



**AYUB MEDICAL COLLEGE
ABBOTTABAD**

BID SOLICITATION DOCUMENTS

**SUPPLY AND INSTALLATION OF
DESKTOP COMPUTERS ALONG
WITH COMPLETE NETWORKING
FOR COMPUTER BASED EXAM
LAB**

**Mansehra Road, Mandian Abbottabad
Tel. No. Dean Office: 0992-637508**

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INVITATION FOR BIDS

1. The **Dean Ayub Medical College Abbottabad** now invites sealed bids from eligible bidders for the SUPPLY AND INSTALLATION OF DESKTOP COMPUTERS ALONG WITH COMPLETE NETWORKING FOR COMPUTER BASED EXAM LAB.
 2. Interested eligible bidders may obtain further information from and inspect the bidding documents at the Account Branch/ Procurement Cell, Ayub Medical College, Mansehra Road Abbottabad
 3. Bidding documents can be obtained from Accounts Branch Ayub Medical College Abbottabad during office hours on payment of Rs.1000/- for each item. (Non-Refundable) and are also available on the institutional website. <http://www.ayubmed.edu.pk>.
 4. The firms/ contractors may also deposit a pay order/ bank draft of Rs. 1,000/- as tender fee in favour of **Dean, Ayub Medical College**
 5. Tenders/bids should reach at the following address till 11:00 A.M on or before 17-01-2025.
 6. A pre bid meeting of all the intended bidders will be held on 02-01-2024 at 11:00 AM in the conference room of Ayub Medical College.
- Dean, Medical Teaching Institution,
Ayub Medical College,
Main Mansehra Road,
Abbottabad**
7. The tenders/bids will be opened on 17-01-2025 at 11:30 AM by the Institutional Purchase Committee.
 8. The bidders are requested to give their best and final prices as no negotiations are expected.

**Dean Medical Teaching Institution, Abbottabad
Ayub Medical College
Mansehra Road, Mandian Abbottabad
Tel.No. Dean Office: 0992-637508**

INSTRUCTIONS TO BIDDERS

1. The bidder/ proponent must submit the proposals in sealed envelopes as specified in clause b) of Section (2) of Rule 6 of KPPRA Rules 2014 i.e. *Single stage, two envelop procedure.*
2. The proposal shall be typed in English with legible font type and size. Any hand written part or full proposal (either technical or financial) shall be rejected.
3. The bidders are directed to submit separate envelopes for technical and financial bid.
4. **The bidders shall quote their prices on FOB/FOR basis.**
5. The bidders are directed to quote prices of all the items and the tender will be awarded to the bidder on consolidated basis.
6. Comparison of the prices will be done on consolidated basis.
7. The bidders are directed to show the delivery period of each item separately.
8. The bidders are directed to submit duly signed and stamped bidding documents along with the technical bid.
9. The proposals must be on the bidder's letterhead, duly stamped by authorized representative (as per prescribed specimen in alphabetical order).
10. The envelopes should be on the name (**Dean, Ayub Medical College, Medical Teaching Institution, Abbottabad.**)
11. The terms and conditions mentioned in the tender notice are also part and parcel of this bidding document
12. The bidder shall specify validity in days; the procuring entity may under exceptional circumstances request for extension in bid validity which shall be for not more than the period equal to the period of the original bid validity.
13. Collusion between the firms is strictly prohibited. Any firm / group of firms found involved in creating a cartel or any other collusion arrangement against the interest of the project/government, will be blacklisted and debarred as per blacklisting manual of AMC.
14. The proposals should be in accordance with enclosed specifications.
15. Every page of the bid must be properly signed and stamped.
16. **Response time:** All bidders shall submit proposals as per these instructions on or before 17-01-2025 at 11:00 AM .These tenders/bids will be opened at 11:30 AM by the Institutional Purchase Committee.
17. The procuring entity may reject one or all such proposals, which are vague (In

terms of financial proposal) or does not adhere to these instructions. The rejection reason will be communicated to the respective bidder.

18. The procuring entity may offer for re-bidding in case the proposal does not satisfy its professional requirements.
19. Arbitration as per law will be in case of disagreement arising out of contract execution, which cannot be settled, between the two parties (procuring entity and supplier/vendor/bidder).
- 20. If the bidding document is downloaded from the institutional web site, the fee has to be deposited in the Accounts Branch and the original receipt must be attached with the bidding document or a bank draft of Rs. 1,000/- in favour of Dean, Ayub Medical College may also be deposited.**
21. No tenders/bids shall be accepted without original fee receipt or bank draft.
22. The bidder will deposit bid security money with procuring entity equal to **2%** of the total value of the contract along with the bid in the envelope containing Financial Proposal. The Bidder must give an undertaking on official letterhead that he has submitted CDR/Bid Security with Financial Proposal stating only the Bank Draft Number and name of the bank. The undertaking **should not disclose the amount. The bid will be rejected if bid security amount is stated in the said undertaking.**
23. The procuring entity may offer for re-bidding in case the proposal does not satisfy its professional requirements.
24. Contract will be signed with the successful bidders and its terms and conditions will govern the executive of the contract.

GENERAL TERMS AND CONDITIONS

Following are the details regarding request for quotation for CCTV CAMERAS.

| Ser. # | Description / Specification | Qty. | Unit Rate (Rs.) | GST + Income Tax + any other applicable tax | Delivery Period | Total |
|--------|-----------------------------|------|-----------------|---|-----------------|-------|
| | | | | | | |

Matrix to be filled by the bidder as per the instructions laid down here.

General Terms and Conditions

Following are the General Terms and Conditions:

- The Authorized Dealers/Sole Agents/Authorized Distributors/Registered Firms who are registered with Federal Board of Revenue for Income Tax and Sales Tax and are active Tax payers are eligible to participate in the bidding.
- Bidding documents can be obtained from Accounts Branch Ayub Medical College Abbottabad during office hours on payment of Rs.1000/- for each item. (Non-Refundable).
- An amount equal to 02% of the bid price in shape of CDR as Bid Security in favour of Dean Ayub Medical College must be attached with the Financial Bid.
- The rates quoted by the Authorized Dealers/Sole Agents/Authorized Distributors/ Registered Firms shall be valid 90 days.
- The bidding procedure shall be *Single stage, two envelopes* as per KPPRA rules 2014.
- The technical specifications and bid evaluation criteria are attached
- No conditional bid shall be acceptable.
- The terms and conditions mentioned in the tender notice are also part and parcel of this bidding document.

TECHNICAL BIDS CRITERIA FOR DESKTOP COMPUTERS AND ACCESSORIES

The following documents are **MANDATORY** for considering the bid/tender:

1. Authorized Dealership/Distributorship certificate from the **Original Manufacturer**
2. Registration certificate for Income tax and Sales Tax
3. Active tax payer for NTN and STRN
4. Bank statement of the last one year showing credit transaction of 10 Million
5. Affidavit on Judicial paper stating that the Firm/Company of the bidder has never been blacklisted by any Govt. Department/Institution, Autonomous/Semi-autonomous body etc.
6. A certificate on company/firm letter head stating that 2% CDR of quoted amount is attached with the financial bid.
7. A certificate on company/firm letter head mentioning 100% Compliance with Purchaser's Specifications.(Please Attach Quoted item specifications/broachers etc)
8. Warranty certificate (Minimum warranty of ONE YEAR of the item/product is mandatory)

EVALUATION CRITERIA

| S. No. | Parameters | Detail/Supporting Documents | Total Marks | Remarks |
|--------|--------------------------------|--|-------------|---|
| 1 | Company Profile | Similar Completed Projects Number of reputable Govt./Private departments/institutions having registration with relevant regulatory authority who were provided the same item/service during the last 10 years 03 marks for each project up to a maximum of 5 projects | 15 | Please attach list of clients and satisfactory reports along with agreements |
| 2 | Financial Strength | Bank statement of last 03 years showing credit transactions 11 to 15 Million = 05 Marks Above 15 Million = 10 Marks | 10 | Please attach last 03 years bank statements |
| 3 | Product Quality Certifications | Valid International Product Quality Certifications of the respective product. 2.5 Marks for each certificate up to maximum of four certificates | 10 | Please attach the relevant certificates. |
| 4 | Warranty | A minimum warranty of ONE year is mandatory 2 to 4 years warranty = 05 Marks (Excluding Mandatory Warranty) 5 to 7 years warranty = 10 Marks More Than 07 Years = 15 Marks | 15 | Please attach an undertaking on Company/Firm letter head clearly mentioning years of warranty |

| | | | | |
|----|-----------------------------|---|----|---|
| 5 | After Sale Service | 100% free service (except for spare parts) for one or more years after expiry of warranty period. 02 marks for each year of post warranty free service/ replacement of spare parts up to maximum of 05 years. | 10 | Please attach an undertaking on Company/Firm letter head clearly mentioning about After Sale Service |
| 06 | Availability of Spare Parts | Ensuring 100% availability of spare parts after expiry of warranty period. 02 Mark for each year up to maximum of 5 years. | 10 | Please attach an undertaking on Company/Firm letter head clearly mentioning about availability of spare parts |
| | | Total Marks | 70 | |

Qualifying marks: Bids scoring 70% (49) or more out of 70 shall be declared as **Technically Responsive Bids.**

The financial bids of technically responsive bids will be opened publicly at a time to be announced by the Procuring Agency and the financial bids of the technically nonresponsive shall be returned un-opened to the respective Bidders

Marks for Financial Bid: 30

Evaluation of the Financial Bid:

Evaluation of the Financial Bid of Technically Responsive Bids shall be done as per following formula:

Bid quoting lowest price will get full marks i.e. 30

$$\text{Formula: } \frac{\text{Lowest Price}}{\text{Price of the bid under consideration}} \times 30$$

Merit Point Evaluation = Technical Evaluation Marks + Financial Evaluation Marks

Bid scoring highest marks on Merit Point Evaluation shall be considered as the Best Evaluated Bid.

GENERAL AND SPECIAL CONDITIONS OF CONTRACT

A. LANGUAGE

All communications and documentations related to procurements shall be in English.

B. BID SECURITY DEPOSIT (Where Applicable)

Unless otherwise agreed between the Procuring entity and the Supplier, the later shall deposit with the Procuring Entity a sum equal to 2% of the total value of the goods detailed in the said Schedule at 'C'.

C. PLACE AND TIME OF DELIVERY

- I. The Supplier/Vendor/bidder shall as may be required by the Procuring entity either deliver free at, places detailed in the said Schedule, the list and Quantities of the goods detailed herein and the goods shall be delivered out not later than the dates specified.
- II. With penalty @ 0.067 % per day after 90 days of Purchase Order in case of imported items and 30 days in case of local items.

(i) Delivery Schedule

| Ser. # | Item / | Date of | Place of | Verification | Acceptance |
|--------|-------------|----------|----------|--------------|------------|
| | Deliverable | delivery | delivery | | |
| | | | | | |
| | | | | | |
| | | | | | |

D. VARIATIONS / REPEAT ORDERS

The Procuring entity may during the execution of the Contract, by notice in writing may direct the supplier to alter, amend, omit, add to or otherwise vary any part of the Schedule, in agreement with the Service Provider, and the Service Provider shall carry out such variations and be bound by the same conditions. Provided that repeat orders are within a period of six months, and that it does not exceed fifteen percent of the original contract value as per KPP Rules 2014.

E. INSPECTION of Goods on Delivery (whole applicable)

The goods shall be inspected by the inspecting team of the Procuring entity for quality/quantity etc. at the agreed location/warehouse of the Procuring entity before the goods are provided/supplied at their final destination.

Inspection of goods shall be conducted without prejudice to the buyer's right to lodge quantity and quality claims. In case the goods are not found in conformity with the contracted quality/specifications, procuring entity shall have the right to lodge claims within 30 days from the date of inspection of the goods.

In case of dispute by the supplier, joint re-inspection of the supplied material shall be carried out, at the cost of the supplier, in presence his or his authorized representative either at a laboratory designated by the procuring entity or by a neutral independent entity as jointly agreed.

F. PACKAGING

Material/works/service should be packed suitably in appropriate wooden/metallic boxes/containers/pallets in such a manner that the goods are not lost or damaged in handling/transportation and the packing should be suitable enough to reach at the stores of procuring entity safely.

Each pack or container should clearly indicate the following information:

- Purchase Order Number and date.
- Name of Product/Deliverable.
- Quantity
- Gross and net weights
- Name of Manufacturers/service providers

Manufacturer's instructions regarding the maximum storage life of the product and the storage conditions must be followed.

Material/works/service should be delivered at the stores of procuring entity in original packing of the manufacturer.

Where applicable, manuals containing instructions of the manufacturer about the application (in use) of the item should be provided in English. If required by Procuring entity, technical experts should be sent by the manufacturer for application of the item at site.

G. PERFORMANCE BANK/INSURANCE GUARANTEE

Successful bidders shall furnish a Performance Bank/Insurance Guarantee of 10% of value of Purchase Order/Tender price/Contract on the Performa prescribed provided that the guarantee is issued by any of the approved Banks within 07 working days of issuance of the letter of acceptance. The performance guarantee shall remain valid throughout the execution of purchase order/contract and shall be returned within 10 days after the expiry of warranty period and satisfactory performance

If such Guarantee is issued by a foreign bank, it should be countersigned by a Pakistani bank on the approved list of banks.

FORFEITURE OF PERFORMANCE BANKGUARANTEE

The Performance Bank Guarantee will be forfeited if the service provider fails to deliver or supply goods in accordance with the terms and conditions of the Purchase Order or commits any breach of the Contract / Purchase Order.

H. PAYMENT CLAUSE Payment shall be made on production of

the following documents: -

- a. The Supplier/Vendor submits manually signed invoice in triplicate certifying that merchandise supplied is in accordance with the contract. The invoice must show the Purchase Order No.____, Material Receiving Report No.____, and Acceptance Note No.____, with date, price/rate of each item.
- b. Material/Deliverables Receiving Report (in original) signed by the Authorized Representative of Procuring entity in acknowledgement of having received all supplies/deliverables in accordance with the Purchase Order/Contract Agreement.
- c. Authenticated sales tax invoice in original as prescribed in the Sales Tax Act 1990 (where applicable).
- d. Valid Income Tax Exemption Certificate (otherwise Income Tax at current applicable rates shall be deducted from the invoice). (where applicable)
- e. National Tax Number.
- f. Sales Tax Registration Number.
- g. Certificate in original issued by any one of the Independent Inception (where applicable).

- h. Bank Account Number and Branch.
- i. Recovery of all applicable taxes at source should be made as per rules
- j. Certificate from procuring entity stating Goods as per standard / professional requirement (format given below).

Liquidation damages /penalty

- I. Wherein the Supplier entirely fails to complete deliveries as per purchase order and within the stipulated time frame specified in the Schedule of Requirements, the action will be taken as per blacklisting manual of AMC.
- II. In case of late delivery of goods beyond the periods specified in the Schedule of Requirements and subsequent purchase order, a penalty @ 0.067% per day and maximum of 10% of the cost of the supply order shall be imposed upon the Supplier.
- III. vi)Extension in the delivery period (if any) will be considered by the Purchaser on case to case basis and strictly in accordance with the Rules of Khyber Pakhtunkhwa Procurement of Goods, Works and Services Rules, 2014.

K. OBLIGATIONS AND OPTIONS IN CASE OF NON-FULFILMENT OF CONTRACTUAL OBLIGATIONS BY THE SUPPLIER

The supplier shall perform services in accordance with recognized standards, applicable laws and regulations.

The suppliers shall appoint a focal person who shall coordinate with procuring entity at all times during the execution of the project (representing consultant firm /organization). The Project Coordinator shall have the qualifications as may be agreed between the client and the consultant.

The supplier shall carry out the services with due diligence and efficiency and in conformity with sound practices.

The supplier shall act at all times so as to protect the interests of the Client and shall take all reasonable steps to keep all expenses to a minimum consistent with sound economic and other practices. The supplier shall furnish the Client such information relating to the Services as the Client may from time to time reasonably request.

Except with the prior written approval of the Client, the supplier shall not assign or transfer the Agreement for Goods or any part thereof nor engage any other independent supplier or sub-contractor to perform any part of the services without prior consent of the service providers

The supplier agrees that no proprietary and confidential information received by the supplier from the Client shall be disclosed to a third party unless the supplier receives a written permission from the Client to do so.

Procuring entity may take any of the following actions if after the placement of the Purchase Order the supplier fails to deliver the goods within the prescribed period, according to the specifications, quantities and other terms and conditions given in the Purchase Order/Contract agreement:-

Recover from the supplier as stipulated in the relevant purchase order/contract agreement, equivalent to 0.067% per day (2% per month) of the total value of contract in case of failure to deliver as per agreed timelines, provided that the total penalty shall not be imposed beyond maximum of 10% of the total contract value.

Purchase from any other source, at the risk and cost of the supplier, the goods not delivered or other goods of equivalent specifications, without canceling the Purchase Order/contract agreement;

Cancel the Purchase Order/contract agreement at supplier's risk and cost. In such case, Procuring entity reserves the right to take any action against supplier which it may deem fit under the circumstances including the blacklisting of the supplier; or

Recover any consequential losses/damages incurred by procuring entity by withholding any or all amounts otherwise due to the supplier against this or any other Purchase Order/ Contract.

L. DISPUTES AND CONTROVERSIES/DISPUTE RESOLUTION

Procuring Entity shall constitute a Committee consisting of odd number of persons with proper powers and authorizations to redress complaints of bidders that may arise prior to issuance of Purchase Order/contract agreement, in accordance with the KPP Rules 2014.

If a bidder is not satisfied with the decision of the Committee he may take recourse to the KPK PPRA.

The mere fact of lodging a complaint shall not warrant suspension of procurement process.

Any dispute or difference arising out of the Agreement which cannot be amicably settled between the Parties, shall be finally settled by PPRA whose decision will final and binding on both the parties

M. INDEMNITY

The supplier shall at all times indemnify the procuring entity against the claims which may be made in respect of the goods for infringement of any right protected by patent, registration of design or trade mark and shall take all risks of accident of damages which may cause a failure of the supply from whatever cause arising and the entire responsibility for the sufficiency of all the means used by him for the fulfillment of the contract; provided always that in event of any claim in respect of an alleged breach of a patent registered design or trade mark being made against the procuring entity, it shall notify the supplier of the same and the supplier shall be at liberty at his own expense to conduct negotiations for settlements of any litigation that may arise there from.

N. SUB-LETTING CONTRACT

The supplier shall not sub-let or assign this Contract or any part thereof without the written permission of the procuring entity. In the event of the Service provider subletting or assigning this Contract or any part thereof without such permission, the procuring entity shall be entitled cancel the Contract and to purchase the goods elsewhere on the supplier account and risk and the supplier shall be liable for any loss or damage which the procuring entity may sustain in consequence of arising out of such purchase.

O. BRIBES COMMISSION ETC.

Any bribe, commission, gift or advantage given, promised or offered by or on behalf of the Contractor or his partner, agent or servant, or any one on his or their behalf to any officer servant, representative or agent of the procuring entity or any person on its behalf in relation to the obtaining or to the execution of this or any other contract with the procuring entity, shall in addition to any criminal liability which he may incur, subject the contractor to cancellation of this and all other Contracts and also to payments of any loss or damage resulting from such cancellation to the like extent as is provided in cases cancellation under clause 8 hereof; and the procuring entity shall be entitled to deduct the amounts so payable from any moneys, otherwise due to the supplier under this or any other Contract. Any question or dispute as to the commission of any offence under this clause shall be settled by the procuring entity in such manner as it shall think fit and sufficient, and its decision shall be final and conclusive.

P. TERMINATION (End of Services)

The Agreement shall terminate when, pursuant to the provisions hereof, the Services have been completed and full and final payment has been made.

Termination by the Client

The Client may, by a written notice of thirty (30) days to the supplier, terminate this Agreement. All accounts between the Client and the Service provider shall be settled not later than sixty (60) days of the date of such termination.

Q. FORCE MAJEURE

The term "Force Majeure" as employed herein shall mean acts of God, strikes, lockout or other industrial disturbances, acts of public enemy, wars, blockades, insurrection, riots, epidemics, landslides, earthquakes, storms, lightning, floods, washouts, civil disturbances, explosions and any other similar events, not within the control of either Party and which by the exercise of due diligence neither Party is able to overcome.

If either Party is temporarily unable by reason of Force Majeure to meet any of its obligations under the Agreement, and if such Party gives to the other

Party written notice, of the event within fifteen (15) days after its occurrence, such obligations of the Party, as it is unable to perform by reason of the event, shall be suspended for as long as the inability continues. Neither Party shall be liable to the other Party for loss or damage sustained by such other Party arising from any event referred to as Force Majeure or delays arising from such event. Force Majeure shall not include insufficiency of funds or failure to make any payment required under the Agreement.

R. APPLICABLE LAWS

This Agreement shall, in all respects, be read and construed and shall operate in conformity with the KPPRA Act 2012 and KPP Rules 2014.

S. CONTRACT AMENDMENT

No variation in or modifications to the terms of the Agreement shall be made, except by a written amendment signed by the Parties hereto.

T. NOTICES

Any notice given by any of the Parties hereto shall be sufficient only if in writing and delivered in person or through registered mail as follows:

To: The Client

To: The Supplier -----

or to such other address as either of these Parties shall designate by notice given as required herein. Notices shall be effective when delivered.

PURCHASE ORDER / CONTRACT AGREEMENT

The purchase order is the simplest form of contract for procurement between the procuring entity and the supplier. It is used to form a contract by accepting the successful bidder's quotation, where no contract award notice or detailed contract document is required. The purchase order defines the goods to be supplied, the price to be paid for the goods, works or services and the delivery period required.

2 The purchase order shall carry the following information:

- The name of the supplier;
- The date of issue of the Purchase Order;
- The delivery address;
- The name of the procuring entity purchasing the items;
- The Purchase Order Number;
- The quantity of each item required;
- Any part or pattern number for each item;
- A brief description of each item;
- The unit cost or rate for each item; and
- The delivery period and whether the delivery is to be made in lots.

3 For detailed contract agreement, tender notice condition shall be fulfilled.

Technical Specifications and Quantity of Computers and other accessories

| SNO. | Name of Item | Specifications | Quantity |
|----------|--|--|---------------------------------|
| 1 | Desktop computers , HP, Dell or Equivalent (with Tower casing) | <p>Processor : Intel Core i7, 14th generation L3 Cache 16 MB or above Dual channel Memory support RAM : Minimum 8GB DDR5 or above expandable to 32 GB Minimum. Storage : 512 GB NVMe 2.1 SSD GPU integrated Graphics Branded Wired Key Board and Mouse with Best Quality Mouse Pad Power Cables VGA / HDMI Cable Operating System: Pre-Installed Genuine window 11 with product key (OLP Academic Lenience from Microsoft)</p> <p>Display : LCD 24 inches (HP, Dell, Lenovo or Equivalent) Display Resolution: FHD(1920x1080) or higher with 8 bit color.</p> <p>Connectivity:</p> <ul style="list-style-type: none"> • Built in WiFi 6 802.11ax or higher • Blue Tooth 5.2 or Higher <p>Ports:</p> <ul style="list-style-type: none"> • Audio Microphone combo jack • Ethernet port 10/100/1000 Mbps • USB 3.2 • VGA • HDMI | One Hundred & Sixty (160) |

Network Layout Design along with equipment for reliable High Speed Network to support and Manage Computer Base Examination.

- Complete Digitalization of Examination Hall
- Networking of examination Hall for computer based examination including
 - Design
 - Installation
 - Configuration
 - Testing and commissioning.
- Using High quality CAT-6 A Cable (99.9% Pure copper with 23 AWG) and high quality RJ45 connectors for optimal performance.
- Compliance with industry standards for Networking and safety.
- Performance Guarantee for the network during the exam.
- Dual connection IO Box (Two connection point in each face plate)
- Shielding/ducting and labeling of network cables
- Post installation support.
- Terms for periodic maintenance and trouble shooting.
- Emergency support during exam.
- Ensuring modular design of network for future expansion to provide easy addition of computers to the network in future.
- Core network must be on 10G and connectivity between core and terminals on 1G
- Administrator Training : Formal Professional Training, with preparation on Equipment & Network will be the Bidder's/Vendor Responsibility.

Breakdown of cost including:

- Per-foot rate for networking
- Cost for networking equipment and accessories.
- Labor charges for installation and configuration.

| SNO | | <u>Network Core Switch (Cisco, D-Link, Hawaii or equivalent)</u> | |
|---|---|---|-----------------|
| | Category | Specification | Quantity |
| 2 | Interface | 24 x 10 Gig SFP+ Ports 4 x 40Gig QSFP28 uplink, upgradeable to 100G Ports need to be Functional/Ready as per the required Proposed Network Infrastructure | 02 |
| | Memory | Memory >=4GB or higher, Flash>=2GB or higher | |
| | Switching Capacity | Min 2 Tbps | |
| | Forwarding Capacity | Min 480 Mpps | |
| | Power | Redundant 1+1 AC | |
| | Layer 2 | 4K VLAN and 4k or higher ACL rules | |
| | | 380K or higher MAC Address and above, 78K or higher ARP Entries and above | |
| | | QinQ, LACP, STP, RSTP, MSTP/PVST+, ERPS, LLDP, Jumbo Frames | |
| | Layer 3 | Static routes, RIP v1/2, RIPng, OSPF, OSPFv3, IS-IS, IS-ISv6, BGP, BGP4+, MPBGP, ECMP, routing policy | |
| | | FIBv4 >= 250k or higher, FIBv6 >= 64K or higher | |
| | Reliability | Single-hop BFD, BFD for OSPF, BGP, ISIS, VRRP & Static routes | |
| | VXLAN | VXLAN L2 and L3 gateways, BGP EVPN | |
| | Multicast | IGMP v1/v2/v3, PIM-SM, PIM-DM, PIM-SSM | |
| | Stacking | Stacking support for at least 4 devices | |
| | NAC | Support Integration with industry standard NAC Solutions like Cisco ISE | |
| | | Support 802.1x, MAC Authentication, Dynamic VLAN, Dynamain ACL, RADIUS CoA, Local Web Authentication, URL Redirection | |
| | Management | CLI and Web interface (HTTPS), Telnet, SSH v2, SNMP v1, v2, and v3, Telemetry, RMON | |
| Support Automation with SDN Controller and NETCONF/YANG | | | |
| QoS | Support Traffic classification, Traffic behavior, Traffic shaping, Congestion avoidance/Management | | |
| Security | Support ARP security, DAI, SAI, DoS attack defense, ARP attack defense, and ICMP attack defense, CPU protection, Blacklist | | |
| OEM Credibility | OEM must be in by Gartner LAN Wired and Wireless Magic Quadrant at least once in last 3years OEM must have in-country presence (office and depots) for the past 3 years. OEM own depots in Islamabad, Lahore, and Karachi OEM must have at least Five (5) deployment references in education sector in Pakistan | | |

| SNO. | Network Access Switches – 48 Port(Cisco, D-Link, Hawaii or equivalent) | | |
|------------------------|---|--|-----------------|
| | Indicator | Technical Specification Requirement | Quantity |
| 3 | Interface | 10/100/1000Base-T ports >= 48 | 05 |
| | | 10 GE SFP+ ports >=4 Ports need to be Functional/Ready as per the required Proposed Network Infrastructure | |
| | Memory | Memory >=2GB or higher, Flash>=1GB or higher | |
| | Switching Capacity | Minimum 176 Gbps | |
| | Forwarding Capacity | At least 130 Mpps | |
| | Power | Redundant 1+1 AC | |
| | Layer 2 | 4K VLAN | |
| | | MAC Address Entries >= 30K | |
| | | ARP Entries >= 3K | |
| | | ACL Rules >=2K or higher | |
| | Layer 3 | Static route, RIPv1/v2, RIPng, OSPF, OSPFv3, ECMP, IS-IS, IS-ISv6, BGP, BGP4+, VRRP, and VRRP6, BFD, PBR | |
| | | FIBv4 >=8k, FIBv6>=3k | |
| | Multicast | IGMPv1/v2/v3, PIM-DM /SM /SSM, IGMP Snooping, Load Balancing of Multicast Traffic | |
| | Stacking | Stacking support for at least 4 devices | |
| | NAC | Support MAC authentication, 802.1x authentication, Dynamic VLAN, Dynamic ACL, RADIUS CoA, Local Web Authentication and URL Redirection | |
| | | Support Integration with industry standard NAC Solutions like Cisco ISE | |
| | Management | CLI and Web interface (HTTPS), Telnet, SSH v2, SNMP v1, v2, and v3, Telemetry, RMON | |
| | | Support Automation with SDN Controller and NETCONF/YANG | |
| QoS | 8 Queues per port, Rate Limiting, Support Traffic classification, Traffic behavior, Traffic shaping, Congestion avoidance/Management | | |
| Security | Support ARP security, DAI, SAI, CPU Defense, Storm Control and Storm Suppression | | |
| Environment | Operating Temperature -5C to +45C Humidity 5% to 95%RH | | |
| OEM Credibility | OEM must be in Gartner LAN Wired and Wireless Magic Quadrant at least once in last 3years OEM must have in-country presence (office and depots) for the past 3 years. OEM own depots in Islamabad, Lahore, and Karachi OEM must have at least Five (5) deployment references in education sector in Pakistan | | |

| SNO. | Name of Item | Specification | Quantity |
|-------------|---|---|-----------------|
| 6 | WiFi Access point (Cisco , D-Link or equivalent) | Dual band WiFi 6 or above supporting minimum 150 simultaneous connections/computers | 06 |
| 7 | Printer (Black & White) (HP, Epson or equivalent) | Network Printer with 30-40 PPM with Wifi and network Compatible support. | 01 |
| 8 | Printer (Black & White) (HP , Epson or equivalent) | All in one (Scanner , Photocopier and printer) with 30-40 PPM with Wifi and network Compatible support. | 01 |

