



**Government of Khyber Pakhtunkhwa
Ayub Teaching Hospital
Medical Teaching Institution, (ATH) Abbottabad**

Standard Bidding Document

FOR

**Supply, Installation & Networking Items
(Annual Tender FY 2026-27)**

Under National Competitive Bidding (NCB)

Tender (2026-27)

PREFACE

These Standard Bidding Documents have been prepared for use & prepared by the Ayub Medical & Teaching Institution Abbottabad, for procurement of IT Equipment, through National Competitive Bidding (NCB) Khyber Pakhtunkhwa via E-PADS.

The standard bidding documents for procurement of the said Bidding Documents are grouped in four parts.

Part-I	Mandatory Documents
Part-II	Instructions to Bidders (ITB)
Part-III	Technical Evaluation Performa
Part-IV	List of IT Equipment with Specifications and required Warranty

PART - I

Mandatory Documents

- a) Registration Certificate for NTN, STRN.
- b) Active on ATL for NTN & STRN.
- c) Last three-year bank statement/Bank Maintenance Certificate.
- d) Last Year Income Tax return.
- e) Affidavit on judicial stamp paper duly attested mentioning following statements:
 - (i) 2% CDR is attached with financial bid.
 - (ii) The firm is not black listed.
 - (iii) Non-shareholder Certificate (That no employee of Ayub Teaching Hospital, Abbottabad is shareholder in the firm's business).
- f) Warranty as per bidding documents.
- g) Certificate of 100% compliance with purchaser's specifications shall be provided on Firm/Company letter head.

Note: Any Documents Missing in the mandatory documents will leads to disqualification.

PART - II

Instructions to Bidders (ITB)

(A) General:

1. Scope of Bid

AMTI invites bids for **Networking Items** , Items specified in Schedule of Requirements along with Technical Specifications and related after sales services incidental thereto to meet the requirements AMTI Abbottabad with Bid Reference Number for the procurement activity as mentioned in Bid Data Sheet (BDS).

2. Source of Funds

AMTI Abbott bad

3. Eligible Bidders

3.1 This Invitation for Bidders (IFB) is open to all eligible registered manufacturers, registered importers and authorized dealers of IT Equipment. The Importer/Authorized dealer must possess valid authorization from the Principal origin. Furthermore, all the items quoted must be registered with the relevant forum.

3.2 Bidders under the declaration of ineligibility for corrupt and fraudulent practices issued by the Government (Federal, Provincial or Local) or a public sector organization are NOT ELIGIBLE.

4. Corruption and Fraud

4.1 The Government of Khyber Pakhtunkhwa defines Corrupt and Fraudulent Practices as, *“offering, giving ,receiving or soliciting of anything of value to influence the action of the public official or the supplier or the contractor in the procurement process or in contract execution to the detriment of the Procuring agencies; or misrepresentation of facts in order to influence a procurement process or the execution of contract, collusive practices among bidder (prior to or after bid submission) designed to establish bid prices at artificial, non-competitive and any request for or solicitation of anything of value by any public official in the course of the exercise of this duty”*.

4.2 Indulgence in corruption and fraudulent practices is liable to result in rejection of Bids, cancellation of contract, debarring and blacklisting of the bidder, for a stated or indefinite period of time.

5. Bidding for Selective Items

A Bidder, if he so chooses, can bid for selective items from the list of goods provided for the schedule of Requirements. A Bidder is also at liberty to bid for all the goods mentioned in the Schedule of Requirements provided he fulfills the requirements.

However, a Bidder cannot bid for partial quantities of an item in the Schedule of Requirement. THE BID MUST BE FOR THE WHOLE QUANTITY OF AN ITEM REQUIRED IN THE SCHEDULE OF REQUIREMENT

(B) The Bidding Procedures:

1. The Governing Rules

The Bidding procedure shall be governed by the Khyber Pakhtunkhwa Public Procurement of Goods, Works and Services KPPRA Rules, 2014.

2. Applicable Bidding Procedure

The bidding procedure is governed by thy Rule 06 Para (2) KPPRA Rules, 2014.

3. The bidding procedure is explained below:

Single Stage, Two Envelop Procedure (Rule 2(b) KPPRA 2014) via E-PADS KP-PPRA.

- i) The bid shall be submitted through E-PADS both the Technical Proposal and the Financial Proposal.
- ii) The files shall be marked as “TECHNICAL PROPOSAL” and “FINANCIAL PROPOSAL” **FOR IT Equipment** in bold and legible letters to avoid confusion.
- iii) Initially the “TECHNICAL PROPOSAL” shall be downloaded; technical proposal is to determine the technical strength and consideration of the illegibility of the firm for the bidding process, which is to be carried out before the opening the financial bids.
- iv) The “FINANCIAL PROPOSAL” shall be only be downloaded and opened after the successful technical evaluation.
- v) The Technical Evaluation Committee (TEC) shall evaluate the technical proposal, without reference to the price and reject any proposal which do not conform the specified requirements.
- vi) During the technical evaluation no amendments in the technical proposal shall be permitted.
- vii) The financial proposals of bids shall be opened publicly at a time, date and venue to be announced and communicated to the Bidders in advance in accordance with KP-PPRA Rules through procuring entity website and E-PADS.

- viii) After the evaluation and approval of the technical proposal the Purchase committee shall at a time within the bid validity period, publicly open the financial proposals of the technically accepted bids only.
- ix) The bid found to be the lowest offered price shall be accepted.

Preparation of Bids

(A) The Bidding Documents:

1. Contents of the Bidding Documents

The Bidding Documents include

2. Language of Bids

2.1 All Correspondences, communications associated with preparation of Bids, clarifications, amendments, submissions shall be written in English/Urdu. Supporting documents and printed literature furnished by the Bidder may be in any language provided they are accompanied by an accurate translation of the relevant passages in English/urdu, in which case, for purpose of interpretation of the Bid, the said translation shall take precedence.

3. Bid Price

3.1 The Bidders should quote the prices of the goods according to the technical specifications the technical specifications of goods; different from the required specifications shall straightway be rejected.

3.2 The Bidder is required to offer a competitive price which must include all the taxes, levies, duties, prescribed prices.

If there is no mention of taxes, the offered/quoted price shall be considered as inclusive of all prevailing taxes/duties, etc.

3.3 The benefit of exemption from or reduction in the taxes and duties shall be passed as per Govt. rules.

3.3 Prices offered should be for the entire quantity of an item demanded in the Schedule of Requirement; partial quantity offered shall be straightway rejected. Conditional or alternate offer shall also be considered as non-responsive bid.

3.4 While making a price quote, trends/inflation in the rate of goods and services in the market should be kept in mind. No request for increase in price due to market fluctuation in the cost of goods or services shall be entertained.

4. Bid Currencies

Price shall be quoted in Pakistani Rupees.

5. Bid Validity

5.1 Bid Validity is for 90 days.

5.2 The TEC shall ordinarily be under an obligation to process and evaluate the bid within the stipulated bid validity period. However, under exceptional circumstances and for reason to be recorded in writing, if an extension is considered necessary, all those who have submitted their bids shall be asked to extend their respective bid validity period. Such extension shall be for not more than the period to the period of original bid validity.

5.3 Bidders who;

- a) Agree to the Competent Authority request for extension of bid validity period shall not be permitted to change the substance of their bids; and
- b) Do not agree an extension of the bid validity period shall be allowed to withdraw their bids without forfeiture of their bid securities.

6. Format and Signing of Bids

6.1 The bidder shall prepare and submit its bid and provide original documents bas appropriate. Copies of any documents must be stamped and signed by the bidders.

6.2 The Bid shall be accompanied by the original receipt for the payments made for the purchase of the bidding document. In an event where the Bidder has downloaded the bidding document from the web, they will require to get the original payment receipt of the prescribed fee from the Procuring cell well before the date of submission of bid.

6.3 The original bid shall be typed or written in indelible ink and shall be signed by the bidder or a person or persons duly authorized to bind the bidder to Contract. The person or person signing the bid shall initial all pages of the bid form.

6.4 Any interlinear actions, erasures or overwriting shall valid only if they are initiated by the person or persons signing the bid.

6.5 Any tempering, illegitimate inclusion or exclusion in any part of the Standard Bidding Documents shall lead to disqualification of the bidder.

Submission Of Bids

7. Submission of Bids

The “TECHNICAL PROPOSAL” and “FINANCIAL PROPOSAL” of Laboratory chemical On Regent Basis shall be uploaded on E-PADS according to the dates mentioned in the advertisement.

8. Late Bids

Any bid if not uploaded to portal before the end time shall Not be entertained later.

9. Withdrawal of Bids

9.1 The Bidder may withdraw its bid after the bid’s submission and prior to the deadline prescribed for opening of bids.

9.2 No bid may be withdrawn in the period between deadline for submission of bids and the expiration of the period of bid validity specified. Withdrawal of a bid during this period may result in forfeiture of the Bid Security submitted by the Bidder

Opening and Evaluation of Bids

1. Opening of Bids by Procuring Agency

1.1 All bids received through E-PADS shall be opened by the Tender opening committee (Purchase Committee) publicly in the presence of the Bidders or their representatives on the date, time and venue prescribed in Advertisement.

1.2 All Bidders in attendance shall sign an attendance sheet.

1.3 The Purchaser shall open one bid at a time and read out aloud its contents which may include name of the Bidder, the presence or absence of requisite bid security CDR, and such other details as the Purchaser, at its discretion, may consider appropriate if not in conflict with Khyber Pakhtunkhwa Public Procurement of Goods, Works and Services Rule 2014 specifically Rule 37.

1.4 The Procuring cell shall have the minutes of the Bid opening (technical and when applicable financial) recorded.

1.5 No Bid shall be rejected at technical proposal/bid opening, except for late bids, Tender fee receipt & non submission of Original CDR and judicial stamp papers.

1.6 The uploaded bid without Bid Security CDR shall not be accepted. However, the Chairman of the Purchase/Procurement Committee shall record a statement giving reasons for not accepting such bid(s).

2. Clarification of Bids

During evaluation of the bids the TEC may, at its discretion, ask the bidder for a clarification and the response shall be in writing and no change in the prices or substance of the bid shall be sought, offered or permitted.

3. Examination of Technical BIDS

After opening of the bids by Purchase Committee, the bids will be forwarded to TEC FOR Technical Evaluations.

4. Examination of Financial BIDS

4.1 The firms achieved the qualified marks in technical evaluation against the quoted items so as its financial bids will be opened by Purchase Committee.

4.2 In the financial bids the arithmetical errors shall be rectified on the following basis.

- a) If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected.
- b) If the Bidder does not accept the correction of the error, its bid shall be rejected, and its Bid Security may be forfeited.
- c) If there is a discrepancy between words and figures, the amount in words shall prevail.

d) For the purpose of comparison of bids quoted in different currencies, the price shall be converted into Pak Rupees. The rate of exchange shall be the Selling rate, prevailing on the date of opening of bids specified in the bidding documents, as notified by the State Bank of Pakistan/National Bank of Pakistan on that day.

e) A bid once opened in accordance with the prescribed procedure shall be subject to only those rules, regulations and policies that are in force at the time of issue of notice for invitation of bids.

f) The procurement cell prepared the comparative statements of the product and purchase committee approved the items

5. Announcement of Evaluation Report

The TEC may announce the results of the bid evaluation in form of a report through its website of the institution or display office notice board, giving justification for acceptance or rejection of bids at least ten days prior to the award of procurement Contract.

6. Re-Bidding

6.1 If the TEC has rejected all bids under Rule 47, it may call for a re-bidding Khyber Pakhtunkhwa Public Procurement of Goods, Works & Services Rules 2014 (Rule-48).

6.2 The TEC before invitation for re-bidding shall assess the reasons of rejection and may revise specifications, evaluation criteria or any other condition for Bidders as it may deem necessary.

Award of Contract

7. Acceptance of Bid and Award Criteria

The Bidder, whose bid is found to be most closely conforming to the Evaluation Criteria and having the lowest evaluated responsive bid, if not in conflict with any other law, rule, regulation or policy of the Government of Khyber Pakhtunkhwa, shall be awarded to the Contract within the original or extended period of bid validity.

8. Competent Authority Right to vary quantities at the time of Award

The competent Authority reserves the right at the time of the award of the Contract to increase or decrease, the quantity of goods originally specified in the Schedule of Requirements without any change in unit price or other terms or conditions

9. Notification of Award

9.1 Prior to the expiration of the period of the bid validity, the procurement cell shall notify to the successful Bidder in writing that its bid has been accepted Rule 46 in conformity with provision of Section 31 of the act in these rules.

9.2 The notification of the award shall constitute the formation of the Contract between the competent authority and the successful Bidder.

9.3 The enforcement of the Contract shall be governed by the Rule 50 of the Khyber Pakhtunkhwa Public Procurement of Goods, Works & Services Rules 2014.

10. Limitation on Negotiations

10.1 Negotiations that may be undertaken in finalization of the Contract shall not relate to the price or substance of bid specified by the Bidder but only to minor technical, contractual or logistical details.

10.2 Negotiations may relate to the following areas; (the list is being provided as guidance as only and under no circumstances be treated as exhaustive and final):

- Minor alternation to technical details, such as scope of work, the specification or drawings;
- Minor amendment to the Special Condition of Contract;
- Finalization of payment schedule and ancillary details;
- Mobilization arrangements;
- Agreement on final delivery or completion schedules to accommodate any changes required by the Procuring Agency;
- The proposed methodology or staffing;
- Inputs required from the Procuring Agency;
- Clarifying details that were not apparent or could not be finalized at the time of the bidding;
- The Bidder's tax liability in Pakistan, if a Bidder is a foreign company.

11. Negotiations shall not be used to:

- Substantially change the technical quality or details of the requirement, including the task and responsibilities of the Bidder or the performance of the goods;
- Substantially alter the terms & conditions of the Contract;
- Reduce unit rates or reimbursable costs;
- Substantially alter anything which formed a crucial or deciding factor in the evaluation of the bids or proposals;
- Alter the submitted financial bid.

12. Signing of Contract

- I. After the completion of Contract Negotiations, the Purchaser shall send the Bidder the Contract Agreement Form provided in Part-Two: Section IV of these Standard Bidding Documents, incorporating all agreements between the Parties.
- II. Within one week of the receipt of the Contract Agreement Form, the successful Bidder and the Purchaser shall sign the Contract in accordance with the legal requirements in vogue.

- III. Unless the procurement contract has already entered into force a contractor or supplier feeling aggrieved by the Order of a Purchaser accepting a bid may file an application for review.
- IV. If a successful Bidder, after completion of all codal formalities show an inability to sign the Contract then its Bid Security shall stand forfeiture and the firm may be blacklisted and de-barred from future participation, whether temporarily or permanently. In such situation the Purchaser may award the Contract to the next lowest evaluated Bidder or call for a new bid.
- V. The Contract shall become effective upon affixation of signature of the Purchaser and the selected Bidder on the contract document, shall be governed for the period of one year or till the finalization of new contract.
 - a) All Goods and related Services to be supplied under the contract that are required to be imported in Pakistan shall have their origin in eligible source countries as prescribed by the commercial polices of Federal Government Of Pakistan and all expenditures made under the contract shall be limited to such goods and services.
 - b) For purpose of this Clause “origin” means the place where the goods are produced, or the place where the related services are supplied. Goods are produced when, through manufacturing or processing.

PART - III

TECHNICAL EVALUATION PERFORMA

TECHNICAL EVALUATION PERFORMA FOR IT EQUIPMENT

Part-III

Mandatory	Registration Certificate for NTN, STRN.	
	Active status on ATL for NTN & STRN	
	Last 03 years Bank Statement/Bank Maintenance Certificate duly issued by the concerned bank	
	Last Year Income Tax Return	
	Affidavit on stamp paper duly attested mentioning: (a) 2% CDR attached with financial bid. (b) Firm is not black listed. (c) Non-Shareholder Certificate.	
	01 Years warranty with parts	
	Certificate of 100% compliance with purchaser specifications on company letterhead	

S/No	Parameters	Detail/Supporting Documents	Maximum Marks	Remarks
1.	Physical resources	Established office within 600 Km from purchaser	3	Details with supporting documents must be attached. (15 marks)
		List of relevant qualified/experienced employees	3	
		Official Website of the Firm	3	
		List of spare parts available for quoted items	3	
		Availability of Technical Support (24/7)	3	
2.	Past Performance of last five year	02 marks per institute, up to maximum 10 marks (only attach valid Purchase Orders reflecting financial effects of > 1 Million, in one year)	10	Institutions include Government, Semi Govt, Autonomous Bodies and renowned private entites
3.	Dealership Certification	1. Authorized Dealer: 10 2. General supplier: 05	10	

4.	Last 03-year Turnover from Tax Return	Turnover 100Mil & above : 10 Turnover below 100Mil :05	10	
8	Warranty	01 years beyond asked warranty with parts: 2 02 years beyond asked warranty with parts: 5	05	
	TOTAL MARKS		50	

In Technical Evaluation 70% (35/50) marks will be passing marks

Lowest priced among technically qualified bids will be accepted

PART - IV

LIST OF EQUIPMENT WITH SPECIFICATIONS **AND REQUIRED WARRANTY**

Technical Specifications:

Lot-1. Active Solution Specifications

Must be quoted by bidders on turnkey basis

- **24-Port Gigabit and 4-Port 10GE SFP+ L2+ Managed Switch with 24-Port PoE+**
 1. Switching Type: L2 and L2+ Features
 2. Ethernet Interfaces: 24 × 10/100/1000 Mbps RJ-45
 3. Uplink Interfaces: 4× 10 Gbps SFP+ slots (Fully loaded 10 Gbps SFP+ modules)
 4. Console Port: 1× RJ45 and 1× Micro-USB
 5. Switching Capacity: ≥120 Gbps
 6. Packet Forward:95 Mpps
 7. MAC address:16K
 8. Jumbo Frame: 9KB
 9. PoE Standards: IEEE 802.3af, IEEE 802.3at
 10. Output per port: Up to 30 W PoE per port
 11. Total PoE Budget: ≥380 W total PoE budget
 12. VLAN Support: IEEE 802.1Q, VLAN tagging
 13. Loop Prevention: STP, RSTP, MSTP
 14. Link Aggregation: IEEE 802.3ad (LACP)
 15. Routing: Static routing, inter-VLAN routing
 16. Multicast: IGMP Snooping
 17. QoS: IEEE 802.1p, DSCP, L2PT
 18. Security: ACL, port security, DHCP snooping, AAA (including TACACS+)
 19. Management Protocols: Web GUI, CLI, SNMP
 20. Centralized Management: Controller-based management
 21. Power Input: AC power
 22. Quoted brand should have a free software/cloud controller option
 23. Quoted brand should have Management Android/IOS application
 24. Local Presence of OEM in Pakistan
 25. Only Authorized Business Partners are allowed to quote; MAL from OEM is mandatory
 26. **Warranty should be 5 years from OEM.**
- **24-Port Gigabit and 4-Port 10GE SFP+ L2+ Managed Switch with 24-Port**
 1. Switching Type: L2 and L2+ Features
 2. Ethernet Interfaces: 24 × 10/100/1000 Mbps RJ-45
 3. Uplink Interfaces: 4× 10 Gbps SFP+ slots (Fully loaded 10 Gbps SFP+ modules)
 4. Console Port: 1× RJ45 and 1× Micro-USB
 5. Switching Capacity: ≥120 Gbps
 6. Packet Forwarding: 95 Mpps
 7. MAC address: 16K
 8. Jumbo Frame: 9KB
 9. VLAN Support: IEEE 802.1Q, VLAN tagging
 10. Loop Prevention: STP, RSTP, MSTP

11. Link Aggregation: IEEE 802.3ad (LACP)
12. Routing: Static routing, inter-VLAN routing
13. Multicast: IGMP Snooping
14. QoS: IEEE 802.1p, DSCP, L2PT
15. Security: ACL, port security, DHCP snooping, AAA (including TACACS+)
16. Management Protocols: Web GUI, CLI, SNMP
17. Centralized Management: Controller-based management
18. Power Input: AC power
19. Quoted brand should have a free software/cloud controller option
20. Quoted brand should have Management Android/IOS application
21. Local Presence of OEM in Pakistan
22. Only Authorized Business Partners are allowed to quote; MAL from OEM is mandatory
23. **Warranty should be 5 years from OEM.**

- **48-Port Gigabit and 4-Port 10GE SFP+ L2+ Managed Switch with 40-Port PoE+ & 8-Port PoE++**

1. Switching Type: L2 and L2+ Features
2. Ethernet Interfaces: 48 × 10/100/1000 Mbps RJ-45
3. Uplink Interfaces: 4× 10 Gbps SFP+ slots (Fully loaded 10 Gbps SFP+ modules)
4. Console Port: 1× RJ45 and 1× Micro-USB
5. Switching Capacity: ≥170 Gbps
6. Packet Forward:130 Mpps
7. MAC address:16K
8. Jumbo Frame: 9KB
9. PoE Standards: IEEE 802.3af, IEEE 802.3at
10. Output per port: Up to 30 W PoE, and some 90W PoE
11. Total PoE Budget: ≥ 740W total PoE budget
12. VLAN Support: IEEE 802.1Q, VLAN tagging
13. Loop Prevention: STP, RSTP, MSTP
14. Link Aggregation: IEEE 802.3ad (LACP)
15. Routing: Static routing, inter-VLAN routing
16. Multicast: IGMP Snooping
17. QoS: IEEE 802.1p, DSCP, L2PT
18. Security: ACL, port security, DHCP snooping, AAA (including TACACS+)
19. Management Protocols: Web GUI, CLI, SNMP
20. Centralized Management: Controller-based management
21. Power Input: AC power
22. Quoted brand should have a free software/cloud controller option
23. Quoted brand should have Management Android/IOS application
24. Local Presence of OEM in Pakistan
25. Only Authorized Business Partners are allowed to quote; MAL from OEM is mandatory
26. **Warranty should be 5 years from OEM.**

- **10-Port Gigabit Industrial Managed Switch with 6-Port PoE+ and 2-Port PoE++**

1. Ethernet Interfaces: 2× 10/100/1000 Mbps PoE++ RJ45 Ports, 6× 10/100/1000 Mbps PoE+ RJ45 Ports
2. Uplink Interfaces: 2× Gigabit SFP/RJ45 Combo Slots (with 4xGigabit SFP modules)
3. Switching Capacity:20GBPS
4. Packet Forwarding: 14Mpps
5. Jumbo Frame: 15KB
6. PoE Standards: 802.3af/at/bt compliant
7. Total PoE Budget: ≥60 W
8. VLAN Support: IEEE 802.1Q
9. Management Protocols: Web GUI, SNMP, EEE, SNTP.
10. Centralized Management: Controller-based management
11. Power Input: 12-57V 1+1 Redundant DC Power Input
12. Industrial-Grade Design: -40~75°C Operating Temperature, 6kV Lighting Protection
13. Quoted brand should have a free cloud/software controller option
14. Quoted brand should have Management Android/IOS application
15. Local Presence of OEM in Pakistan
16. Only Authorized Business Partners are allowed to quote; MAL from OEM is mandatory
17. Warranty should be 5 years from OEM

• **48-Port 10G Stackable L3 Managed Aggregation Switch with 4 100G Slots**

1. Switching Type: L3 Features
2. Ethernet Interfaces:
 - 48× 1/10Gbps SFP+ Slots
 - 4× 100Gbps QSFP28 Slots (2x100G QSFP28 and 2x100G DAC included)
 - 2× USB 3.0 Ports
 - 1× RJ45 Console Port
 - 1× USB Type-C Console Port
 - 1× RJ45 Management Port
3. Switching Capacity: ≥1.7 Tbps
4. Packet Forwarding: 600 Mpps
5. MAC addresses: 128K
6. Stacking Number: 12
7. VLAN Support: IEEE 802.1Q, VLAN tagging
8. Loop Prevention: STP, RSTP, MSTP
9. Link Aggregation: IEEE 802.3ad (LACP)
10. Routing: Static routing, inter-VLAN routing
11. Multicast: IGMP Snooping
12. QoS: IEEE 802.1p, DSCP
13. Features: OSPF, BGP, IS-IS, VRRP, PIM-SSM, ECMP, PBR, VRRP, ERPS, BFD, L2PT
14. Security: Port security, DHCP snooping, AAA (including TACACS+)
15. Management Protocols: Web GUI, CLI, SNMP
16. Centralized Management: Controller-based management
17. Power Input: Field-replaceable power supplies

18. Quoted brand should have a free software/cloud controller option
19. Quoted brand should have Management Android/IOS application
20. Local Presence of OEM in Pakistan
21. Only Authorized Business Partners are allowed to quote; MAL from OEM is mandatory
22. **Warranty should be 5 years from OEM.**

- **24-Port 2.5G Stackable L3 Managed Switch with 4 25G Slots**

23. Switching Type: L3 Features
24. Ethernet Interfaces:
 - 24 × 2.4/Gbps RJ45 Ports
 - 4× 1/10/25G SFP28 Slots (Fully Loaded with SFP28)
 - 2× USB 2.0 Ports
 - 1× RJ45 Console Port
 - 1× USB Type-C Console Port
 - 1× RJ45 Management Port
25. Switching Capacity: ≥ 320 Gbps per Unit
26. Packet Forwarding: 230 Mpps
27. MAC address: 32K
28. Stacking Number: 12
29. VLAN Support: IEEE 802.1Q, VLAN tagging
30. Loop Prevention: STP, RSTP, MSTP
31. Link Aggregation: IEEE 802.3ad (LACP)
32. Routing: Static routing, inter-VLAN routing
33. Multicast: IGMP Snooping
34. QoS: IEEE 802.1p, DSCP
35. Features: OSPF, BGP, IS-IS, VRF, VRRP, PIM-SSM, ECMP, PBR, ERPS, BFD, and L2PT
36. Security: Port security, DHCP snooping, AAA (including TACACS+)
37. Management Protocols: Web GUI, CLI, SNMP
38. Centralized Management: Controller-based management
39. Power Input: Field-replaceable power supplies
40. Quoted brand should have a free software/cloud controller option
41. Quoted brand should have Management Android/IOS application
42. Local Presence of OEM in Pakistan
43. Only Authorized Business Partners are allowed to quote; MAL from OEM is mandatory
44. **Warranty should be 5 years from OEM.**

1. **Wi-Fi 6 Enterprise Access Point**

2. Wireless Standards: IEEE 802.11ax/ac/n/g/b/a
3. Frequency Bands: 2.4 GHz and 5 GHz
4. Data Rates: 2402 Mbps on 5 GHz + 574 Mbps on 2.4 GHz)
5. Spatial Streams: 2×2 MIMO (2.4 GHz), 2×2 MIMO (5 GHz)
6. Multiple Access Technologies: OFDMA, MU-MIMO
7. Ethernet Interface: 1 × 10/100/1000 Mbps RJ-45
8. Coverage: 185 m² (2000 ft²)

9. Power Input: IEEE 802.3at PoE, 12VDC input.
10. Roaming Protocols: IEEE 802.11k, 802.11v, 802.11r
11. PPSK with RADIUS and PPSK without RADIUS
12. Security Protocols: WPA-Personal/Enterprise, WPA2-Personal/Enterprise, WPA3-Enterprise, 802.1X
13. VLAN Support: IEEE 802.1Q
14. Management Protocols: Centralized controller-based management, SNMP
15. Free Captive Portal
16. Quoted brand should have a free cloud/software controller option
17. Quoted brand should have a management Android/IOS app
18. Local Presence of OEM in Pakistan.
19. Only Authorized Business Partners are allowed to quote; MAL from OEM is mandatory
20. Warranty should be 5 years from OEM

- **Wi-Fi 6 Enterprise Access Point**

1. Wireless Standards: IEEE 802.11ax/ac/n/g/b/a
2. Frequency Bands: 2.4 GHz and 5 GHz
3. Data Rates: 2402 Mbps on 5 GHz + 574 Mbps on 2.4 GHz)
4. Spatial Streams: 2x2 MIMO (2.4 GHz), 2x2 MIMO (5 GHz)
5. Multiple Access Technologies: OFDMA, MU-MIMO
6. Ethernet Interface: 1 × 10/100/1000 Mbps RJ-45
7. IP67
8. Power Input: IEEE 802.3at PoE. (Adapter Included in Box)
9. Roaming Protocols: IEEE 802.11k, 802.11v, 802.11r
10. PPSK with RADIUS and PPSK without RADIUS
11. Security Protocols: WPA-Personal/Enterprise, WPA2-Personal/Enterprise, WPA3-Enterprise, 802.1X
12. VLAN Support: IEEE 802.1Q
13. Management Protocols: Centralized controller-based management, SNMP
14. Free Captive Portal
15. Quoted brand should have a free cloud/software controller option
16. Quoted brand should have a management Android/IOS app
17. Local Presence of OEM in Pakistan.
18. Only Authorized Business Partners are allowed to quote, MAL from OEM is mandatory
19. Warranty should be 5 years from OEM

- **WLAN Hardware Controller**

1. Ethernet Interfaces: 2× 10GE SFP+ Slots, 4× GE RJ45 Ports, and 2× USB 3.0 Ports
2. Processor/Memory/Storage: Quad-Core, 2 GB DDR4, 4MB Nor Flash; 8 GB eMMC
3. Power Input: Redundant power supplies
4. Managed Devices: up to 600 access points, 50 routers, and 180 switches (license-free)
5. Wireless Management: SSID management, RF management
6. Roaming Support: IEEE 802.11k, 802.11v, 802.11r
7. Security Protocols: 802.1X, role-based access control
8. Management Interfaces: Web-based GUI, cloud access, Multi-tenant Management

9. Management Protocols: SNMP
10. Backup Interface: USB
11. Quoted brand should have a free software/cloud controller option.
12. Quoted brand should have Management Android/IOS application.
13. Local Presence of OEM in Pakistan.
14. Only Authorized Business Partners are allowed to quote; MAL from OEM is mandatory.
15. Warranty should be 5 years.

Lot-2. Passive Solution Specifications
Must be quoted by bidders on turnkey basis.

Sr.	Item	Unit	Quantity
1	Network Cable UTP CAT-6, 23AWG 305m Roll Brand: Corning/Vivanco/schneider	Roll	1
2	Patch Panel 24-Port Loaded UTP I/Os, Brand: Corning/Vivanco/schneider	Nos	1
3	RJ-45 Connector Box (100-Pcs)	Box	1
4	UTP Unshielded Cat-6 IO, Brand: Corning/Vivanco/schneider	Nos	1
5	Single gang Faceplate with PVC Back Box 3x3, Brand: Corning/Vivanco/schneider	Nos	1
6	Network Cable Manager, Brand: Corning/Vivanco/schneider	Nos	1
7	Patch Cord, CAT-6, 1-meter, Brand: Corning/Vivanco/schneider	Nos	1
8	Patch Cord, CAT-6, 3-Meter, Brand: Corning/Vivanco/schneider	Nos	1
9	Optical Fiber Patch Cord as per ODF Connector to LC UPC Length 3-Mtr	Nos	1
9	Optical Fiber Patch Cord as per ODF Connector to LC UPC Length 1-Mtr	Nos	1
10	Network Rack 18U, Wall Mount, Toten	Nos	1
11	Network Rack 12U, Wall Mount, Toten	Nos	1
12	SS 204 Db Wall Mount 16x14x12 inch 16 Swg, PG 8 Glant, Power Breakers 6Am, 2 Connector, Earth Strip & Din Rail.	Nos	1
13	Network Rack 42U, 600x800mm Floor Standing, Toten	Nos	1
14	PDU 6/8-Outlets Type G Ports, Toten	Nos	1
15	1" PVC pipe Brand: Adam jee/Beta/PakTurk	10-ft length	1
16	PVC Duct 16*25mm Brand: Adam Jee/GM	10-ft length	1
17	PVC Duct 16*38mm Brand: Adam Jee/GM	10-ft length	1

18	PVC Duct 40*40mm Brand: Adam Jee/GM	10-ft length	1
19	PVC Duct 60*40mm Brand: Adam Jee/GM	10-ft length	1
20	Fiber Optical Cable Duct Type 24- Core Brand: Premier Cable/LT	Mtr.	1
21	Fiber Optical Cable Duct Type 48- Core Brand: Premier Cable/LT	Mtr.	1
22	Fiber Optical Cable Duct Type 96- Core Brand: Premier Cable/LT	Mtr.	1
23	ODF 8 Core single Mode rack mount Brand: Corning/Vivanco/schneider	Nos	1
24	Din Mount ODF 8-Core Single mode	Nos	1
25	ODF 48 Core single Mode rack mount Brand: Corning/Vivanco/schneider	Nos	1
26	ODF 24 Core single Mode rack mount Brand: Corning/Vivanco/schneider	Nos	1
27	ODF 96 Core single Mode rack mount Brand: Corning/Vivanco/schneider	Nos	1
28	Power Cable 7/29 3-core red+Black+Earth Standard Conductor Brand: Pakistan Cable/newage/Fast	Mtr.	1
29	Power Sockets 13-Amp Brand: schneider	Nos	1
30	Power Breakers 6/10-amp Brand: Schneider	Nos	1
31	HDPE Pipe 63mm PN10	Mtr.	1
32	Soft Digging, Back filling Sand, Bricks, warning Tape, Route marker.	Mtr.	1
33	Hard Digging, Back filling, warning Tape, Route marker	Mtr.	1
34	Pit 3x3 ft with RCC Cover (Brick masonry with waterproof plaster)	Nos	1
35	Manual Road Bore 3.5/5 ft depth.	Mtr.	1
36	Cable laying (UTP/Fiber Cable), with All Respect.	Mtr.	1
37	Termination Testing & Labeling (Single Cable)	Nos	1
38	Fluke Testing with DSX-5000(Single Point)	Nos	1
39	Splicing & OTDR Testing for single Fiber (Core)	Nos	1