement Accuracy Thresholds: Precision performance maintaining a maximum allowable error limit of: • ≤ 5% for current measurements up to 40 A (or better). • ≤ 20% for current measurements within the 40 A to 80 A operational				

		range (or better).				
3.6	Safety Overvoltage Category Rating	Safety Overvoltage Category Rating: Certified electrical isolation and ruggedness parameters meeting or exceeding CAT III 300 V and CAT II 600 V structural safety ratings at the primary conductor interface.				

ANNEXURE-V-4

Technical details of the (Table.No.1 Sl.No.4: HALL EFFECT CURRENT SENSORS) to be supplied by the bidder

S/N	University's Required Technical Specifications	Pre-Populated Parameter Baseline	Bidder's Offered Specification (Make & Model)	Compliance Status (Yes / No)	Deviation, if any (with technical justification)	Exact Page No. of Proof in Bidder's Catalog
COMPONENT **HALL EFFECT CURRENT SENSORS**						
4.1	Operating Principle	Operating Principle: Closed-loop (compensated) current transducer utilizing Hall-effect technology for the electronic measurement of DC, AC, and pulsed currents with galvanic isolation.				
4.2	Primary Nominal RMS Current	Primary Nominal RMS Current: 50 A baseline current rating.				
4.3	Primary Current Measuring Range	Primary Current Measuring Range: Continuous measurement capabilities spanning 0 to at least ±70 A peak.				
4.4	Secondary Nominal RMS Output Current	Secondary Nominal RMS Output Current: 50 mA output at nominal primary rating (representing a 1:1000 conversion turns ratio configuration).				
4.5	System Supply Voltage Range	System Supply Voltage Range: Bipolar dual-rail DC supply window handling ±12 V to ±15 V DC (±5% tolerance band).				
4.6	Dynamic Linearity Tolerance	Dynamic Linearity Tolerance: Linearity error restricted to < 0.15% across the entire primary current spectrum.				
4.7	Residual Electrical Offset	Residual Electrical Offset: Maximum offset current error limited to ±0.2 mA when primary current is at zero at an ambient temperature of 25°C.				

4.8	Remnant Magnetic Offset	Remnant Magnetic Offset: Maximum magnetic offset current restricted to ±0.3 mA after sustaining a primary overload condition equivalent to 3 times Primary nominal current.				
4.9	Transient Response Delay	Transient Response Delay: Reaction loop performance delivering a delay time to 90% of primary current of < 1µS.				
4.10	Frequency Bandwidth Performance	Frequency Bandwidth Performance: Stable operation from DC up to a minimum frequency bandwidth of 200 kHz (measured at the -1 dB threshold).				
4.11	Ambient Thermal Boundaries	Ambient Thermal Boundaries: Certified industrial operating temperature envelope expanding from -40°C to +85°C.				
4.12	Winding Thermal Resistance	Winding Thermal Resistance: Internal secondary copper winding resistance limits tracking at 80Ω at 70°C, and moving to 85Ω at 85°C.				
4.13	Target Application Capabilities	Target Application Capabilities: Architecture optimized for deployment within AC variable speed/servo motor drives, static converters for DC motor drives, battery-supplied applications, Uninterruptible Power Supplies (UPS), and Switched Mode Power Supplies (SMPS).				

ANNEXURE-V-5

Technical details of the (Table No.1 Sl.No.5: DIFFERENTIAL PROBES FOR DSO) to be supplied by the bidder

Sl.No	University's Required Technical Specifications	Pre-Populated Parameter Baseline	Bidder's Offered Specification (Make & Model)	Compliance Status (Yes / No)	Deviation, if any (with technical justification)	Exact Page No. of Proof in Bidder's Catalog
Components of DIFFERENTIAL PROBES FOR DSO						
5.1	System Bandwidth (-3dB)	System Bandwidth (-3dB): DC to at least 25 MHz (operational across all attenuation selections).				
5.2	Attenuation Ratios	Attenuation Ratios: User-selectable dual-range switchable attenuation supporting 1:20 (X20) and 1:200 (X200) modes.				
5.3	Absolute DC Measurement Accuracy	Absolute DC Measurement Accuracy: Within ± 2.0% (or better) across all hardware attenuation limits.				
5.4	Maximum Measurable Differential Voltage	Maximum Measurable Differential Voltage: Capable of safely evaluating voltages up to at least 140 V Peak (or 1400 V Peak-to-Peak) in X20 mode, and up to 1400 V Peak (or 2800 V Peak-to-Peak) in X200 mode.				
5.5	Maximum Common Mode Voltage to Ground	Maximum Common Mode Voltage to Ground: Certified electrical safety isolation ratings meeting at least 600 Vrms CAT III (or 1000 Vrms CAT II) at the primary input terminals.				
5.6	Hardware Rise Time Response	Hardware Rise Time Response: High-speed transient performance delivering ≤ 14 ns in the X200 range, and ≤ 24 ns in the X20 range.				
5.7	Common Mode Rejection Ratio (CMRR)	Common Mode Rejection Ratio (CMRR): Minimum tracking performance maintaining > 80 dB at 60 Hz, > 60 dB at 100 Hz, and > 50 dB at 1 MHz profiles.				

5.8	Terminal Input Impedance (Differential)	Terminal Input Impedance (Differential): Minimum baseline parameters of 4 MΩ in parallel with ≤ 5.5 pF (or lower) to minimize circuit loading.				
5.9	Terminal Input Impedance (Single-Ended)	Terminal Input Impedance (Single-Ended): Minimum baseline parameters of 2 MΩ in parallel with ≤ 11 pF (or lower) relative to the common ground interface.				
5.10	Output Interface	Output Interface: Terminated in a standard 50 Ω BNC connector, fully compatible with any standard digital oscilloscope terminal block.				
5.11	Power Source Versatility	Power Source Versatility: Dual-power configuration architecture; operational via an external 9V DC power supply adapter or standard internal battery power options for remote fieldwork isolation.				

ANNEXURE-V-6

Technical details of the (Table No.1 Sl.No.6: PROGRAMMABLE ELECTRONIC LOAD (AC/DC BOTH)) to be supplied by the bidder

S/N	University's Required Technical Specifications	Pre-Populated Parameter Baseline	Bidder's Offered Specification (Make & Model)	Compliance Status (Yes / No)	Deviation, if any (with technical justification)	Exact Page No. of Proof in Bidder's Catalog
NOMINAL ELECTRICAL PARAMETERS SPECIFICATIONS						
6.1	System Power and Voltage Capability	System Power and Voltage Capability: Continuous power handling rating of at least 1875 W / 1875 VA, with operational voltage capability up to 350 Vrms (AC) or higher and 500 Vdc (DC) minimum.				
6.2	Operational Frequency Range	Operational Frequency Range: Natively operates across DC and an AC frequency window encompassing 40 Hz to 440 Hz.				
6.3	AC Mode Current Capacity	AC Mode Current Capacity: Continuous execution from 0 Arms up to at least 18.75 Arms, with a peak current handling tolerance of up to 56.25 Apeak.				
6.4	Current Setting Resolution	Current Setting Resolution: Tightly controlled resolution down to 2 mA or better.				
6.5	AC Operation Modes	AC Operation Modes: Selectable Constant Current (CC), Linear Constant Current (Linear CC), Constant Resistance (CR), Constant Power (CP), and AC Rectifier Load Simulation modes.				
6.6	Waveform Crest Factor Control	Waveform Crest Factor Control: Programmable crest factor scaling from 1.414 up to at least 5.0.				
6.7	Power Factor Adjustment	Power Factor Adjustment: Settable from 0.000 to 1.000 (both leading and lagging phases) with adjustment resolution increments of 0.001.				

6.8	DC Mode Core Limits	DC Mode Core Limits: Input thresholds handling up to 500 Vdc, continuous current up to 18.75 A, and power absorption up to 1875 W.				
6.9	DC Operation Modes	DC Operation Modes: Selectable Constant Current (CC), Constant Voltage (CV), Constant Resistance (CR), and Constant Power (CP) modes.				
6.10	Programmable Internal Resistance	Programmable Internal Resistance: Adjustable simulated output resistance encompassing a span from 0 Ω to at least 135 Ω.				
6.11	Onboard Metrology and Analysis	Onboard Metrology and Analysis: Integrated measurement loops for RMS Voltage, RMS Current, Active Power (P), Apparent Power (S), Reactive Power (Q), Frequency, Crest Factor, Power Factor, and integrated Total Harmonic Distortion (THD) calculation matrices.				
6.12	Transient Response Profiles	Transient Response Profiles: Slew performance exhibiting a voltage rise time (no load) ≤ 40 ms and a fall time (full load) ≤ 25 ms.				
6.13	Internal System Noise (20 Hz to 20 MHz)	Internal System Noise (20Hz to 20MHz): Ripple constraints restricted to ≤ 500 mVp-p for voltage and ≤ 40 mArms for current loops.				
6.14	Static Load Regulation	Static Load Regulation: Structural regulation maintaining voltage drift ≤ 0.01% + 100 mV and current drift ≤ 0.05% + 20 mA.				
6.15	Remote Interfaces	Remote Interfaces: Equipped with structural expansion options for digital control interfaces including USB, LAN, RS-232, or GPIB protocols.				

ANNEXURE-V-7

Technical details of the (Table No.1Sl.No.7:SOLAR PV EMULATOR) to be supplied by the bidder

S/N	University's Required Technical Specifications	Pre-Populated Parameter Baseline	Bidder's Offered Specification (Make & Model)	Compliance Status (Yes / No)	Deviation, if any (with technical justification)	Exact Page No. of Proof in Bidder's Catalog
NOMINAL ELECTRICAL PARAMETERS SPECIFICATIONS						
7.1	Capacity / Rating	Capacity / Rating: 2 kW (96V, 20Amp) each.				
7.2	Input Voltage	Input Voltage: 1 Phase 220-240V AC, 50 Hz.				
7.3	Output Voltage & Current Range	Output Voltage & Current Range: Output Voltage: 0-96V, Output Current: 0-20A.				
7.4	Voltage Resolution	Voltage Resolution: 0.1V.				
7.5	Current Resolution	Current Resolution: 0.1A.				
7.6	Software Mode	Software mode: Available.				
7.7	Output Ripple and Noise Maximum	Output Ripple and Noise Maximum: 650 mV rms.				
7.8	Efficiency	Efficiency: Up to 95%.				
7.9	Meter Type	Meter Type: Digital type.				
7.10	DC Side Read-back Accuracy	DC Side Read-back Accuracy: Current: 98%; Voltage: 98%.				
7.11	Setup Resolution (Current)	Setup Resolution (Current): 10 mA.				
7.12	Dual Mode Functionality	Dual Mode Functionality: Solar array emulator and simulator.				
7.13	Auto I-V Program	Auto I-V Program: Available for automatic I-V curve generation.				

ANNEXURE-V-8

Technical details of the (Table No1 Sl.No.8:DESKTOP COMPUTER) to be supplied by the bidder

S/N	University's Required Technical	Pre-Populated Parameter Baseline	Bidder's Offered Specification	Compliance Status (Yes / No)	Deviation, if any (with	Exact Page No. of Proof in Bidder's
SYSTEM PERFORMANCE RATINGS						
8.1	Processor	Processor: Intel core-i7, latest generation (12/13).				
8.2	Memory (RAM)	Memory (RAM): 16GB RAM (DDR4 or other).				
8.3	Storage System	Storage System: SSD 512GB or higher NVME + 1TB Hard disk.				
8.4	Operating System	Operating System: Latest version window (11 or higher).				
8.5	Office Productivity Suite	Office Productivity Suite: Latest Microsoft office suite (Perpetual License).				
8.6	Graphics Card	Graphics Card: Latest version (4GB or higher).				
8.7	Pointing Device	Pointing Device: Wired mouse.				
8.8	Display (Monitor)	Display (Monitor): LED screen (21.5-inch or higher).				
8.9	Keyboard	Keyboard: Standard keyboard.				
8.10	Display Properties	Display Properties: Non-touch type.				
8.11	Connectivity	Connectivity: WiFi, IPv6 Ready.				
8.12	I/O Ports	I/O Ports: USB-3 (4 ports or higher), HDMI-1 or higher, Type C-1 or higher.				
8.13	Uninterruptible Power Supply (UPS)	Uninterruptible Power Supply (UPS): 1kVA (Offline).				

Signature and seal of the Bidder

ANNEXURE- VI

DETAILS OF SIMILAR EQUIPMENT SUPPLIED IN LAST 5 YEARS

Sr. No.	Name of the Project/Equipment/	Brief Technical Specification	Cost of the Product/Equipment	Date of Installation and commissioning as per contract	Name of organization a Address/telephone number of officer of the purchaser to whom reference may be made	Remarks

Signature and seal of the Bidder