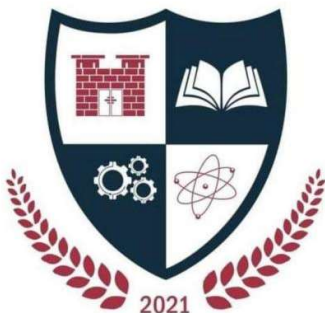


UNIVERSITY OF ENGINEERING AND APPLIED SCIENCES, SWAT



DETAILED SPECIFICATIONS DOCUMENT

Procurement Reference	Tender Advertised for the Supply, Installation and Commissioning of the Establishment of Computer Labs
Procuring Entity	University of Engineering and Applied Sciences, Swat
Advertisement Date	30-10-2025
Tender Submission Deadline	14-11-2025, 11:00 AM
Opening of Tender Bids	14-11-2025, 11:30 AM
Procurement Method	Single Stage – Single Envelope
Venue for the meeting	University of Engineering and Applied Sciences, Swat, Kanju Township Campus

**PROCUREMENT OFFICE
UNIVERSITY OF ENGINEERING & APPLIED SCIENCES, SWAT**

TECHNICAL SPECIFICATIONS & BILL OF QUANTITIES (BOQ)

1. PROJECT:

Establishment of Computer Labs at Department of Computer Systems Engineering

2. SCOPE OF THE PROJECT:

The Department of Computer Systems Engineering at UEAS, Swat, is offering four undergraduate and one postgraduate program. Recently, three new undergraduate programs i.e. BS Computer Science, BS Cyber Security, and BS Software Engineering are approved in anticipation of the Academic Council. However, due increase in enrollment in new programs and existing, the University needs to upgrade the laboratory infrastructure to provide international standard quality of education. Each 3 credit hour computing course reserves 03 contact hours of lab work. The Department anticipates accommodating more than 500 students in the near future, hence the need for a state of the art computing laboratory.

University aims to establish a modern computer laboratory that fulfills HEC/NCEAC accreditation requirements, supports smooth delivery of undergraduate and postgraduate computing programs, and provides students with reliable and high-performance resources for practical learning, research and innovation.

The selected vendor will be responsible for:

a) Computer Systems & Accessories

- i) Provision of branded, latest-generation desktop computers/workstations with licensed operating systems.
- ii) Standard peripherals (monitors, keyboards, mouse, headsets, etc.).

b) Networking & Connectivity

- i) Complete wired and wireless networking solution (LAN + Wi-Fi) with switches, routers, and access points.
- ii) Seamless connectivity across all lab machines.

c) Power & Electrical Setup

- i) UPS/backup power solution with surge protection.
- ii) Energy-efficient cabling and distribution panels.
- iii) Proper earthing and safety measures.

d) Furniture & Fixtures

- i) Lab tables, chairs, racks, and network cabinets designed for safe and ergonomic use.
- ii) Cable management and dust-free installation.

e) Software & Licensing

- i) Licensed operating systems, antivirus, and required academic software packages.

f) Safety, Compliance & Standards

- i) All equipment must be brand new with manufacturer warranty.
- ii) Outdoor/critical equipment must be IP65 rated (dustproof, waterproof, UV-resistant, and fireproof).
- iii) Compliance with HEC/NCEAC lab standards.

g) Documentation & Training

- i) Provision of as-built documentation, user manuals, and test reports.
- ii) Operational training for designated university staff.
- iii) Warranty and post-installation support.

3. BILL OF QUANTITIES

S. No	Item Description	Technical Specifications	Qty
1.	CPU based PC	Model: Tower PC CPU: Core i5 13th Generation or above RAM: 16GB DDR4 or above Storage: 256 GB SSD + 1 TB HDD Screen: 24" or above-inch LED Screen with HDMI support Accessories: Branded Keyboard + Mouse	50
2.	GPU-based PCs	Model : Tower PC CPU: Core i7 13th Generation or above RAM: 16GB DDR4 or above Storage: 512 GB SSD + 1 TB HDD GPU: 5070Ti 16 GB Screen: 24" Inch LED Screen with HDMI support Accessories: Branded Keyboard + Mouse	25
3.	Multimedia	• Brightness: 4800 ANSI lumens • Contrast Ratio with SuperEco mode: 22000:1 • Display Color: 1.07 Billion Colors • Light Source: Lamp, • Light source life (Nor/SuperEco): 5000/15000 • Lamp Watt: 200W, • Lens: F=2.56-2.68, f=22-24.1 mm • Projection Offset: 100%+/-5% • Throw Ratio: 1.55~1.70, • Image size: 30" - 300", • Throw Distance: 1m-10.98m(100" @3.34m) • Keystone: ±40° (Vertical), • Optical Zoom: 1.1x , • Audible Noise (Eco): 27dB • Resolution Support: VGA(640 x 480) to Full HD(1920 x 1080) • HDTV Compatibility: 480i, 480p, 576i, 576p, 720p, 1080i, 1080p • Video Compatibility: NTSC, PAL, SECAM • Horizontal Frequency: 15K~102KHz • Vertical Scan Rate: 23~120Hz • Computer in (share with component): 2 • Composite: 1, • Audio-in (3.5mm): 1, • HDMI: 1 (Back), • Monitor out: 1, • Audio out (3.5mm): 1, • Speaker: 2W • RS232: 1, • USB type mini-B, • Warranty One Year	5
4.	Access Switch 24 port	Giga ports switches	02
5.	Access Switch 08 port	Giga ports switches	01
6.	Access Switch 16 port	Giga ports switches	02
7.	CAT-6 UTP WIRE	305 M ROLL	5
8.	PDU	Black Copper 8 ports	4

9.	Switch racks	4U RACKS	
10.	Ducting and other installation accessories	As per the actual expense	01
11.	RJ 45 Connectors		200
12.	UPS	Rated Power: 10,000 VA (10 kVA) Output Power (Continuous) 8,000 W – 10,000 W Input Voltage (Battery) 48 VDC Battery Type Supported Lithium-ion (LiFePO4), Lead Acid (Flooded, AGM, GEL) Battery Voltage Range 40 V – 60 V DC Output Voltage 220 VAC $\pm$ 10% Output Frequency 50 Hz $\pm$ 0.5 Hz Waveform Pure sine wave Efficiency $\geq$ 93% (inverter efficiency) Peak Surge Capacity 20 kW (approx. 2x rated power for startup loads) Battery Charging Current 60 A – 80 A (adjustable) Max Solar Input Power (MPPT) 8 kW -10kW Solar MPPT Voltage Range 80 V – 450 V DC Transfer Time (Mains to Inverter) < 10 ms (fast switching for uninterrupted power) Protection Features Overcharge, over-discharge, over-temperature, short circuit, reverse polarity Communication Ports RS232, RS485, CAN bus, and Wi-Fi (for BMS lithium battery integration) Operating Temperature -10°C to +50°C Humidity Range 5% to 95% (non-condensing) IP Rating IP67	0 2
13.	Battery for Inverters	Nominal Voltage 48V Capacity 200Ah (10.24 kWh) Cycle Life $\geq$6,000 @ 90% DoD Charge Voltage 53.5V Discharge Cut-off Voltage 42V Continuous Discharge Current 100A Peak Discharge Current 200A (15s) Weight ~80 kg Dimensions (mm) 600×600×200 Communication RS485, CAN Operating Temp (°C) 0–50 (Charge), -10–50 (Use) BMS Protection Yes (Full Protection)	02
14.	Vacuum cleaner	3 in 1 Vacuum Cleaner designed for cleaning dust, dirt, and debris from floors computer tables and other surfaces. 1800 to 2000w	1
15.	Furniture	<u>Computer Lab Desks :</u> Length: 4 ft , Width: 2 ft Height: 2 ft 6 in Tabletop: 18–25 mm thick MDF/Chipboard with high-pressure laminated sheet (scratch, stain, and heat resistant). Edging shall be cleanly finished to prevent chipping. Frame/Legs: Powder-coated mild steel square pipe (40 × 40 mm or equivalent), anti-rust treated. Keyboard Tray: Sliding type, laminated, with smooth ball-bearing channel. CPU Shelf/Stand: Integrated, laminated finish, sturdy enough to support standard desktop CPU.	75

	Cable Management: Grommet hole or channel for wire organization. Lamination: High-pressure laminate in matte finish. Color: Light brown/grey/neutral office shade (final selection at time of approval). Load Bearing Capacity: Minimum 50 kg on tabletop without bending. • Surface resistant to water, scratches, and minor impacts. • Stable structure with anti-slip leg supports. Minimum 1-year warranty against manufacturing defects. Delivery & installation at the designated site, inclusive of all charges.	
	<u>Lab chairs (Revolving)</u> Seat Height (Adjustable): 450 – 600 mm (18 – 24 inches) with pneumatic gas lift. Seat Width/Depth: 450 – 500 mm. Backrest Height: 300 – 400 mm above seat. Base Diameter: Minimum 600 mm, 5-star base for stability. Seat & Back: • High-density molded foam (minimum 40 kg/m³) with ergonomic contouring. • Upholstery in high-quality fabric or PU leather, water & stain resistant. Frame: • Heavy-duty steel structure, powder-coated or chrome finish. Base & Casters: • 5-star base (Nylon/Metal), with dual-wheel PU casters for smooth movement. Lift Mechanism: • Class-3 or higher pneumatic gas lift, tested for at least 100,000 cycles. Swivel: • 360° smooth swivel mechanism. Optional (if required): • Armrests: Fixed or adjustable PU padded armrests.	75

General Terms & Conditions for Bidding

1. **Price shall be quoted for the entire lot as a single package.**
2. The University reserves the right to increase or decrease the quantities of items.
3. The validity period of the quotation/tender must be at least six (06) months.
4. Bids/rates shall be quoted as unit prices (inclusive of all applicable taxes) according to the prescribed specifications available in the bidding documents. The final rate must be mentioned in both words and figures. Rates with cutting or overwriting will be considered non-responsive.
5. Conditional, ambiguous, or alternative bids will not be considered.
6. Arithmetical errors will be rectified as follows:
 - a. If there is a discrepancy between the unit price and the total price (obtained by multiplying unit price and quantity), the unit price shall prevail, and the total will be corrected.
 - b. If there is a discrepancy between words and figures, the amount in words shall prevail. If the supplier does not accept the correction of errors, the bid will be rejected, and the bid security may be forfeited.
7. Copies of Income Tax Registration, Sales Tax Registration, and KPPRA registration must be attached. The supplier must produce NTN with the bill; otherwise, 2% additional Income Tax will be deducted at source.
8. Security @ 10% of the total bill amount will be deducted from the supplier at the time of payment.
9. Interested firms fulfilling the required conditions may submit their sealed quotations under the **SINGLE-STAGE SINGLE-ENVELOPE PROCEDURE** along with a 2% Call Deposit/Bank Draft in favour of the UEAS Swat, latest by **14-11-2025**. The University Procurement Committee will open the bids on the same day at 11:30 AM in the Conference room, UEAS Swat, in the presence of bidders who wish to attend.
10. A Call Deposit/Banker's Cheque/Pay Order equal to 2% of the quoted value must accompany the bid; otherwise, the bid will be considered non-responsive. Personal cheques will not be accepted.
11. Call Deposits shall be verified before preparing comparative statements; if found fake, legal action will be initiated against the firm as per rules.
12. The firm will be bound to complete the supply/project within **15 days of issuance of the supply order**; failing which, the call deposit will be forfeited, and the order cancelled/withdrawn.
13. All applicable Government taxes will be deducted from the approved firm's bill as per BOQ/prevaling rules.
14. Suppliers must provide a guarantee/warranty for at least one (01) year, covering after-sales service and maintenance.
15. The approved supplier(s) shall be responsible for the replacement of spare parts free of cost during the guarantee period.
16. In case of fraudulent practices by the supplier, strict action will be taken, including forfeiture of security and call deposit, along with a penalty.
17. All documents relating to the bid and contract shall be in English.
18. Each page of the bidding documents must be signed and stamped by a person duly authorized by the supplier.
19. In case of supply of defective or used items, the firm will be dealt with under the Government rules and regulations.
20. Payment shall be released only upon obtaining a satisfactory report from the Technical/Inspection Committee and the concerned end-user. Rejected items must be replaced within three (03) days at the supplier's own risk and cost.
21. The suppliers shall be responsible for installation, commissioning and demonstration of the equipment at the specified site, at their own cost.
22. Payment will be made upon successful supply, installation, and commissioning of items/equipment.
23. Incomplete or late tenders will not be accepted.
24. Any other factor deemed relevant by the procuring entity, depending on the nature and complexity of the contract, may also apply, provided it is not inconsistent with applicable rules.