FATA UNIVERSITY, FR KOHAT

KHYBER PAKHTUNKHWA

Tender Notice for Procurement of:-

A- "Establishment of Smart/Distance Learning Lab at Department of Computer Science FATA University"

B- "Procurement of IT equipment under PSDP funded project, "Establishment of the FATA University, FR Kohat"

Procurement Ref: No	FATA UNIVERSITY/ BID No. 3/2024
Date of Opening	December 02, 2024
Venue	Committee Room, FATA University, District Kohat

FATA UNIVERSITY, FR KOHAT

Website: www.fu.edu.pk; Email: info@fu.edu.pk

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NOTICE INVITING TENDER / BID No. 3/2024

A- **"Establishment of Smart/Distance Learning Lab at Department of Computer Science FATA University"**

B- **"Procurement of IT equipment under PSDP funded project, "Establishment of the FATA University, FR Kohat"**

FATA University invites sealed bids on prescribed Tender Forms from well reputed firms registered with FBR, Government of Pakistan, who are on Active Taxpayers List (ATL) of Federal Board of Revenue (FBR) and Khyber Pakhtunkhwa Revenue Authority (KPRA) for the **Establishment of Smart/Distance Learning Lab at Fata University** under HEC's Higher Education Development in Pakistan (HEDP) Project, "Use of Special Funds for Improving Universities Financial Autonomy and Governance using Latest Technology" and **Procurement of IT equipment under PSDP funded project, "Establishment of the FATA University, FR Kohat"**.

Activity	Date and Time
Pre-Bid Meeting and Site Survey	November 20, 2024 at 12:00PM
Last date for submission of Bid Documents (Separately Sealed Technical and Financial Proposals)	December 02, 2024 at 12:00PM
Opening of Technical Proposals	December 02, 2024 at 12:30PM

1. The bidding document with complete specification of the items (IT equipment like desktop computers, IoT devices, etc) and their quantity along with Contract Terms & Conditions can be obtained from the Office of the Treasurer FATA University, District Kohat during office hours (8:00 AM to 4:00 PM) on any working day (Monday- Friday) against a fee of **Rs. 3000/-** (non-refundable in cash or bank draft per component). The same can also be downloaded from the FATA University website www.fu.edu.pk. In case of downloading the document from the website, the bedding fee invoice drawn against UBL account **No. 000233900504 titled "Recurring Grant FATA University"** must be attached with the bid document.

2. Selection would be made under '**Single Stage – Two Envelope Procedure** of KPPRA Rules-2014 amended till date.

3. Separate and complete bidding documents along with fee shall be submitted for each component **(Part-A, Part-B).**

4. The bidders shall clearly and boldly mark the Tender description and date/time of opening on the face of sealed bid/envelope.

5. The sealed bids, complete in all respects, must reach the Office of the Treasurer, FATA University, District Kohat as per schedule above.

6. The Financial Proposal shall invariably be accompanied with original Bid Security @ 2% of the bid cost (Refundable) in the form of bank draft/CDR in the name of **"FATA University Financial Autonomy And Governance Fund"**

7. Bids submitted without prescribed Bid Security shall be liable for rejection at the time of bid opening.

8. Pre-bid meeting and Technical Proposal opening will be held in the committee room of FATA University in the presence of the bidders and University Purchase Committee (UPC), as per schedule above.

9. FATA University reserves the right to reject any or all the bids in accordance with rules in vogue.

10. FATA University reserves the right to increase or decrease the quantities of the items as per requirements.

11. Financial position of each firm supported by the latest bank statement must be attached with

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TREASURER
FATA UNIVERSITY, FR KOHAT
Email: treasurer@fu.edu.pk; Phone No. 091 5885502

Data Sheet

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Bid Selection Method	The method of selection is: Quality and Cost Based Selection (QCBS). RFP can be downloaded from:https://www.fu.edu.pk/
Bid Security	2% bid security of the total quoted price
Contact Person	For queries/ clarifications, if any please contact: Mr. Sadiq Shah Incharge IT
Language	Proposals should be submitted in English language
Currency	All prices should be quoted in Pak Rupees
Estimated Time	The estimated number of months for the assignment will be as per supply order.
Taxes	The price should include all applicable taxes.

Proposal Validity	Proposals must remain valid for 120 days after the submission date
	Technical and financial proposals should be submitted in separate envelops and should be clearly marked separately as i. **"Establishment of Smart/Distance Learning Lab at Department of Computer Science FATA University"** ii. **"Procurement of IT equipment under PSDP funded project, "Establishment of the FATA University, FR Kohat"**
Proposal Submission Address	**Treasurer** FATA University, Dara Adam Khel, District Kohat, Khyber Pakhtunkhwa
Submission Date & Time	Both Technical proposal & Financial bid must be submitted in two different sealed envelopes on or before **December 02, 2024 at 12:00PM**

Part A: "Establishment of Smart/Distance Learning Lab at Department of Computer Science FATA University"

1. Project Overview

The FATA University FR Kohat soliciting proposals from PROPOSER to establish Smart/Distance Learning Lab at Department of Computer Science FATA University for online courses and workshops in high-demand fields of IT (AI and IoT), business, engineering etc. The lab will serve as innovation hubs where researchers and scientists can collaborate to develop cutting-edge AI and machine learning algorithms, applications, and systems.

1.1 Background

FATA University has already established two computer labs. Currently, the 3rd lab is required due to the following reasons;

- **Access to Quality Education**: Smart/Distance learning lab will enable students in remote tribal areas to access lectures, tutorials, and resources that may not be available locally. This can be done through video conferencing, recorded lectures, and live-streamed classes.
- **Skill Development:** The lab can offer specialized online courses and workshops in high-demand fields (e.g., IT, business, engineering). These may include course relating to Artificial intelligence, Machine Learning, Internet of Things etc. This broadens students' skills, making them more competitive in the job market.
- **Support for Female Students:** In the region where FATA University is located, the cultural factors limits travel or public participation, distance learning lab can allow female students to pursue higher education and skill development from a nearby, accessible location rather than traveling far from home.
- **Access to External Mentors and Experts**: The lab can facilitate sessions with experts and mentors from across the country or internationally. This gives students exposure to broader professional networks and potential career guidance without leaving their region.
- **Virtual Lab and Practical Simulations**: Students in science, engineering, and health programs can benefit from virtual labs, simulations, and remote access to specialized equipment, which can be controlled and monitored digitally.
- **Exams and Assessments**: Distance learning labs can facilitate supervised online exams for remote students, ensuring academic integrity while reducing the need for long-distance travel during examination periods.
- **Increasing Enrollment:** FATA University is growing and attracting more students, the demand for computer resources has naturally increased. Computer lab in the form of Smart lab, would accommodate a larger number of students simultaneously, reducing overcrowding and ensuring that everyone has access to necessary resources.
- **Diversification of Programs:** FATA University is planning to introduce new computer science or technology-related programs like BS in Artificial Intelligence and BS in Data Science, the smart lab becomes mandatory. Different courses may have specific software requirements, and having a dedicated lab will allow students to access the tools and applications required for their studies.
- **Keeping Up with Technological Advances:** Technology is constantly evolving, and new

software or hardware is required for the latest educational and research needs. The smart lab in the form of Artificial Intelligence and IoT equipments would provide the university with the space and resources to stay up-to-date with technological advancements, ensuring that students are well-prepared for the workforce.

1.2 Project Objectives

The major objective of establish the Smart/Distance Learning lab at FATA University are;

1. To enable students in remote tribal areas to access lectures, tutorials, and resources that may not be available locally. This can be done through video conferencing, recorded lectures, and live-streamed classes.
2. To give support in introducing new computer science or technology-related programs like BS in Artificial Intelligence and BS in Data Science.
3. A dedicated computer lab can serve as a hub for research projects, providing students and faculty with the necessary infrastructure to conduct experiments, simulations, and data analysis.

1.2   In Scope Locations

The Smart/Distance Learning Computer lab will be established at Department of Computer Science, FATA University.

1.3 Specification Required For Computer Lab Equipments
The detail specificaitons are given as;

Table 1: Required Item/Equipments (Part-A)

S.No	Required Item Name	Qty
1	Desktop Computer Systems	25
2	Graphics processing units (GPUs) Workstation System	05
3	4K UHD 75" Interactive Flat Panel	1
4	All in one Printer	2
5	Multimedia Projectors Ultra Short Throw	2
6	10 KVA UPS/Backup	1
7	Laptop	1
8	Desktop Scanner	1
9	Raspberry pi 4 – 8GB	15
10	Arduino Mega 2560 R3	30
11	Arduino Uno WIFI Board	30
12	GPS module	10
13	Arduino Jumper Wires (30 wire set)	30 Sets
14	Multimedia Projectors Standard	01
15	Breadboard 170 points	30
16	7 inch 1024 x 800 HDMI Capacitive Touch Screen LCD Display	05
17	5inch Display for Raspberry Pi	05
18	Bluetooth Module	20

19	Wifi Module	10
20	Waterproof Ultrasonic Distance Measuring Sensor	05
21	4 pin tri-color RGB LED	100
22	Small on/off Buttons	30
23	Camera module	10
24	37 in 1 Sensor Kit Sensors Module Board Set For Arduino	5
25	Oscilloscope 200Mhz or higher	1
26	Adjustable Power Supply 20Amp or higher	5
27	Digital Multimeter	5
28	GSM Modules	10
29	Finger Print Modules	10
30	Node MCU	20
31	ESP 32	30
32	Gear Motors 12v	10
33	Servo Motors	10
34	Battery 12V, 7amp	05
35	Buck Boost Coverter	10
36	Resister All values	10
37	Capacitors all values	10
38	Transistors	10
39	Relays	15
40	Brushless DC Motors	10
41	RF Modules Long rang	15
42	Lora Modules	15
43	Zibee X1 and X2	15
44	Memory Cards 500 GB min	10
45	9 Channel RF Transeives	5
46	3.7 V 6amp Cells	20
47	LIPO battery	5
48	Lithium 3.7 Volt Cell charger	4
49	RFID reader and Tag	15

Table 2: Technical Specification (Part-A)

Sno	Item Name	Requirement Description (Minimum Specification)		Qty
1	Desktop Computer	Base:	Branded Tower Desktop PC	25
		Processor:	Latest Generation Intel Core i7-(14700 minimum) (6+8 Cores/24MB/20T/2.5GHz to 4.8GHz/65W)	
		Chipset:	Intel Q77 Chipset or Higher	
		Memory:	16 GB: 2 x 8 GB, DDR5 or Higher	
		Chassis:	Tower Chassis with 180W Power Supply or	
		BetterGraphics:	Intel® Graphics or Higher	

		Storage: 512 GB M.2 PCIe NVMe SSD Drive or HigherKeyboard: USB Wired Keyboard (English) Mouse: USB Optical Scroll Mouse Wireless: Wi-Fi 6 2x2 802.11ax Bluetooth Wireless Card or Higher Speaker: Internal Speaker Monitor: Min19.5-Inch Backlit LED LCD Monitor or Higher Warranty: 3 Years ProSupport Warranty with Next Business Day Onsite Service	
2	Graphics processing units (GPUs) Workstation System	Base: Branded Tower Desktop PC Processor: Latest Generation Intel Core i7-(14700K minimum) (6+8 Cores/24MB/20T/2.5GHz to 4.8GHz/65W) Chipset: Intel Chipset Memory: Min 16 GB: 2 x 8 GB, DDR5 or Higher, min 6k MHz Chassis: Tower Chassis with Min 800W PowerSupply or as per manufacturer standards Graphics Card: RTX 4060TI 16GB (Min.) Storage: 1 TB M.2 PCIe NVMe SSD Drive or Higher Keyboard: USB Wired Keyboard (English) Mouse: USB Optical Scroll Mouse Wireless: Wi-Fi 6 2x2 802.11ax Bluetooth Wireless Card or Higher Speaker: Internal Speaker Monitor: Minimum 21-Inch Backlit LED LCD Monitor or Higher Warranty: 3 Years ProSupport Warranty with Next Business Day Onsite Service	05
3	4K UHD 75" Interactive Flat Panel	Screen size: 75″ or Higher Generation: Minimum Core i5, Latest Generation with Built in Camera Resolution (pixels): UHD 3840 x 2160 pixels Backlight / Lightsource DLED Brightness (Typical) (nits): 450 nits Contrast Raito (Typical): 1,200:1 or Higher Viewing Angle (Horizontal / Vertical): 178°/178° Light-Life (Typical) (hours): 30,000 hours Display Orientation: Landscape Color Gamut (×% NTSC): 72% Tempered Glass: 4mm Tempered Glass Built-in speaker: Speakers 16W x2 & Subwoofer 15W x1 Sensor: NFC Sensor x1, Motion Sensor (PIR) x3, Air Quality Sensor x1, Light Sensor x1 Writing Tool: Stylus / Finger / Eraser/Gesture Whiteboard Writing: Features Pen Tip Writing / Tail End Erasing / Ink to Shape Camera, Built-in Dual-48MP Camera. Camera Feature: Auto-Framing / Speaker-Tracking Speaker: Built-in Speaker 20W x 2 (L/R),	01

		wireless casting Software Ram: Min. 8gb, Hard drive: Min. 256 gb ssd	
4	All in one Printer	Print Speed: 30 or above pages per minute (ppm) on A4 size Printing Resolution: 600x600 dpi or higher Power Consumption: As per Standard Memory Capacity: 32 MB or higher Duplex Printing: Automatic up to 1200x1200 dpi Paper Trays: Two Interface: Wireless/USB Warranty: 01 year	02
5	Multimedia Projectors UltraShort Throw	Projection System: DLP Native Resolution: (1920 x 1080 pixels) WXGA Brightness: Minimum 4000 ANSI Lumens Contrast Ratio: Minimum 10,000:1 Aspect Ratio: Native 16:10 Throw Ratio: Ultra Short Throw HDTV Compatibility: 480i, 480p, 576i, 576p, 720p, 1080i, 1080p Interface: HDMI, USB, VGA, Audio, IR, BT (Wireless connectivity) Power Management: Auto Power Management Wall Mount Kit: Mandatory Warranty: 01 year for both, i.e. parts & Lamp Life	02
6	10 KVA UPS/Backup	UPS system 10 KVA/10KW HF Tower, Standard Backup on 70 % Load , with Batteries. Vertiv/APC or Equivalent. At least One year warranty.	
7	Laptop	• Processor: Minimum 13th Generation Intel® Core™ i7 • Chipset: Chipset is integrated with the processor • Screen: 15" Display or above with 4K/Full HD • Memory: minimum 16GB Memory • Hard Disk/SSD: 512 GB NVMe SDD Drive • Operating: DOS/Windows/Mac/any other • Adaptor: Smart AC Adapter or higher • Carrying Bag: Genuine Carry Case • Warranty: 01 Year	01
8	Desktop Scanner	Type: ADF Sheet-Feed with Flatbed unit. Scan Speed: Min. 30 PPM or higher and 60 IPM with 200 DPI or higher (Colour/Black/Grayscale) Paper Size: Plain Paper: 216 x 356 mm (Legal) Passport: 88 mm x 125 mm (ISO standard) (including carrier sheet) Business card: 50 mm x 85 mm or larger Card: 54 mm x 86 mm (ISO standard) Paper Thickness Support: Plain Paper: Min. 27-255 GSM Passport: 4 mm (including carrier sheet) Business card: 0.45 mm Card: 1.4 mm Feeding Capacity: 50 – 80 Sheets (Support for ID cards, Business cards, Certificates, Passport etc) Daily Volume: 3500-4500 scans per day Connectivity: USB 3.0 or higher File Formats: JPEG, TIFF, PDF (Searchable), BMP, PNG Operating System: Windows computability	01

		Scanning Modes: Black and white, Error diffusion, Advanced Text Enhancement, Advanced Text Enhancement II, 256-level gray, 24-bit color Warranty: 01-year warranty with Parts.	
9	Raspberry pi 4 – 8GB	• Broadcom BCM2711, Quad-core Cortex-A72 (ARM v8) 64-bit SoC 1.5GHz • 8GB LPDDR4-2400 SDRAM (depending on model) • 2.4 GHz and 5.0 GHz IEEE 802.11ac wireless, Bluetooth 5.0, BLE • Gigabit Ethernet • 2 USB 3.0 ports; 2 USB 2.0 ports. • Raspberry Pi standard 40 pin GPIO header (fully backwards compatible with previous boards) • 2 × micro-HDMI ports (up to 4kp60 supported) • 2-lane MIPI DSI display port • 2-lane MIPI CSI camera port • 4-pole stereo audio and composite video port • H.265 (4kp60 decode), H264 (1080p60 decode, 1080p30 encode) • OpenGL ES 3.0 graphics • Micro-SD card slot for loading operating system and data storage • 5V DC via USB-C connector (minimum 3A*) • 5V DC via GPIO header (minimum 3A*) • Power over Ethernet (PoE) enabled (requires separate PoE HAT) • Operating temperature: 0 – 50 degrees C ambient	15
10	Arduino Mega 2560 R3	• Microcontroller: ATmega2560 • Operating Voltage: 5V • Input Voltage (recommended): 7-12V • Input Voltage (limits): 6-20V • Digital I/O Pins: 54 (of which 15 provide PWM output) • Analog Input Pins: 16 • DC Current per I/O Pin: 40 mA • DC Current for 3.3V Pin: 50 mA • Flash Memory: 256 KB of which 8 KB used by bootloader • SRAM: 8 KB • EEPROM: 4 KB • Clock Speed: 16 MHz • Chip: MAX3421E • LED_BUILTIN : 13 • Pcb Size : 101.52 mm x 53.3 mm • Weight : 37 g	30
11	Arduino Uno WIFI Board	• Arduino (Atmel ATMega328P MCU) • ESP8266 built-in module • Arduino part • MCU – Atmel ATmega328 8-bit AVR MCU @ 16 MHz with 32 KB flash Memory, 2KB SRAM, 1KB EEPROM • Digital I/O pins – 14, with 6 PWM and UART	20

		• Analog Input Pins – 6 • DC Current per I/0 – 40 mA • Misc – Reset button • Operating Voltage – 5 V • ESP8266 part • SoC – Expressif ESP8266EX Tensilica Xtensa LX106 processor @ 80 MHz • Storage – 4MB SPI flash • Connectivity – 802.11 b/g/n WiFi @ 2.4 GHz, wake up time < 2 ms; Antenna: PCB and IPX • Misc – Bootloader button, WiFi LED • Operating Voltage – 3.3 V • Common specs • USB – 1x USB device port • Input Voltage – 5-12 V via DC jack, Vin or USB port (5V only) • Power Consumption – 130 mA (sleepmode 80 mA) • Dimensions – 68.5 x 53 mm • Weight – 28 grams	
12	GPS module	• 5Hz position update rate • Operating temperature range: -40 TO 85C UART TTL socket • EEPROM to save configuration settings • Rechargeable battery for Backup • The cold start time of 38 s and Hot start time of 1 s • Supply voltage: 3.3 V • Configurable from 4800 Baud to 115200 Baud rates. (default 9600) • Support SBAS (WAAS, EGNOS, MSAS, GAGAN) • Separate GPS antenna	
13	Arduino Jumper Wires	• Compatible with 2.54 mm spacing pin headers. • 120 pcs chromatic color jump wire. • High quality and in good working condition. • Durable and reusable. • Easy to install and use. • A popular choice for construction or repair. • Be used for the electronic project and Genuine Arduino product. • Flexible Breadboard Jumper Cable Wire allows you to plug and unplug easily for prototyping.	
14	Multimedia Projector Standard	• Brightness: Minimum 4000 Lumens • Light Source: Lamp • HDMI: Yes • Connectivity: Wifi • Speakers: 3.0 W Mono • Color: White/Black • Native Resolution: 1920x1080 px • Lamp Wat:t RGBB LED • Warranty: 01 Year Local Warranty	01
15	Breadboard 170 points	170 Tie Points Mini Breadboard	30

16	7 inch 1024 x 800 HDMI Capacitive Touch Screen LCD Display	Display Type: TJC Model: TJC8048X350_011C Screen Type: Touch screen Touch type: Capacitive Internal Storage: 16M flash Brightness: 0~230 nit Voltage: 5V Display Size: 7.0" Display Resolution: 800 x 480 Display Interface: Serial Display Controller: No SD Card Socket Touch Screen Board Size: 181mm*108mm Weight: 337g	05
17	5inch Display for Raspberry Pi	Display Type: TJC Model: TJC8048X350_011C Screen Type: Touch screen Internal Storage: 16M flash Brightness: 0~230 nit Operating voltage: 4.75 – 7 V Communication interface: USART serial interface Display Size: 5.0 inch Display Resolution: 800 x 480 Display Interface: Serial Level interface: 3.3 V CMOS (5 V compatible) RAM: 2048 Byte Display Controller: No SD Card Socket Touch Screen	5
18	Bluetooth Module	• Use the CSR Bluetooth chip, compatible with the Bluetooth V2.0 protocol • Operating Voltage: 3.3V • Adjustable baud rate : 1200, 2400, 4800, 9600,19200, 38400, 57600, 115200 • Size: 28mm x 15 mm x 2.35mm • Operating Current: 40 mA • Sleep Current < 1mA	20
19	Wifi Module	• Arduino-Like Hardware IO • Code like Arduino, but interactively in Lua script • Event-driven API for network applications, which facilitates developers writing code • Integrates GPIO, PWM, IIC, 1-Wire and ADC all in one board • 10 GPIO, every GPIO can be PWM, I2C, 1-wire • 4M Flash Memory • Built-in WiFi Antenna	
20	Waterproof Ultrasonic Distance Measuring Sensor	• Electrical parameters: JSN-SR04T • Operating voltage: DC 5V • Quiescent current: 5mA • Total current work: 30mA • Acoustic emission frequency: 40khz • Farthest distance: 4.5m • Blind: 25cm	05

		- Resolution: about 0.5cm - Angle: less than 50 degrees - Working temperature: -10 ~ 70°C - Storage temperature: -20 ~ 80°C	
21	LEDs (small)	4 pin tri-color RGB LED Diameter = 5mm Color =RGB Type = Crystal LED Forward Current = 20mA Forward Voltage = 3.0 – 3.2V	100
22	Small Buttons	Small on/off button used with sensors and bread boards	30
23	Camera module	- Arduino Supported - Optical size 1/6 inch - Resolution 640×480 VGA - Onboard regulator, only single 3.3V supply needed - Mounted with high quality F1.8 / 6mm lens - High sensitivity for low-light operation - VarioPixel® method for sub-sampling - Automatic image control functions including: Automatic - Exposure Control (AEC), Automatic Gain Control (AGC), Automatic White Balance (AWB), Automatic - Band Filter (ABF), and Automatic Black-Level Calibration (ABLC) - Image quality controls including color saturation, hue, gamma, sharpness (edge enhancement), and anti-blooming - ISP includes noise reduction and defect correction - Supports LED and flash strobe mode - Supports scaling - Lens shading correction - Flicker (50/60 Hz) auto detection	10
24	37 in 1 Sensor Kit Sensors Module Board Set For Arduino	- Temperature sensor module - Vibration switch module - Hall magnetic sensor module - Key switch module - Infrared emission sensor module - Laser sensor module - Small passive buzzer module 3-color full-color LED SMD modules - Photo interrupter module 2-color LED module - Active buzzer module - Temperature sensor module - Temperature and humidity sensor module 3-color LED module - Mercury open optical module - Photo resistor module 5V relay module - Tilt switch module - Mini magnetic reed modules - Infrared sensor receiver module - XY-axis joystick module	05

		• Linear magnetic Hall sensors	
		• Reed module	
		• Flame sensor module	
		• Magic light cup module	
		• Temperature sensor module	
		• 5mm red and green LED (common cathode) module	
		• Knock sensor module	
		• Obstacle avoidance sensor module	
		• TCRT5000L sensor module	
		• Automatic flashing colorful LED module	
		• Analog Hall magnetic sensor module	
		• Metal touch sensor module	
		• Sensitive small microphone sensor module	
		• Sensitive Big microphone sensor module	
		• Finger measuring heartbeat module	
		• Rotary encoder module	
25	Oscilloscope 200Mhz or higher (200000)	• Digital Oscilloscopes with 4 Analog Channels, 8inch LCD • Bandwidth: 200MHz (Min) • Channels: 4 • Sample rate: 1GSa/s • Memory depth: 28Mpts (per channel), 56Mpts (when using 1 channel) • Waveform capture rate: 80,000wfms/s • Trigger types: Edge, Pulse, Slope, Video, Run, Window, N-edge, Delay, • Timeout, Duration, Setup/Hold, Code • Vertical scale: 1mV/div – 20V/div • Horizontal scale: 5ns/div – 50s/div • Connectivity: USB Host, USB Device, LAN, AUX Out (Trig Out, Pass/Fail) • Decode capabilities: RS-232/UART, I²C, SPI • Display: 8″ 800×480 TFT LCD, WVGA (800 x 480) • Weight: 3.5kg • Dimensions: 336 x 164 x 108mm	01
26	Power Supply Adjustable (50000)	• Input voltage: AC 220V±10%,50Hz • Output voltage:0 ~30V • Output current:0 ~20A • Voltage resolution:0.1V • Current resolution:0.1A • Power effect:CV≤0.3%+10mV • Effect of load:CV≤0.5%+30mV • Ripple and noise:Vp-p≤0.5%+10mV • Voltage display precision:±1%+1digits • Current display precision:±1%+1digits • Net/gross Weight (KG):5.0-5.3/6.2-6.5 • Product size(mm):260W×160H×375L • Package size(mm):340W×240H×415L • Operating environment:(-10~45)C Rh<90%	05
27	Digital Multimeter (4000)	DC voltage (V) 200mV/2V/20V/200V/600V ±(0.5%＋2) AC voltage (V) 600V ±(0.7%+3) DC current (A) 10A ±(1%+2)	05

		AC current (A) 10A ±(1.2%+3) Resistance (Ω) 200Ω/2kΩ/20kΩ/200kΩ /2MΩ/20MΩ/200MΩ ±(0.8%+2) Capacitance (F) 2mF ±(4%+8)	
28	GSM Modules (3000)	• Supports standard size GSM sim cards • Chipset: SIM900A • Quad-Band 850 / 900/ 1800 / 1900 MHz (works on GSM networks in any country) • The module is configured and controlled using simple AT commands via the onboard UART: • Standard Commands: GSM 07.07 & 07.05 • Enhanced Commands: SIMCOM AT Commands • Has Short Message Service – so that you can send small amounts of data over the network (ASCII or raw hexadecimal). • Embedded TCP/UDP stack – allows you to upload data to a web server. • Physical Features: • External GSM Antenna with SMA connector • SIM Card holder (Flip Style) • Call Indicator LED • Onboard Serial RS232 interface foreasy debugging (3 pins on the left, see diagram for how to wire to an RS232 connector) • Onboard reset and restart solder points • Additional antenna can be added with IPX mini connector • Yellow Logic Level Select Pins: select between 5V and 3.3V interface (yellow pins) • Power Wires (red and black) • SIM900A Serial Port Output Terminal • Power Voltage (to be attached across the red and black wires): 5V DC (1A or higher is recommended) • Arduino & Raspberry Pi Compatible • Built in surge protection & SMF05C chip onboard for electrostatic protection • Dimensions: 50 x 50 mm	10
29	Finger Print Modules	• Supply voltage: 3.6 – 6.0VDC • Operating current: 120mA max • Peak current: 150mA max • Fingerprint imaging time: <1.0 seconds • Window area: 14mm x 18mm • Signature file: 256 bytes • Template file: 512 bytes • Storage capacity: 162 templates • Safety ratings (1-5 low to high safety) • False Acceptance Rate: <0.001% (Security level 3) • False Reject Rate: <1.0% (Security level 3)	10
30	Node MCU	MODEL: NodeMCU ESP32 TYPE: ESP32 PROCESSOR: Tensilica LX6 Dual-Core CLOCK FREQUENCY: 240 MHz SRAM: 512 kB MEMORY: Min 4 MB WIRELESS STANDARD: 802.11 b/g/n	20

		FREQUENCY: 2,4 GHz BT WIRELESS CONNECTION: Classic / LE DATA INTERFACES: UART / I2C / SPI / DAC / ADC OPERATING VOLTAGE: 3,3V (operable via 5V-microUSB) OPERATING TEMPERATURE: -40°C – 125°C DIMENSIONS: 48 x 26 x 11,5 mm WEIGHT: 10 g ITEMS SHIPPED: NodeMCU ESP32 EAN: 4250236816104 ARTICLE NO. SBC-NodeMCU-ESP32	
31	ESP 32 (1 x ESP32 Cam programmer board) (400)	• Type: Voltage Regulator • Condition: New • Model Number: ESP32-CAM-MB TTL Downloader Module • Working voltage: 4.7V-5.3V • Working temperature: -40°C~85°C • Product size: 40*27*10mm/1.57* 1.06*0.39in	30
32	Gear Motors 12v	• Motor diameter: 27.8 MM • Gearbox diameter: 37 MM • Total height: 65.8 MM (without bearing) • Output shaft: 6 MM (flat position is 5.4 MM) • Output shaft length: 18.5 MM (from the panel) • Weight: 183 g • Voltage: 12 V • Speed: around 740 RPM • Current: 0.14 A • Torque: 1 KG (estimated)	10
33	Servo Motors	• Stable and Shock Proof • Coreless Motor • Metal Gears • Double Ball Bearing • Connector Wire Length 300mm (12″) • dimensions are 40mm x 19mm x 43mm (approx 1.5″ x 3/4″ x 1.5″) • weight is just 55g (just over 2 oz) • Operating Speed is just 0.17sec / 60 degrees (4.8V no load) • Operating Speed is just 0.13sec / 60 degrees (6.0V no load) • Stall Torque is 9 kg-cm (180.5 oz-in) at 4.8V • Stall Torque :is almost 12 kg-cm (208.3 oz-in) at 6V Voltages are 4.8 – 7.2Volts • its Color is Black • its Connector Wire is Heavy Duty, 11.81″ (300mm)	10
34	Battery 12V, 7amp	Voltage: 12 volts. Capacity: 7 ampere-hours (AH).	5
35	Buck Boost Coverter	• Buck Boost Converter 4A With Display • DC-DC Buck Boost Converter Display • 5V-30V to 0.5 – 30V 3A	10

		- LCD Digital Voltmeter Ammeter Adjustable Boost Drop (Buck Boost Converter)	
36	Resister All values	- Pack of 30 Pieces 1/4 Watt resistors - Recommended Printed Circuit Board Layout Pad type for these 1/4 Watt resistors is RES40 in Proteus software 1/4W Resistors are about 6.3mm long	10
37	Capacitors all values	- Pack of 200 – 1000uF 16VElectrolytic Capacitors - Value: 1000uF - Rated Voltage: 16V - Type: Radial - Tolerance: 20% - Size: 10mm x 16mm - Max Temperature: 105°C	10
38	Transistors	- Pack of 50 NPN Power Transistor Bd911 Complementary Silicon Power Transistors Complementary Silicon Npn Power Transistors - I(C): 15A - I(B): 5A - V(CB): 100V - V(CE): 100V	10
39	Relays	5V relay module Arduino Relay 10A 250V AC single channel relay 10amp 250V AC 5V control signal - Can easily connect to Arduino or any micro-controller - Can switch a load of up to 10Amp 250V AC - Size: 43mm x 17mm x 17mm	15
40	Brushless DC Motors	1000KV A2212 Brushless DC Motor BLDC with 8 inch to 10 inch propellers	10
41	RF Modules Long rang	- Frequency: 433MHz - Transmission Distance: Up to 100 meters (depending on conditions) - Data Rate: 1Kbps - 10Kbps - Operating Voltage: Transmitter: 3-12V, Receiver: DC5V - Dimensions: Transmitter: 19x19x8mm, Receiver: 30x14x7mm	15
42	Lora Modules	- Operating frequency: 433/470MHz - Modulation method: LoRa/FSK/GFSK/OOK - Transmit power: 20dBm	15

		• Receive sensitivity: -136dBm (LoRa,BW=125KHz,SF=12, CR=4/5,1%PER) • Transmission rate: FSK: 300Kbps; OOK: 32Kbps; • Emission current: 120mA (+20dbm)	
43	Zibee X1 and X2	• Indoor Range up to 100 ft. (30 m) & Outdoor RF line-of-sight Range up to 300 ft. (100 m) • Interface: Serial(UART) at 1200-115200 bps Supply Voltage: 2.8 – 3.4 V Transmit Current (typical) 45mA (@ 3.3 V) Idle / Receive Current (typical) 50mA (@ 3.3 V) Operating Frequency: ISM 2.4 GHz Antenna: Whip antenna • Supported Network Topologies: Point-to-point, Point-to-multipoint & Peer-to-peer Number of Channels: (software selectable) 16 Direct Sequence Channels	15
44	Memory Cards 256 GB min	Memory with min 256 GB	10
45	9 Channel RF Transceivers	**Transmitter Specification** • Product Name: Transmitter • Frequency Band: 2.4GHz • Modulation: GFSK • Supported Model Type: airplanegliderhelicopter • Transmission Mode: PPM • Channels Qtty: 9 channels • Resolution: 10 bit • Model Memories Qtty: 8 models • Indicator Type: LCD • Transmitter Set: transmitter8 channels receiver • Battery • Battery Type: 8 cells AA 12 V (option) • Dimension and Weight • Dimension: 220mm x 185mm x 110mm • Weight: 680 gr **Receiver Specification** • Receiver Model: AV-R8B • Frequency Band: 2.4GHz • Channels Qtty: 8 channels • Modulation: GFSK • Resolution: 10 bit • Operating Voltage: 4.5V...6.5V • Weight: 18 gr • Dimension: 52mm x 35mm x 15mm	5
46	3.7 V 6amp Cells	18650 Lithium Battery cell 3.7V 6800mah	20
47	LIPO battery	Input Voltage: 11~18V Circuit power: Max	5

		Charge: 80W / Max Discharge: 5W Charge Current Range: 0.1~5.0A Discharge current range: 0.1~1.0A Ni-MH/NiCd cells: 1~15 Li-ion/Poly cells: 1~6 Pb battery Voltage: 2~20V Dimensions: 133x87x33m	
48	Lithium 3.7 Volt Cell charger	• Lithium 3.7 Volt Cell charger	4
49	RFID reader and Tag	• RFID Card Reader Module RDM6300 or latest	15

Part B: "Procurement of IT equipment under PSDP funded project, "Establishment of the FATA University, FR Kohat""

2.1 Specification Required For IT Equipments

The detail specifications are given as;

Table 3: Required Item/Equipments (Part-B)

S.No	Required Item Name with Specifications	Qty
1	**Desktop:** Min Intel Core-i7 (latest generation), 32GB RAM, 1TB HDD, min 256GB SSD, Built in Wifi Monitor: Min19.5-Inch Backlit LED LCD Monitor or Higher Warranty: 3 Years ProSupport Warranty with Next	30

	Business Day Onsite Service	
2	**Laptop:** Intel Core-i7, 32GB RAM, min 512 SSD, min 1GB Graphic Shared • Screen: 15" Display or above with 4K/Full HD Display • Operating: DOS/Windows/Mac/any other • Adaptor: Smart AC Adapter or higher Warranty: 01 Year	02
3	**Laser Printers** (A4) (Black & White) Print Speed Up to 33 ppm Resolution 1200 x 1200 DPI Processor 800 MHz Double side printing Memory 128 MB duplex with NIC	2
4	**Multimedia Projector** (Min. 4000 lumens) with laser pointer, ceiling mount stands, Wireless Connectivity	12
6	6x8 Fast Fold Screen	12
7	Wireless Hand-Held or Lavaliere Mic (UHF) Single receiver, double Mic	2
8	**DSLR Camera** with Tripod (Min. 5 feet tripod) • 32.5MP APS-C CMOS Sensor • DIGIC 8 Image Processor • UHD 4K30p & Full HD 120p Video Recording • 3.0″ 1.04m-Dot Tilting Touchscreen LCD • Dual Pixel CMOS AF with 5481 AF Points • Up to 14-fps Shooting, ISO 100-25600 • Built-In Wi-Fi and Bluetooth • 30-fps Raw Burst Pre-Shooting • EF-M 15-45mm f/3.5-6.3 IS STM Lens Included EVF-DC2 Electronic Viewfinder	1
9	Sound systems for lecture halls with installations	03
10	Wireless Access Points a/b/g/n For Min. 40 users	01

3. General Requirements and Information for Proposal Submission

For a PROPOSER to be considered, FATA University must receive two (2) copies (one original and one photocopy) of the technical proposal & one copy of Financialproposal by December 02, 2024 at 12:00PM at the following address:

Treasurer, FATA University, District Kohat, KhyberPakhtunkhwa
Pakistan.

Please also send one printable and searchable PDF copy of technical proposal in a flash drive. All proposals must be clearly marked separately for both technical and financial proposals:

Technical / Financial Proposal "Establishment of
Smart/Distance Learning Lab at Department of

Computer Science FATA University"

&

Technical / Financial Proposal "Procurement of IT equipment under PSDP funded project, 'Establishment of the FATA University, FR Kohat'"

Sealed Technical and Financial proposals should be submitted in two separate envelops placed and sealed in one big envelope (as per single stage – two envelops bidding procedure).

There is no expressed or implied obligation for the FATA University to reimburse responding PROPOSER for any expenses incurred in preparing proposals in response to this request.

FATA University reserves the right to retain all proposals submitted, and to use any ideas in a proposal regardless of whether that proposal is selected. Submission of a proposal indicates acceptance by the PROPOSER of the conditions contained in this request for proposal, unless clearly and specifically noted in the proposal submitted and confirmed in the contract between FATA University and the PROPOSER selected.

The FATA University shall not bear any cost related to the preparation of proposal as well as any subsequent cost such as pre bid meeting visit cost, etc. incurred by the PROPOSER.

4. Project Contact

The FATA UNIVERSITY invites you to submit a proposal in accordance with the terms, conditions, and specifications contained in this document. Please submit the proposals by December 02, 2024 at 12:00PM. Questions about the project may be addressed to:

FATA University, FR Kohat,

treasurer@fu.edu.pk

CC to:

registrar@fu.edu.pk

vc@fu.edu.pk

The PROPOSER is responsible for ensuring that the email was successfully received. Questions and requests for clarification and/or additional information should be directed via email to the contact above. Any change in response to questions/clarifications will be added to this RFP as an addendum and communicated to the bidder through email.

5. Instruction To Bidders/General Conditions

5.1 Eligible Bidders/Suppliers/contactor

This Invitation for Bids is open to all Bidder/Suppliers meeting the following requirements:

- Duly Registered with Federal Board of Revenue for Income Tax (Active Taxpayers),Sales Tax and KPPRA.
- Manufacturer or authorized representative of the manufacturer.

5.2 Qualifications of the Bidder/Suppliers

The Bidder/Supplier/contractor shall provide documentary evidence that.

- The bidder/supplier has financial, technical, supplying, demonstration, fixing etc. capability necessary to perform the contract and has successful performance history in accordance to the nature of supplies in these bidding documents as described in Billof Quantities.

- In case the bidder/supplier/contractor offering the supplies that the bidder/supplier didnot manufacture or otherwise produce, the bidder/supplier has been authorized by themanufacturer or producer of such supply; and

- The bid must be complete in all technical specifications as specified in the tender documents. If any of the specifications, do not meet, the bid will not be considered inthe competition, no matter what price is quoted by the bidder.

5.3 Obtaining of Bid Documents

- The tender documents, having detailed specifications along with Terms & Conditions, can be downloaded from the FATA University website: www.fu.edu.pk.
- The bidding document with complete specification of the items (IT equipment like desktop computers, IoT devices, etc) and their quantity along with Contract Terms & Conditions can be obtained from the Office of the Treasurer FATA University, District Kohat during office hours (8:00 AM to 4:00 PM) on any working day (Monday- Friday) against a fee of Rs. 3000/- (non-refundable in cash or bank draft per component). The same can also be downloaded from the FATA University website www.fu.edu.pk. In case of downloading the document from the website, the bedding fee invoice drawn against UBL account No. 000233900504 titled "Recurring Grant FATA University" must be attached with the bid document.

Submission of Bids
- The Bid is open to all the bidders who have minimum three (03) years of experience in supplies of similar nature equipment's / items to government / semi-govt / private company / department.
- Single stage-two envelopes procedure of KPPRA will be followed.
- The Tenders/Bids must reach the Office of the Treasurer, FATA University till **December 02, 2024, at 12:00 PM**and will be opened on the same day at **12:30 PM** in the presence of bidders / representatives in the Sub-Office.

Other Details
- After the bids / quotations are opened, no bidder shall be allowed to revise, propose or request any changes in bid, unless the committee decides to do so.
- The bidder or authorized representative shall sign on each page of the tender document. No corrections and overwriting are allowed.
- Item(s) should be quoted ANNEXURE-wise separately. Preference will be given to the firm(s) quoting maximum number of Items ANNEXURE WISE. However, FATA UNIVERSITY reserves the right to opt any item/work from any bidder.
- *Bidders are requested to read carefully the terms and conditions and sign the*

TenderForm in token of having understood and accepted the same in all respects.

- While quoting tender rates, the items should be given numbers as are numbered in the Tender Document.
- The tender Rate shall be item wise in Pak Rupees including all type of admissible taxes.
- The Tender Document must specify the Brand name and Model of the item where appropriate. Without specifying the Brand and Model the quotation will not be accepted for that item.
- Bidder is responsible for timely delivery of bids. This office will not be responsible for misplacement / tampering / non-attendance delay or any other incident in case the bids are not delivered at the designated place & time. In case of any delay on the bidderside, penalty @ 1% for each delayed day maximum to 10 % of the total cost will come as decided by the competent authority.
- The bidders should be either established firm or sole distributor / authorized dealer/ agent / Supplier or Contractor registered with Sales and Income Tax Department and are included in the Active Taxpayers list.
- Time of Delivery of all equipment's / items etc. will be Maximum 30 days after the date of issuance of supply/work order by the FATA University upon the bidder's own expenses. In case of non-compliance of the work order/acceptance letter, 2% call deposit will be forfeited in favor of FATA University.
- The tender will be opened on **December 02, 2024 at 12:30 PM** at the **Committee Room of FATA University** in the presence of bidders and procurement committee.
- Responsibility of late delivery will not rest upon this office.
- The Vice Chancellor FATA University reserves the right to reject all bids at any time prior to the acceptance of bids. The grounds of rejection will be communicated to the bidder(s) upon request. However, Treasurer, FATA UNIVERSITY shall not be liable to provide any justification of those grounds.

6. Documents To Be Submitted By The Bidders

1. Bidders are required to provide the following documents with the bid for fixing the credibility of the bidders. If any of the following documents is missing, the bid will not be considered for further processing without any intimation to the bidder.

   i. Brief Company profile
   ii. Certificate of relevant ownership / dealership / authorized agent
   iii. Number of relevant projects successfully completed
   iv. Income Tax return for the last three years
   v. Sales Tax return for the last three years
   vi. Active Taxpayers list (current)
   vii. Details of offices in Peshawar or Kohat
   viii. Affidavit on judiciary stamp paper mentioning that you or your firm has never been blacklisted in the past.

Note: *By signing this agreement, the undersigned acknowledge that he has read and understood, and agree to be bound by, the terms and conditions as outlined in the agreement and confirming that his company/organization terms and condition stand eradicated.*

The selection committee may ask the successful bidders to submit the samples of furniture to thecommittee for selection.

Bidder/Supplier/Contractor signature

Dated: _____

Name: _____

Designation: _____

Company Name: _____

Contact No: _____

Mailing Address: _____

End of Document