



**BACHA KHAN MEDICAL COMPLEX / GAJJU KHAN MEDICAL COLLEGE
MEDICAL TEACHING INSTITUTION (MTI)
Tehsil Head Quarter Hospital Chota Lahor - MTI Swabi**

Contact No: 0938-280214

**BID SOLICITATION DOCUMENTS
FOR
SUPPLY & INSTALLATION OF COMPLETE LAN & WI-FI INFRASTRUCTURE
(COMPUTER NETWORK INFRASTRUCTURE PROJECT THQ CHOTA LAHOR)**

The prospective bidder is expected to examine the Bidding Documents carefully, including all Instructions, Terms & Conditions, and Specifications etc. Failure to furnish all information required by the Bidding documents or submission of a Bid not substantially responsive to the Bidding Documents in every respect would result in the rejection of the Bid.

**Manager Materials Management
BKMC/GKMC-MTI, Swabi**

**Manager MIS
BKMC/GKMC-MTI, Swabi**

**Director Finance
BKMC/GKMC-MTI, Swabi**

**Hospital Director
BKMC-MTI, Swabi**

Supply & Installation of Complete LAN & Wi-Fi Infrastructure (Computer Network Infrastructure Project) | THQ Chota Lahor MTI Swabi.

Brief Introduction of project and location

1 Overview of RFP:

GKMC/BKMC MTI Swabi invites RFP response from all bidders for **Tehsil Headquarter Hospital Chota Lahor (THQ) - MTI Swabi** to “Supply & Installation of Complete LAN & Wi-Fi Infrastructure (Computer Network Infrastructure Project)” as per guidelines mentioned in this RFP.

1.1 Proposed Methodology

Bidders are required to submit a comprehensive technical proposal that includes detailed specifications for LAN, Wi-Fi, server systems, fiber infrastructure, and other components as outlined in the Bill of Quantities (BOQ) and in full compliance with the specifications provided in the Request for Proposal (RFP). The technical proposal should also include evidence of previous similar projects completed, along with a clear methodology for executing the scope of work. A corresponding financial proposal must be submitted concurrently with the technical proposal.

1.2 Terms of References (TORs)

1. The Procurement shall be conducted in accordance with the KPPRA Rules 2014 on **Single Stage Two Envelope Procedure**. All Bids must reach in Office at 11 :00AM on **Date:** **23/06/2025**_____
2. MTI Swabi invites two separate sealed envelopes, one for Technical Proposal and One for Financial which will be clearly marked outside the envelopes.
3. The Technical bid should clearly mention Make, Model, origin and Brand, (Specification of bid) without quoting the price and must mention the warranty period. (as per BOQ)
4. Compliance against each Technical Specifications must be attached.
5. Company seal / stamp must be fixed on Technical Specification and Financial Proposal.
6. Bid Money will be 2% of complete Project Value.

Supply & Installation of Complete LAN & Wi-Fi Infrastructure (Computer Network Infrastructure Project) | THQ Chota Lahor MTI Swabi.

7. If any firm fails to qualify the Technical Evaluation Criteria based upon ToRs, then financial bid of the same will not be opened.
8. **Call Deposit** of Two percent (2%) of the total bid amount must be attached with financial proposal in separate sealed envelope in favor of Hospital Director, Bacha Khan Medical Complex-MTI, Swabi: **on or before 11:00 AM,**
Dated __23/06/2025_____.
9. Tender bid opening will be held on, **23/06/2025** at 11:30 AM at BKMC Swabi.
10. Any bid submitted after due date and time will not be entertained.
11. The BKMC / GKMC – MTI will not be responsible for any costs or expenses incurred by bidders in connection with the preparation or delivery of bids.
12. The prices quoted shall remain valid for **180 days**, after the date of opening of the tender. (Bid Validity).
13. Overall Project will be completed within 120 days including supply after issuance of award letter / purchase order / work order.
14. All prices quoted must be inclusive of all applicable Government Taxes.
15. Rate should be quoted in words and figures.
16. In case of failure to supply the item under specified time. The work order should be awarded to second bidder.
17. Supply and Installation should be completed within specified timeline. Failure that penalty @ 2% will be charged up to 15 days and beyond 15 days the penalty will be charged @5 %.
18. Bidders must submit the bid that matches or is better/higher/more than the required specifications
19. Proposals shall be submitted in English language.
20. The proposals shall be comprehensive, clear, and elaborative. Different sections/Annexures of the proposals shall be separated using color separators, flags, or tags. The proposals shall be prepared without any interlineations or overwriting.
21. The Hospital reserves the right to accept or reject all/any of the proposals submitted at any time in accordance with

Supply & Installation of Complete LAN & Wi-Fi Infrastructure (Computer Network Infrastructure Project) | THQ Chota Lahor MTI Swabi.

applicable KPPRA rules.

22. All pages must be Signed & Stamp by the Authorized Authority.

23. **Proposal weightage is Given below:** _____

PROPOSAL	WEIGHT
Technical	70%
Financial	30%
TOTAL	100%

24. **Contract Period/Warranties/SLA:**

- a. All equipment shall carry a comprehensive warranty period of three (03) years, which includes any associated licenses for hardware and/or software, unless otherwise specified separately in the detailed specifications.
- b. SLA (Service Level Agreement) for the Quoted Equipment's must be of 3 years after successful installation and deployment of the active and passive equipment's, SLA document included in BOQ.

22. Technical Evaluation Criteria

- A technically eligible bidder who does not achieve the minimum required score of 49 marks, as per the evaluation criteria outlined in this document, shall be disqualified during the Technical Evaluation phase. In such cases, the bidder's sealed Financial Proposal will be returned unopened. Bidders who obtain a score equal to or greater than 49 marks will be considered technically qualified, and their Financial Proposals will be opened for further evaluation.
- The Bidders who have duly complied with the Eligibility/Qualification and Evaluation Criteria will be eligible for further processing.
- The Bids which do not confirm to the Technical Specifications or Bid conditions or the Bids from the Bidders without adequate capabilities for supply and maintenance / warranty /support services will be rejected.
- The technical proposals shall be evaluated by the technical evaluation committee in the light of following evaluation criteria.

Technical Evaluation (Turnkey Solution)

Description	Maximum Points
Legal (Mandatory)	Mandatory
Certificate of Company/Firm Registration/Incorporation under the laws of Pakistan	
Valid Income Tax Registration	
Valid General Sales Tax Registration (Status = Active with FBR) with ATL Proof.	
KPRA Registration	
Submission of undertaking on legal valid and attested stamp paper that the Firm is not blacklisted by any of Provincial or Federal Government Department, Agency, Organization or autonomous body or Private Sector Organization Anywhere in Pakistan (On 100 Rs Stamp Paper)	
Compliance to the technical specifications of Services to be procured are Mentioned in Annex-A of this document.	
In full compliance of the Execution Schedule and Delivery Period mentioned in Tender document (Undertaking)	
Bidder's Office presence must have in major cities of Pakistan.	
Human Resource: Two Team leader – 6 (3 marks for each) Three IT Engineers – 6 (2 marks for each) Four IT Technicians – 3 (1 mark for each)	6 6 3
Experience: The bidder should have at least three deployments of the similar Projects. Value 1 million or above (3 POs required). each PO carry 05 marks Note: Copy of Purchase orders and performance certificates should be attached	15
Company operating in Pakistan: 10 - 15 years : 10 marks 06 - 10 years : 05 marks 01- 5 years : 02 marks	10
Location of offices in KPK Office Presence – 05 marks	05

Supply & Installation of Complete LAN & Wi-Fi Infrastructure (Computer Network Infrastructure Project) | THQ Chota Lahor MTI Swabi.

Annual Turnover: Minimum 50 million – 15 Marks (To be verified from Audit Report) Minimum 30 million – 10 Marks (To be verified from Audit Report)	15
Performance's certificate: Performance's certificate of same nature of projects (2 marks of each certificate)	10
Total	70

Computer Network Infrastructure Project, THQ Chota Lahor - MTI Swabi

Scope of Project

The Computer Network Infrastructure Project at THQ Chota Lahor - MTI Swabi aims to establish a robust and scalable network infrastructure to support the hospital's operational needs. The project encompasses both active and passive components, ensuring comprehensive connectivity and security across the facility. The scope includes the design, deployment, and installation of network equipment such as firewalls, switches, wireless access points, and surveillance systems. Additionally, the project involves the integration of passive items like CAT 6 cables, patch panels, and fiber optics to ensure seamless data transmission and connectivity.

The deliverables for this project include comprehensive documentation of the implementation process, high-level and low-level designs for the network infrastructure, and detailed reports on the installation and configuration of surveillance systems. Testing and commissioning activities will verify the performance and compliance of all installed components. The final project report will summarize the entire project, including all active and passive equipment details, installation maps, and recommendations for future improvements.

Project Timelines Structure

- **Phase 1:** BOQ and Contract Document – signed and approved by the MTI Swabi
- **Phase 2:** Design and Approval – Report must be submitted to and approved by the MTI Swabi
- **Phase 3:** Deployment and Installation – Report must be submitted to and approved by the MTI Swabi
- **Phase 4:** Testing and Validation – Report must be submitted to and approved by the MTI Swabi
- **Phase 5:** Go-Live and Support – Report must be submitted to and approved by the MTI Swabi

Project Deliverable Reports

Initial survey and Implementation Report: (Pre implementation Report)

- Detailed documentation of the project implementation process, details of survey conducted at all locations along with timelines, milestones, and HR details.
- High-Level Designs (HLDs) and Low-Level Designs (LLDs) for the network infrastructure.
- Nomination of a Project focal person

Surveillance System Report:

- Installation and configuration details of the surveillance system, including camera placements, recording schedules, and storage capacities.
- Diagrams, Maps, Monitoring and maintenance logs for the surveillance system.

Testing and Commissioning Report:

- Results of all testing and commissioning activities, including performance tests, security tests, and failover tests.
- Verification of compliance with project specifications and standards.

Passive Equipment Report

- Detailed documentation of the installation process for all passive equipment, including CAT 6 cables, patch panels, fiber optics, and cabinets.
- Diagrams and photos showing the placement and routing of cables and other passive components. Finalized drawings showing the actual installation of passive components, including cable routes, termination points, and equipment locations.
- Comprehensive list of all passive equipment installed, including quantities, specifications, and locations.
- Serial numbers and warranty information for each component.
- Results of testing and certification for all installed passive components, including cable testing for continuity, signal loss, and performance.

Final Project Report:

- A comprehensive summary of the entire project, including an overview of all deliverables, achievements, and any deviations from the original plan. This must contain details of all active and passive equipment's details and installation map/plans.
- Comprehensive list of all active/passive equipment installed, including quantities, specifications, and locations.
- Serial numbers and warranty information for each component.
- All the relevant Maps, structures, licenses, protocols, credentials and after sales service structure must be part of this report.
- Recommendations for future improvements and scalability options.

Note: All reports must be address to Hospital Director MTI Swabi and Concerned HOD of IT departments and will be considered accepted after proper sign and stamp of the officials.

Locations:

1. Tehsil Head Quarter Hospital (THQ) Chota Lahor – MTI Swabi

List of Active and passive equipment's and services – Turnkey Solution

S. No	Description	Details	Quantity (Approx-)
1	Firewall	Basic Level Firewall	1
2	Network Switches (24 Port)	POE switch	5
3	Network Switches (08 Port)	POE switch	3
4	Wireless Access Points	APs.	10
5	Computer Server System	Server for HMIS and Network	1
6	SFP 10G	Single Model, Dual Strand, 1 KM support	16
7	1KVA UPS	For Cabinets	8
8	3 KVA UPS with Batteries	3 KVA UPS with Two 12 V 150 + AH maintenance free batteries for server room	1
BKMC Surveillance Enhancement - CCTV Monitoring System			
S. No	Item Name	Details / Specification	Quantity (Approx-)
9	IP Camera 4 MP	IP 66 grading, IR, CMOS & Full HD	18
10	IP Camera 4 MP PTZ	IP PTZ 4MP, night vision and outdoor	6
11	32 channel NVR with 30 days storage with all accessories	30 DAYS storage with continuous recording, Onvif support	1
12	55-inch LED	LED Surveillance Grade thin Screen	1
Passive Items			
S.No	Item Name	Details / Specification	Quantity (Approx-)
13	CAT 6 I/O, with faceplate and back box (Single)	Cat6 UTP Tool-Less Keystone Jack, Back Box, Single IO/Double - complete Unit (3M/ Schneider/ Panduit/ Dlink or equivalent)	60
14	1 meter Fiber Patch Cord.	LC-SC Multimode (50/125um) Duplex Patch Cord, 1m (3M/ Schneider/ Panduit/ Dlink or equivalent) – As per	25

Supply & Installation of Complete LAN & Wi-Fi Infrastructure (Computer Network Infrastructure Project) | THQ Chota Lahor MTI Swabi.

		actual Use	
15	1 meter Cat-6 Patch cords	Cat6 UTP 24 AWG PVC Round Patch Cord - 1m - Pure Coper (3M/ Schneider/ Panduit/ Dlink or equivalent)	100
16	3-meter Cat-6 Patch cords	Cat6 UTP 24 AWG PVC Round Patch Cord - 3m - Pure Coper (3M/ Schneider/ Panduit/ Dlink or equivalent)	50
17	5-meter Cat-6 Patch cords	Cat6 UTP 24 AWG PVC Round Patch Cord - 5m - Pure Coper (3M/ Schneider/ Panduit/ Dlink or equivalent)	10
18	CAT 6 Cable Roll. (305 meter)	Cat6 UTP 23 AWG PVC Solid Cable - 305m/Roll	10
19	24 Port patch Panel with I/O	24 Port Cat6 Unshielded Fully Loaded Punch Down Patch Panel - Keystone Type -1U- with Tray (3M/ Schneider/ Panduit/ Dlink or equivalent)	8
20	Cabinet 9U with PDU	• Conforms to DIN 41494 OR equivalent ISO Standards • Wall Mount 9U • Front Glass Door (tinted, Toughened), Lock & Key • Basic Frame: Steal <u>Standard Accessories:</u> • 1U Cable Manager (1), • 6 Socket Power Distribution Unit (1 No) • Roof Mounted Fan Unit (1 No) OR equivalent / higher (3M/ Schneider/ Panduit/ Dlink or equivalent)	8
21	Cabinet 42U with 2 PDU each	• Conforms to DIN 41494 OR equivalent ISO Standards • Basic Frame: Steel • Casters Set of 4 = Nos 1 • Glass Door-800-42U Front = Nos 1	1

Supply & Installation of Complete LAN & Wi-Fi Infrastructure (Computer Network Infrastructure Project) | THQ Chota Lahor MTI Swabi.

		- Side Panels-1000-42U-Vented = Nos 2 4 FAN = NOs 1 6-8 port Power Distribution Unit =2 OR equivalent / higher (3M/ Schneider/ Panduit/ Dlink or equivalent)	
22	Power Socket	3M/ Schneider/ Panduit	10
23	Power Cable 3.29 dual core. (Bundle 90 meter), fire resistant	FAST/Pakistan Cable or equivalent	1 Bundle
24	Cable Manager	3M/ Schneider/ Panduit/ Dlink or equivalent	8
25	Duct 16x25	Adamjee or Equivalent – As per actual Use	1 duct
26	Duct 16x38	Adamjee or Equivalent – As per actual Use	1 duct
27	Duct 40x40	Adamjee or Equivalent – As per actual Use	1 duct
Fiber Optic			
S.No	Item Name	Details / Specification	Quantity (Approx-)
28	12 core optical fiber	12 Core SingleCore UnArmoured Indoor/Outdoor Fiber Cable - LSZH Sheath, (300m = 1 box) Premier/Corning / Dlink or equivalent– As per actual Use	7 boxes
29	12 port ODF rack Mounted	Best quality - Imported – As per actual Use	8
30	12 core joint enclosure (joint box)	Best quality - Imported – As per actual Use	8
31	1.5 Ton Invertor AC	18000 BTU Invertor AC for Server Room	1
32	Installation, deployment, functionalizing, testing, and commissioning of all active equipment's and passive work. This includes each and every active and passive work from serial No. 1 – Serial 31	- This include both Active, Passive work, CCTV, connectivity etc. of the project from delivery to final testing and functionalizing. - Digging of Fiber including HDPE Pipe, warning tape, Hand Hole, fiber Joints, splicing, marker post include Hard Area. Please note that each access switch will be connected through Fiber Optic + any other item required to complete the activity	1

Licenses, Warranties, Trainings, Terms and Conditions and other details

- **Warranty and Licenses:** All equipment shall carry a comprehensive warranty period of three (03) years, which includes any associated licenses for hardware and/or software, unless otherwise specified separately in the detailed specifications.

The warranty and license period will commence after the deployment of all equipment and upon receipt of a satisfactory letter from the concerned IT department.

- **Active and Passive items** will be considered as item/length/unit cost on actual deployment/use/requirement. Any damage to infrastructure occurred or required during installation must be repaired to the original form.
- **Acceptance Criteria for Passive Items** After installation and deployment of passive items, all cables, fibers, devices etc. will have to be tested by a standards organization at the expense of the bidder. Results of testing and certification for all installed passive components, including cable testing for continuity, signal loss, and performance etc. must be submitted to and approved by BKMC IT department.
- **Training:** The successful bidder shall provide a two-week on-site training program—at no additional cost—for the designated staff of MTI Swabi. This training will cover the operation, management, and maintenance of the installed and configured equipment. The bidder is also required to submit complete documentation, including installation plans, user manuals, system credentials, network protocols, and configuration files, to the IT Department.

Additionally, the bidder shall identify and recommend suitable national and international training programs and relevant certification opportunities for MTI Swabi staff. All training plans and content must be reviewed and approved by the MIS/IT Department of BKMC-MTI prior to delivery.

- **Server Room Location:** The MTI Swabi will designate the area for data center and handover to selected bidder at THQ Chota Lahor.
- **Corporate social responsibility (CSR):** The bidder will find any suitable support both from bidder side and from principal side for the establishment of additional ICT support in term of Hardware, Software and trainings for MTI Swabi.
- **Support and Replacement:** The bidder shall be responsible for providing technical support within three (03) hours of any issue being reported by MTI Swabi. In the event of hardware failure, the bidder must arrange for the replacement of any faulty equipment within twenty-four (24) hours of receiving the complaint. These support and replacement obligations shall remain in effect throughout the full duration of the warranty period for all supplied equipment.

- **Implementation Plan:** The bidder will conduct a comprehensive survey prior to deployment and verify the findings with the IT department before the actual implementation of both active and passive equipment. The bidder will submit a complete project implementation plan, which will include the following:
 - **Project life cycle:** detailed overview and project cycle.
 - **Timelines:** Detailed schedules outlining the start and end dates for each phase of the project.
 - **Diagrams:** Visual representations of the project layout and design.
 - **High-Level Designs (HLDs):** Overarching design documents that provide a broad view of the system architecture and its components.
 - **Low-Level Designs (LLDs):** Detailed design documents that specify the configuration and setup of each component within the system.
 - **Topology:** Network topology diagrams showing the arrangement of various network elements and their interconnections.
 - **Resource Allocation:** A detailed plan of the resources required for the project, including personnel, equipment, and materials.
- **Confidentiality:** The bidder must adhere to the confidentiality terms outlined in the existing BOQ. If selected, the bidder must sign a new agreement.
- **Compliance:** The bidder must comply with all relevant laws of land, regulations, and standards applicable to the project.
- **Documentation:** The bidder must provide comprehensive documentation, including user manuals, maintenance guides, and any other relevant materials for all the delivered and installed equipment's.

Service Level Agreement

After successful deployment and project handover, the bidder must meet the following criteria till the completion of warranty period

#	Service	Description	SLA Target	Performance Metric
1	Incident Acknowledgment	Acknowledgment of reported issues, problems, or incidents by the vendor.	30 minutes response time	MTTA (Mean Time to Acknowledge)
2	System Recovery	Restoration of software applications (e.g., Server system and network after a failure.	Critical: 3 hours	MTTR (Mean Time to Recovery)
3	System Availability	Continuous availability of critical systems (Network, Wi-Fi, etc.).	99.9% uptime	MTTR (Mean Time to Repair), MTTF (Mean Time to Failure)
4	Customization and Updates	Customization of components and modules or necessary software updates.	Customization: 72 hours	MTTR (Mean Time to Resolve)
5	Replacement and arrangement of Faulty Hardware	Replacement and arrangement of Faulty Hardware	24 hours	Availability and replacement
6	Surveillance Recording Availability	Ensuring availability and accessibility of camera surveillance recordings.	99.9% availability	MTTR, Storage Health Logs
7	Phone Support	Technical assistance via phone for critical or high-priority issues.	30 minutes response time	MTTR (Mean Time to Resolve)
8	Email Support	Technical assistance via email for non-critical issues or general queries.	30 minutes acknowledgment time	MTTA
9	Level I Support	Basic help desk and troubleshooting services for all deployed solutions.	1 hour response time	MTTR, Resource Availability

10	Level II Support	Advanced technical support for complex issues or escalations. Replacement of faulty hardware.	24 hours response time	MTTR
11	Preventive Maintenance	Scheduled maintenance for all infrastructure components (network, data, virtualization, etc.).	Quarterly	Maintenance Logs and Reports
12	Uptime of Wi-Fi Network	Smooth operation and availability of the managed Wi-Fi solution.	99.95% uptime per month	MTTR, MTTF
13	Training Completion	Training for staff on deployed systems with proper documentation.	Within 10 working days post-handover	Training Completion Report

Detailed Specification of Active and Passive Equipment's

Item No. 1

Technical Specifications for Basic Level Firewall
8* GE RJ45 or more
Firewall Throughput >=10 Gbit/s
NGFW throughput >= 0.9 Gbit/s
Concurrent Sessions >=700k
IPsec VPN Tunnels (GW to GW) >=150
IPsec VPN Throughput >=6 Gbit/s
Concurrent SSL VPN Users >=150
SSL VPN throughput >=850 Mbps
HDD>= 100 GB
Security Policies >= 1.5k
Virtual Domains >=10
Support firewall, VPN, intrusion prevention, antivirus, data leak prevention, bandwidth management, anti-DDoS, URL filtering, and anti-spam functions
Support Switching & routing protocols and features, such as RIP, OSPF, BGP, IS-IS, RIPng, OSPFv3, BGP4+, and IPv6 IS-IS, VLAN
Support transparent, routing, and hybrid working modes and high availability (HA), including the Active/Active and Active/Standby modes
Support multiple highly available VPN features, such as IPsec VPN, SSL VPN, L2TP VPN, and GRE
Support multiple user authentication methods, including local, RADIUS, TACACS, AD, and LDAP.
Support integration with Radius, LDAP, AD, Sandbox
Support report display by user, application, time, traffic, threat, and URL
Support SNMP, SSH, Syslog
OEM must be a Leader by Gartner Network Firewall Magic Quadrant at least once in last 3 years
OEM must have in-country presence and local depot
03 Years Warranty & Support

Item No.2

Technical Specification Requirement POE Switch 24 port
10/100/1000Base-T ports, ports >= 24
10 GE SFP+ ports >= 4
Dedicated Stack Port>=2
Memory >=2GB, Flash>=1GB or higher
Switching Capacity>= 176 Gbps
Forwarding Performance >=132 Mpps
PoE >=400W
4K VLANs
MAC Address entries >=30K
ARP Entries >= 2K
ACL Rules >= 2K
QinQ, LACP, STP, RSTP, ERPS, MSTP/PVST+, LLDP, Jumbo Frames
IPv4 Static Routing, RIP,RIPing, OSPF, OSPFv3
FIBv4 >=4k , FIBv6>=1k
IGMPv1/v2/v3, PIM-DM, PIM-SM, MSDP, IGMP snooping and Load balancing of Multicast Traffic
Stacking support for upto 4 devices
Support MAC authentication and 802.1x authentication, Dynamic VLAN, Dynamic ACL, RADIUS CoA
Support Integration with industry standard NAC Solutions
CLI and Web interface (HTTPS)
Telnet, SSH v2, RMON,SNMP v1, v2, and v3 , Telemetry
Support Automation with SDN Controller and NETCONF/YANG
Support NETCONF/ Netstream / Netflow
8 Queues per port, Support Traffic classification, Traffic behavior, Traffic shaping, Congestion avoidance/Management
Support ARP security, DAI, SAI, CPU Defense, Storm Control and Strom Suppression
Operating Temperature -5C to +50C
Humidity 5% to 95%RH

Supply & Installation of Complete LAN & Wi-Fi Infrastructure (Computer Network Infrastructure Project) | THQ Chota Lahor MTI Swabi.

OEM must be a Leader by Gartner LAN Wired and Wireless Magic Quadrant at least once in last 3years
OEM must have in-country presence (office and depots) for at least the past 2 years.
03 Years Warranty & Support

Item No.3

Technical Specification Requirement POE Switch 8 Port
10/100/1000Base-T ports, ports >= 8
10 GE SFP+ ports >= 4
Memory >=2GB, Flash>=1GB or higher
Switching Capacity>= 95 Gbps
Forwarding Performance >=70 Mpps
PoE >=120W
4K VLANs
MAC Address entries >=30K
ARP Entries >= 2K
ACL Rules >= 2K
QinQ, LACP, STP, RSTP, ERPS, MSTP/PVST+, LLDP, Jumbo Frames
IPv4 Static Routing, RIP,RIPing, OSPF, OSPFv3
FIBv4 >=4k , FIBv6>=1k
IGMPv1/v2/v3, PIM-DM, PIM-SM, MSDP, IGMP snooping and Load balancing of Multicast Traffic
Stacking support for upto 4 devices
Support MAC authentication and 802.1x authentication, Dynamic VLAN, Dynamic ACL, RADIUS CoA
Support Integration with industry standard NAC Solutions
CLI and Web interface (HTTPS)
Telnet, SSH v2, RMON,SNMP v1, v2, and v3 , Telemetry
Support Automation with SDN Controller and NETCONF/YANG
Support NETCONF/ Netstream / Netflow
8 Queues per port, Support Traffic classification, Traffic behavior, Traffic shaping, Congestion avoidance/Management
Support ARP security, DAI, SAI, CPU Defense, Storm Control and Strom Suppression
Operating Temperature -5C to +50C
Humidity 5% to 95%RH
OEM must be a Leader by Gartner LAN Wired and Wireless Magic Quadrant at least once in last 3years

Supply & Installation of Complete LAN & Wi-Fi Infrastructure (Computer Network Infrastructure Project) | THQ Chota Lahor MTI Swabi.

OEM must have in-country presence (office and depots) for at least the past 2 years.
03 Years Warranty & Support

Item No.4

Technical Specification Requirement Wireless Access Point
The AP should support IEEE 802.11ac Wave 2/ax/be or higher
The AP should support multiple radios frequencies, one 802.11be 2*2 MIMO on 2.4 GHz band, and one 802.11be 2*2 MIMO on 5 GHz band
The AP should support system minimum rate up to 3 Gbit/s.
The AP should support 2.5GE port
The AP should support Bluetooth low energy 5.4
The AP should support USB port, the port can be used for external IoT expansion
The AP should support Bluetooth serial remote wireless operation and maintenance
The AP should support DC power supply.
The AP should support PoE power supply: in compliance with 802.3at/af.
The AP should support cloud management mode allows users to switch to the cloud mode.
The AP should support Operating temperature: -10°C ~ +50°C.
The AP should support minimum 15 SSIDs for each radio.
The AP should support minimum 250 users.
The AP should support built-in smart antennas.
The AP should support application Traffic statistics: globally, by SSID, or by user.
The AP should support load balancing during smart roaming.
The AP should support smart roaming.
OEM must be a Leader by Gartner LAN Wired and Wireless Magic Quadrant at least once in last 3 years
OEM must have in-country presence (office and depots) for at least the past 2 years.
03 Years Warranty & Support

Item No. 5

Technical Specification Requirement for Computer Server System	
Form Factor	1U, 1 Socket Rack Mount Server
OEM Standing	Quoted OEM must be in Leader Quadrant of Gartner Magic Quadrant for Primary Storage 2024
Chassis	Chassis supporting up to 08 x 2.5” SAS/SATA Drives OR Higher
Processor	1 x Intel® Xeon® E-2468 2.6G, 8C/16T, 24M Cache, Turbo, HT (65W) OR Higher
Memory	4 x 64 GB UDIMM, 5600MT/s ECC OR Equivalent
Network Card	1 x Dual Port 10/25GbE SFP28 Adapter with Transceivers OR Higher
	1 x Dual Port 1G Base-T NIC OR Higher
Storage/Raid Controller	RAID Controller Supporting RAID level 0, 1, 5, 6 OR Equivalent
Hard Drives	03 x 1.92TB SSD 2.5” Hot Plug Drive OR Higher
Systems Management	Enterprise License with Dedicated OOB Network Port. Supports remote management, Configuration & Troubleshooting
Power Supply	Dual Redundant Power Supply Hot Swappable OR Higher
Rack Rails	Rack mounting kit along with cable management arm
Warranty	On Site 3-Year Comprehensive Warranty OR Higher including licenses if any
OS License	2 x Windows Server® 2025 Standard, 16 CORE OEM License with multi language media kit.

Item No.6

SFP 10 G: Single Model, Dual Strand, 1 KM or higher support

Item No. 7

Technical Specifications for 1000 VA UPS	
	1. Capacity: 1000VA with 90% power factor or higher 2. Topology: Line-interactive UPS with Automatic Voltage Regulation (AVR) to correct voltage fluctuations without switching to battery power. Pure sign wave output 3. Outlets: Multiple outlets with surge protection, including universal sockets for compatibility with various devices.
	4. Form Factor: Compact and space-saving design suitable for floor placement. 5. Communication: USB connectivity for monitoring UPS status and managing shutdown procedures on connected computers. 6. Backup Time: standard backup. 7. Battery: Sealed lead-acid or Lithium-Ion batteries with user-replaceable design. 8. Software: UPS management software for advanced monitoring and control. 9. Warranty: 1 Year

Item No. 8

3 KVA UPS (Uninterruptible Power Supply)
Capacity: 3 KVA (Kilovolt-Amperes) or higher
Protection: Overload, short circuit, battery deep discharge, and overcharge protection
Display: LCD/LED display for status and fault indication
Cooling: Forced air cooling with temperature-controlled fan
Two 12V, 150 AH Maintenance free/dry Batteries
Voltage: 12V each
Capacity: 150 AH (Ampere-Hour) or higher
Design: Low maintenance, high cyclic life
Terminal Type: Heavy-duty terminals for secure connections

Supply & Installation of Complete LAN & Wi-Fi Infrastructure (Computer Network Infrastructure Project) | THQ Chota Lahor MTI Swabi.

Warranty: Minimum 3 years warranty
Installation at Server Room
Electrical Connections: Secure and compliant wiring and connections
Battery Rack: Provision of a sturdy rack for battery placement
Safety Measures: Installation of necessary safety equipment like circuit breakers and surge protectors
Testing and Commissioning: Full system testing and commissioning to ensure operational readiness
Documentation: Provide user manuals and installation documentation

Item No. 9

4 MP Bullet Camera

Type:
Camera Type: Bullet
Feature: High Dynamic Range (WDR) for clear images in challenging lighting conditions
Specifications:
Usage: Outdoor
Compliance: ONVIF compliance and support
Protection: Dustproof and waterproof (IP66 or higher rating recommended)
Night Vision: Equipped with night-vision capability
Resolution:
Image Resolution: 4 Megapixels
Warranty:
Coverage: Standard manufacturer warranty
Additional Features:
Connectivity: Ethernet port for network connection (PoE support recommended)
Operating Temperature: Suitable for extreme weather conditions

Item 10

4 MP PTZ Camera

Type:
Camera Type: PTZ – best for boundary wall security
Feature: High Dynamic Range (WDR) for clear images in challenging lighting conditions
Specifications:
Usage: Outdoor
Compliance: ONVIF compliance and support
Protection: Dustproof and waterproof (IP66 or higher rating recommended)
Night Vision: Equipped with night-vision capability
Resolution:
Image Resolution: 4 Megapixels
Warranty:
Coverage: Standard manufacturer warranty
Additional Features:
Connectivity: Ethernet port for network connection (PoE support recommended)
Operating Temperature: Suitable for extreme weather conditions

Item No. 11

Technical Specification Requirement 32 Channel NVR
1. Capacity/Resolution: Support 32 IP camera channels, recording at least 4K (8MP) resolution with H.265/H.264 compression.
2. Storage/RAID: Configuration of storage with suitable RAID support (e.g., RAID 0, 1, 5, 6) for data redundancy. Minimum 30 days storage is desirable with full coverage of channels.
3. Networking/Access: Gigabit Ethernet, remote access via web browser/client software.

4. Video Analytics: Built-in motion detection, intrusion detection, object recognition.
5. AI/ePoE: Advanced AI (facial recognition, people counting) and ePoE support for extended camera range.
6. ONVIF/ANPR: ONVIF compliance for third-party camera integration and ANPR compatibility.
7. Cybersecurity: Robust security features like user authentication, access control, and data encryption.
8. Warranty: Standard manufacturer warranty

Item No. 12

Technical Specifications for LED Scree 55 Inches CCTV/Network Operations
> Industrial level LCD panel, suitable for continuous 24/7 operation > 4K Ultra-HD resolution or above > Using tamper-proof metal housing > Built-in 3D COMB filter and 3D noise reduction > 6ms response time for no motion blur, judder or ghosting > High fidelity digital processing for a brilliant and vivid video > 178°/178° wide uninterrupted viewing angle or above > Professional thermal design to extend equipment lifespan > Built-in power, low energy consumption, ultra-quiet > Support multiple signals, such as HDMI, DP, USB multimedia, Audio etc. > Warranty: Standard warranty

Item No. 13 to Item No. 30

Ref. to ‘List of Active Item and passive equipment’s and services’

.....****The End****.....

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