



E-Tender Notice No: RU/RUSA/Campus network/2025-26-1 Dated:24/12/2025

Tender document for supply and installation of wiFi routers and all other necessary accessories for providing network access to the entire campus and fire wall, Rayalaseema University, Kurnool

Start Downloading E-Tenders	:	29.12.2025; 06:00 PM
Last Date for Downloading E-Tenders	:	07.01.2026; 04:00 PM
Last Date for Receipt Of E-Tenders	:	07.01.2026; 05:00PM

Dates of opening of E-tenders

Technical Bid	:	08.01.2026; 11:00 AM
Financial Bid	:	08.01.2026; 03:00 PM

REGISTRAR

RAYALASEEMAUNIVERSITY::KURNOOL

NOTICE INVITING TENDER (Online version)

Sl.No.	Item	Description
1	Department Name	Rayalaseema University, Kurnool
2	FILE/R.O.C Number	RU/RUSA/Campus network/2025-26-1 Dated:24/12/2025
3	Tender Subject	Tender document for supply and installation of wiFi routers and all other necessary accessories for providing network access to the entire campus and fire wall, Rayalaseema University, Kurnool
4	Tender Type	e-Tender
5	Tender Category	Other
6	EMD Amount (INR)	3% on quoted price
7	EMD payable:	The Registrar, Rayalaseema University, Kurnool
8	Bid Document Fee	Rs.1,000 and payable online or DD to The Registrar, Rayalaseema University, Kurnool.
9	Bid Document Downloading Start Date	29.12.2025; 06:00PM
10	BidDocument DownloadingEnd Date	07.01.2026; 04:00PM
11	LastDate&TimeforReceiptofBids	07.01.2026; 05:00PM
12	Technical Bid Opening Date andTime (Qualification & Eligibility Stage)	08.01.2026; 11:00AM
13	Price Bid Opening Date and Time (Financial Bid Stage)	08.01.2026; 03:00PM
14	Place of Tender Opening	Registrar's chamber, Rayalaseema University, Kurnool
15	Tender Inviting/Opening authority	Registrar, Rayalaseema University, Kurnool
16	E-mail id	registrarru@gmail.com
17	Contact Details/Telephone	9494410216
18	<p><u>EligibilityCriteria:</u></p> <p>The bidder should possess and furnish all requisite documents, registrations etc.,</p> <p>The bidder should possess Certificates like:</p> <ol style="list-style-type: none">1. The bidder shall be a manufacturer or OEM authorization may be produced.	

2. Firm registration certificate from Registrar of companies/Societies/MSME.
3. Goods & Service Tax registration.
4. PAN Number of the firm/individual.
5. IT return for recent 3 years.
6. The bidder should have a cumulative turnover of at least Rs.1 crore for the last 3 financial years.
7. The bidder should have executed similar nature of work worth of Rs. 30 lakh and above during last three financial years for any State or Central government institutions (must enclosed at least one work order)
8. The Bidder must submit an undertaking on its letter head that they have not been blacklisted by any State/Government/Central Government/PSU Department in India.
9. The bidder should furnish the Annexure-I providing compliance to the Technical Specification listed along with relevant brochure, certificate, etc. (Compliance Report should be enclosed with duly signed).

Note: - In case of non-submission of certificates, The Registrar, Rayalaseema University reserves the right to take any appropriate action including the cancellation of tender of the respective bidder. In this regard the decision of the Registrar, Rayalaseema University is final and binding on the bidders without any recourse.

Procedure for Bid Submission:

1. Bids shall be submitted online.
2. The participating bidders in the tender should register themselves free of cost on e-procurement platform in the website <http://www.ap PROCUREMENT.gov.in>. The bidders who are desirous of participating in e-procurement shall submit their technical bids, financial bid as per the standard formats available at the e –market place. The bidders should scan and upload the below mentioned documents and submit all the hardcopies duly attested to the Registrar, Rayalaseema University on or before the schedule date and time of opening the technical bid.
3. Goods & Service Tax registration.
4. Pan Card of the firm/individual.
5. Income Tax paid receipts for the last year of the firm.
6. Firm registration certificate from Registrar of companies/Societies/MSME.
7. The Bidder must submit an undertaking on its letterhead that they have not been black listed by any State/Government/ Central Government/ PSU Department in India.
8. EMD of 3% on quoted price and should pay online

Note:-

- After tendering, all Bidders should submit the attested copies of the uploaded certificates as specified above to the Registrar, Rayalaseema University, Kurnool on or before the scheduled date and time of opening of Technical Bids.
- **Transaction fee on e-Procurement Platform:** All the participating bidders shall pay a transaction fee (non-refundable) as mentioned in the Notice Inviting Tender Payable to M/s APTS, Hyderabad and through online (0.03% of estimate contract

	<p>value + GST). It is mandatory for all the participant bidders from 1st January 2006 to pay a Non-refundable Transaction fee electronically to the Managing Director, A.P.T.S, Hyderabad by the service provider through "Payment Gateway Service on E-Procurement platform".</p> <p>➤ The Bidder shall authenticate the bid with his digital certificate for submitting the bid electronically on eProcurement Platform and the bids not authenticated by Digital certificate of the bidder will not be accepted on the eProcurement platform.</p>
20	<p>General Terms and Conditions: AS PUBLISHED IN THE NOTICE INVITINGTENDER.</p>

PROCEDURE FOR BID SUBMISSION ON e-Procurement PLATFORM (e-Tendering):

1. The bidder shall submit this response through Bid submission to the tender on e-Procurement platform at www.aeprocurement.gov.in by following the procedure given below. The bidder would be required to register on the e-procurement marketplace <http://www.aeprocurement.gov.in> and submit their bids online. Offline bids shall not be entertained by the tender inviting authority for the tenders published in e-procurement platform.
2. The bidders shall submit their eligibility and qualification details, technical bid, financial bid etc., in the online standard formats displayed in e-Procurement web site. The bidders shall upload the scanned copies of all the relevant certificates, documents etc., in support of their eligibility criteria/technical bids and other certificate/documents in the e-Procurement web site. The bidder shall sign on the statements, documents, certificates, uploaded by him, owning responsibility for their correctness/authenticity. The bidder shall attach all the required documents for the specific tender after uploading the same during the bid submission as per the tender notice and bid document.
3. **Hardcopies:**
 - i) Attested copies of all original hard copies of the uploaded scanned copies by successful bidder must be submitted along with tender document to the tender inviting authority before scheduled date and time of the opening of the Technical bid.
 - ii) EMD payment slips should be closed
 - iii) The Uploaded documents and the Hard copies should be same.
 - iv) Rayalaseema University, Kurnool shall carry out the technical evaluation solely based on the uploaded certificates/documents in e-Procurement system and open the financial bids of the respective bidders after evaluation of technical bids.
 - v) The successful bidder shall invariably furnish the online transfer slip towards EMD, Certificates/Documents of the uploaded scan copies to the Tender Inviting Authority before entering the agreement, in person, the receipt of the same within the stipulated date shall be the responsibility of the successful bidder. Rayalaseema University will not take any responsibility for any delay in receipt/non-receipt of EMD, Certificates/Documents from the successful bidder after the stipulated time.

Note: The bidder is requested to get a confirmed acknowledgement from the Tender Inviting Authority as a proof of hardcopies submission to avoid any discrepancy.

4. Tender Document:

- (a) The bidder is requested to download the tender document and read all the terms and conditions mentioned in the tender Document and seek clarification if any from the Tender Inviting Authority. Any offline bid submission clause in the tender document could be neglected.
- (b) The bidder has to keep track of any changes by viewing the Addendum/Corrigendum issued by the Tender Inviting Authority on time-to-time basis in the Procurement platform. The Department calling for tenders shall not be responsible for any claims/problems arising out of this.

5. Bid Submission Acknowledgement:

- (i) The bidder shall complete all the processes and steps required for Bid submission. The system will generate an acknowledgement with a unique bid submission number after completing all the prescribed steps and processes by the bidder. Users may also note that the bids for which an acknowledgement is not generated by the e-Procurement system are treated as invalid or not saved in the system. Such invalid bids are not made available to the Tender Inviting Authority for processing the bids. The Registrar, Rayalaseema University, Kurnool is not responsible for incomplete bid submission by users.
- (ii) **Tender Conditions for** supply and installation of WiFi routers and all other necessary accessories for providing network access to the entire campus and fire wall, Rayalaseema University, Kurnool
- (iii) Online(e-Tender) tenders are invited for supply and installation of WiFi routers and all other necessary accessories for providing network access to the entire campus and fire wall, Rayalaseema University, Kurnool
- (iv) The Registrar, Rayalaseema University, Kurnool, desires to have the tender in two bids i.e., (1) Technical bid and (2) Financial bid. All tenderers should submit the attested copies of all scanned and uploaded certificates to the Tender Inviting Authority on or before scheduled date and time of opening of the technical bid as mentioned in Tender Document. The financial bids of those tenderers who are technically qualified alone, will be opened on the date and time as mentioned in the Tender Document by The Registrar, Rayalaseema University, Kurnool or any other office authorized by The Registrar, Rayalaseema University, Kurnool. The University may extend the last date by issuing an amendment in which case all rights and obligations rest with the Registrar, Rayalaseema University, Kurnool and the tenderers previously subject to the original deadline will then be subjected to the new deadline. **Submission of Tender Documents on Off Line Will Not Be Considered.**
- v) **Performance Security Details:**
 - a) The successful tenderer will have to deposit the performance security valid for 39 Months in the form of DD / TDR / FDR / Bank Guarantee @03% of the total order value at the earliest from the date of issue of the award letter. No interest will be paid by Rayalaseema University, Kurnool on the deposit.
 - b) Performance Security will be refunded to the supplier, after it duly performs and completes the contract/warranty period in all respects.

c) Performance Security will be forfeited if the firm fails to perform/abide by any of the terms or conditions of the contract.

d) In case, the firm fails to execute the order successfully, within specified delivery period, the same goods/items will be procured from open market and the difference of cost, if any, will be recovered from Performance Security or from pending bill(s) of the defaulting firm or from both in case the recoverable amount exceeds the amount of Performance Security

vi) Corpus Fund:

As per GO MS No.4 User departments shall collect 0.04% of ECV (estimated contract value) with a cap of Rs.10,000 (Rupees ten thousand only) for all works with ECV upto Rs.50 crores, and Rs.25,000/- (Rupees twenty five thousand only) for works with ECV above Rs.50 crores, **from successful bidders** on e- Procurement platform before entering into agreement / issue of purchase orders, towards e-procurement fund in favour of Managing Director, APTS. There shall not be any charge towards e-Procurement fund in case of works, goods and services with ECV less than and upto Rs. 10 lakhs.

Note:-

1. The rate quoted should be inclusive of transportation, labor charges, etc. and inclusive of all taxes.
2. Supply and installation of wiFi routers and all other necessary accessories for providing network access to the entire campus and fire wall, Rayalaseema University, Kurnool (**Annexures –I&II**).
3. **Delivery:** Delivery and Installation period will be 45 days from the date of signing of the contract. The delivery quoted will be firm, definite, unconditional and on the basis of receipt of materials at destination in good condition without any bearing on the procurement of raw materials or any similar pre requisites. The commencement date and date of delivery will be indicated. The preferred delivery time, which is the essence of this specification, is indicated in the schedule. Final deliveries are however, subject to confirmation at the time of contract. Delay in delivery of materials FADS (Free at destination store) due to non-availability of railway booking non-allotment of wagons and any such reasons will not be considered.
4. Negotiations will be made in case of necessity, with the lowest selected tenderers and in this regard the decision of Registrar, Rayalaseema University, Kurnool shall be final and binding on the suppliers without any recourse.
5. The tender inviting authority i.e., the Registrar reserves the right either to reject any or all tenders without assigning any reason. In this regard the decision of Registrar, Rayalaseema University, Kurnool is final and binding on the tenderer without any recourse. Further, it is to be clearly understood by both the parties that the tender is specifically accepted by the tenderer when the tenderer files the tender before The Registrar, Rayalaseema University, Kurnool. The acceptance or rejection of the tender by The Registrar, or methodology adopted by University in short listing the companies for providing service or supply of material/materials or etc., shall not

become a cause of action or ground to initiate any legal action before any Court or Courts of Law for obtaining any order, Injection, Direction etc., from the Hon'ble court or Courts to stall the proceeding related to the processing of tender, execution of work and release of payment by Rayalaseema University, Kurnool.

6. The Registrar, Rayalaseema University, Kurnool reserves the right to accept or reject any tender and to cancel the tender process and reject all tenders at any time prior to the award of contract without there by incurring any liability to the affected tenderer or any obligations to inform the affected tenderers, the grounds of acceptance or rejection.
7. The Registrar, Rayalaseema University, Kurnool reserves the right to levy penalty as decided by the competent authority or withhold payment for any under quality material supplied by the tenderer without prejudice to its other rights. In this regard, the decision of Registrar shall be final.
8. The prices quoted shall be fixed from the date of submission of tender to the date of completion of the contract in all respects. ANY REQUESTS FOR REVISION IN THE RATE OR RATES BY THE SUPPLIER SHALL NOT BE ENTERTAINED DURING THE RATE CONTRACT PERIOD.
9. Penal claims on grounds of the supplier whatsoever like payment of interest on delayed payment of bills etc. shall not be acceptable to Rayalaseema University, Kurnool, or binding on the part of the Rayalaseema University, Kurnool.
10. SUB-CONTRACTING: The contract supply awarded should be executed by the successful Tenderer / bidder only and sub-contract of supply is not permitted.
11. Bids will remain valid for the period of Ninety (90) days from the date of bid opening prescribed by the purchaser.
12. The Supplier who applies for this tender has to furnish the declaration that they have not been blacklisted by any of the organizations / agencies. Any wrong declaration in this regard which comes to the notice at a later date will disqualify them from tendering in future in university and the tenders received shall be automatically rejected.
13. No supplier shall be allowed at anytime on any ground what so ever to claim revision or modification in the prices quoted by him, Conditions such as Subject to Availability Supplies will be made as and when supplies are received etc., will not be considered under any circumstances.
14. Any effort by a bidder to influence the purchaser in its decisions wait on bid evaluation, bid comparison, or contract award will result in the rejection of the Bidder's bid.
15. In the event of any legal dispute arising out of the tenders, such dispute would be subject to the jurisdiction of the civil courts at Kurnool District only.

Additional Tender conditions for supply and installation of wiFi routers and all other necessary accessories for providing network access to the entire campus and fire wall, Rayalaseema University, Kurnool

- a. The agency should have considerable and sufficient experience in “supply and installation of wiFi routers and all other necessary accessories for providing network access to the entire campus and fire wall, Rayalaseema University, Kurnool”
- b. The agency should install the equipment and demonstrate the each and every experiment related to computer laboratory courses along with the equipment supplied.**
- c. The additional equipment may be supplied if required in spite of stated equipment in Annexure I& II for conduction of experiments in the laboratory.**
- d. The agency should provide immediate and attentive service if required.
- e. Prices should be quoted inclusive of all taxes and transportation, labor charges etc.,
- f. Transportation and labor shall be arranged by the agency concerned. The agency shall wholly own the responsibility in the event of any leakages / damages / accident / natural disaster during transportation.
- g. **Penalty:** In case of default by successful bidder, the Registrar, Rayalaseema University, Kurnool has right to impose the penalties that may be deemed fit to recover from the bidder and amount equivalent to that incurred without prejudice to his other rights including the right to cancel the order without pre-notice.
- h. This University will release payment on satisfactory installation and after obtaining necessary certification from the designated authority.
- i. Rayalaseema University, Kurnool holds no responsibility for the delay in release of payment in the event of any audit objection(s).
- j. The technical specifications and configuration must be in accordance to the specifications stated in **Annexure I**.

Technical bids will be evaluated first. The financial bids of the successful technical bidders only will be evaluated for finalizing the bidders.

REGISTRAR

	based on SSID/AP/Client	
26	Intelligent RF control plane for self-healing, and self-optimization	
27	AP Shall support Wireless Mac Address Filtering, Wireless Isolation Between Clients and SSID to VLAN Mapping	
28	AP shall support 802.1X authentication and external radius server	
29	AP shall be able to assign end User the IP address as received from backend core DHCP Server.	
30	AP shall support Hardware controller or software controller and must be SDN Ready	
31	AP Shall support ZTP (Zero Touch Provisioning) for seamless Installations	
32	Shall support L3 management, SNMP, Email notification and Telnet feature	
33	Shall support Operating Temperature of 0°C~40°C	
34	Device OEM must be ISO 9001 and 14001 Certified	
35	Device OEM must be Gartner Magic Quadrant for Enterprise Wired and Wireless LAN Infrastructure in Last 4 Quarter	

	18-Port Gigabit Easy Smart Switch with 16-Port PoE+ Qty-5 Nos	
	Approved Makes: Tplink/Allied Telesis/Sophos	
	Make: Model:	
1	Should have 16× PoE+ gigabit RJ45 ports, 2× gigabit non-PoE RJ45 ports and 2× combo gigabit SFP slots	
2	Should have support PoE Auto Recovery automatically reboots your dropped or unresponsive PoE-powered devices.	
3	Should have High PoE power budget with up to 30W for each PoE port and 250W for all PoE ports	
4	Should have at least 36 Gbps switching fabric.	
5	Should have support Packet Forwarding of 26.78 Mpps and Packet buffer of 4.1Mbit	
6	Should have support L2 Features like IGMP Snooping V1/V2/V3, Static Link Aggregation, Port Mirroring, Cable Diagnostics, Loop Prevention	
7	Should support at least 8K entries in the MAC table.	
8	Should Support up to 4K VLANs simultaneously out of 4K VLAN IDs	
9	Should have support up to 32 VLANs simultaneously (out of 4K VLAN IDs) MTU/Port/Tag VLAN	
10	Switch should support IEEE 802.3af & IEEE 802.3at on Ethernet ports & Min 192 PoE Power Budget.	
11	Should have AC Power Supply 100 to 240 V AC with 50 to 60 Hz and equipped with 3 pin plugs.	
12	Switch should Operate between Temperature: 0°C~40°C	
13	Switch should come with Rack mounting kit and all accessories	
14	Switch must be managed by WEB-GUI	
15	Device OEM must be must be ISO 9001 & 14001 Certified at the time of bidding	
16	Device OEM must be Gartner Magic Quadrant for Enterprise Wired and Wireless LAN Infrastructure in Last 4 Quarter	

S. No	Specification	Compliance (Y/N)
	Hardware Controller for Switches and Access Points Qty-1 No	
	Approved Makes: Tplink/Sophos/Allied Telesis	
	Make: Model:	
1	Controller must have 2× 10/100/1000 Mbps Ethernet Ports and 1× USB 3.0 Port	
2	Controller support WDS or MESH networking	
3	Controller shall support QoS and WMM latest technology	

4	Controller Supports Free Authentication Policy and Captive Portal Advertisement	
5	Controller shall support Band Steering, Beamforming, Airtime Fairness and Load Balance features	
6	Controller shall support rogue access point detection	
7	Controller Must Support 15000 Clients	
8	Controller should support management VLAN	
9	Controller should support Captive portal and Rate limit feature	
10	Controller shall support Reboot Schedule, Wireless Schedule and Wireless Statistics based on SSID/Controller/Client	
11	Intelligent RF control plane for self-healing, and self-optimization	
12	Controller Shall support Wireless Mac Address Filtering, Wireless Isolation Between Clients and SSID to VLAN	
13	Controller shall support 802.1X authentication and external radius server	
14	Controller shall be able to assign end User the IP address as received from backend core DHCP Server.	
15	Controller shall support Cloud Manageability and SDN Ready	
16	Controller shall come with at least 500 Devices Including Switches, Gateways and AP from Day 1	
17	Controller shall come with life time no Recurring or renewal cost	
18	Controller Support authentication method like SMS and Facebook authentication	
19	Supports Layer 3 Adaptation	
20	Controller shall Manage Multiple Sites over Web with the Centralized Controller in a Single Location	
21	Controller shall Intuitive Real Time Monitoring and data usage	
22	Controller shall support remote upgrade and access control features	
23	Controller Shall support L3 management, SNMP, Email notification	
24	Controller Shall Support Auto-backup via USB	
25	Controller shall support smooth operation on 50 Degree Celsius	
26	Controller shall support Rack Mounting	
27	Controller shall have CE, FCC, RoHS	
28	Device OEM must be ISO 9001 and 14001 Certified	
29	Device OEM must be Gartner Magic Quadrant for Enterprise Wired and Wireless LAN Infrastructure in Last 4 Quarter	

Sr. no	Specification	Compliance (Y/N)
	10-Port Gigabit Smart Switch with 8-Port PoE+ Qty-6 Nos	
	Approved Makes: Tplink/Allied Telesis/Sophos	
	Make: Model:	
1	Device should support IEEE 802.1w, IEEE 802.1q, IEEE 802.1p, IEEE 802.1x, IEEE 802.3ad, IEEE 802.3x, IEEE 802.1d, IEEE 802.1s, IEEE 802.3i, IEEE 802.3u, IEEE 802.3ab Standards and Protocols	
2	Device must have at least 8 gigabit RJ45 Ports with 2 SFP Ports	
3	Device should support auto negotiation/auto MDI/MDIX	
4	Device must support POE 802.3af/at with Minimum 150W of Supply	
5	Device should have Switching Capacity of 20Gbps	
6	Device should have Packet Forwarding Rate 14.9Mpps or more	
7	Device should have mac address table of 8K or more	
8	Device should support jumbo frame of 9KB	
9	Device should Support QOS features like Port-based, 802.1p and DSCP priority	

10	Device should Support QOS features like 8 priority queues	
11	Device should Support QOS features Queue scheduling: SP, WRR, SP+WRR	
12	Device should Support QOS features Port/Flow- based Rate Limiting	
13	Device should Support Voice VLAN	
14	Device should Support Layer 2 features like IGMP Snooping V1/V2/V3	
15	Device should Support 802.3ad LACP and Up to 8 aggregation groups containing 8 ports per group	
16	Device should Support Spanning Tree features like STP/RSTP/MSTP	
17	Device should Support BPDU Filtering/Guard and TC/Root Protech	
18	Device should Support Loop back detection and 802.3x Flow Control	
19	Device should Supports 4K VLAN IDs	
20	Device should Supports up to 512 VLANs simultaneously of 4K VLAN IDs	
21	Device should support ACL features like L2 to L4 package filtering based on source and destination	
22	Device should support ACL features like MAC address, IP address, TCP/UDP ports, 802.1p, DSCP, protocol and VLAN ID Time Range Based	
23	Device should support security features like SSH v1/v2 and SSL v2/v3/TLSv1	
24	Device should support features like Broadcast/Multicast/Unknown unicast Storm Control	
25	Device should support security features like 802.1x and Radius Authentication, IP-Mac-Port-VID Binding, ARP Inspection, DHCP Snooping and DoS Defend	
26	Device should support AAA	
27	Device should support Web-based GUI and CLI management	
28	Device should support SNMP v1/v2c/v3, compatible with public MIBs	
29	Device should support RMON (1, 2, 3, 9 groups)	
30	Device should support CPU Monitoring and Port Mirroring	
31	Device should support Time Setting like SNTP	
32	Device should support TFTP & Web	
33	Device should support System Diagnose feature like VCT	
34	Device should support SYSLOG & Public MIBS	
35	Device shall support Hardware controller or Software controller and Zero-Touch Provisioning (ZTP)‡, Centralized Cloud Management, and Intelligent Monitoring.	
36	Device should be certified by FCC, CE and RoHS	
37	Device OEM must be must be ISO 9001 & 14001 Certified at the time of bidding	
38	Device OEM must be Gartner Magic Quadrant for Enterprise Wired and Wireless LAN Infrastructure in Last 4 Quarter	

Cat 6 Cable-305 Mtrs each Box

Approved Make: SYSTIMAX, Panduit, Digi sol, Siemon
Qty- 10 Boxes

Make: **Model:**

Sl. No.	Parameter	Specification	Compliance (Y/N)
1	Cable Type	Cat 6 4 pair Unshielded Twisted Pair cable should be UL Listed & ETL Verified.	
2	Compliance	Cable should meet or exceed the requirements of ANSI/TIA-568-C.2 and ISO/IEC 11801	
3	Conductor	23 AWG Solid bare Copper	
4	Outer Jacket Sheath	FRPVC	
5	Jacket Colour	Grey	
6	Jacket Average	0.5 ± 0.01 mm	

	Thickness		
7	Cable Diameter	Nominal Outer Diameter of Cable should be 5.8 ± 0.2 mm	
8	Construction	4 twisted pairs separated by internal PE Cross Separator. Separator should be Full. Rip Cord is must.	
9	Separator Material	Polyolefin / Polyethylene	
10	Separator Dimension/Thickness	4.3 mm/ 0.4 mm	
11	Insulation	High Density Polyethylene	
12	Insulation Diameter	0.89 ± 0.01 mm	
13	Insulation Nominal Thickness	0.2 mm	
14	Bending Radius	< 4X Cable Diameter at $-20^{\circ}\text{C} \pm 1^{\circ}\text{C}$	
15	Pulling Force	25.35 LBS	
16	Maximum Tensile Strength of Jacket (N/mm ²)	13.1	
17	Insertion Loss	32.8 db/100m at 250 MHz	
18	Operating Temperature	-20° to $+70^{\circ}\text{C}$	
19	Dielectric Strength	2.5 KVDC for 2 seconds	
20	Conductor Resistance	< 9.38Ω /100m	
21	Mutual Capacitance	< 5.6nF/100m	
22	Resistance Unbalance	5% Max / 100m	
23	Capacitance Unbalance	330pF/100m	
24	Delay Skew	< 45nS	
25	Operating Voltage	72V	
26	Current Rating	Max 1.5A	
27	Impedance	$100 \pm 15 \Omega$ @ 100 MHz	
28	Nominal Velocity of Propagation (NVP)	69%	
29	Certification	UL Listed and ETL Verified for 4 connector channel	
30	OEM Criteria	All copper; fibre cabling & components should be from single OEM	

6 core Single mode fibre cable

Approved Makes: SYSTIMAX, Panduit, Digi sol, Siemon

Qty-1300 Mtrs

Make:

Model:

Sl. No.	Parameter	Specification	Compliance (Y/N)
1	General Specs	<p>Single mode 6F OS2 Unitube Armoured with water blocking tape suitable for Outdoor network direct burial. Should be Rodent Proof & UV Protection HDPE Should have Thermoplastic Material Loose Tube Should have 2 steel rods as Embedded Strength members</p> <p>Should have ECCS Tape as Armouring</p> <p>Should have Polyester based cord below Armor tape for easy ripping.</p> <p>Should have Excellent Water Proof Layer and Moisture Resistance.</p> <p>Should have Excellent Crush Resistance Performance. Should be in Light Weight and Compact Structure. The fiber type is a Matched Cladding Single Mode.</p>	

		Extremely high bandwidth. Optimized to support transmission at 1310 nm, 1550 nm. Virtually unlimited Modal Bandwidth at 1310 nm	
		Should fulfill the standards of: IEC 60793-1 & 60794-1.2 ANSI/TIA 568-C.3 & ISO/IEC 11801	
		Testing methods are in accordance with the following standards: ITU-T G.652.D and IEC 60793-1	
2	Constructional Specs		
	Number of Fiber per Tube	6	
	Number of Loose Tube	1	
	Loose Tube Internal Diameter	1.7 ± 0.1 mm (PBT)	
	Loose Tube Outer Diameter	2.5 ± 0.1 mm (PBT)	
	Moisture Barrier	Water Swellable Tape	
	Armouring	≥ 0.150 mm (ECCS Tape)	
	Strength Member	0.6 ± 0.05 mm (Steel Rods - 2nos.)	
	Number of Rip Cords	01 no. (Polyester)	
	Outer Sheath Thickness	1.5 mm (Nominal)	
	Cable Diameter	7.5 ± 0.5 mm	
	Cable Weight	65.0 ± 10 kg/km	
3	Mechanical Specs		
	Tensile Strength	1000 N	
	Crush Resistance	4000 N/100 mm	
	Impact Strength	25 N.m	
	Torsion	± 180°	
	Minimum Bend Radius	20 x D	
4	Geometrical Properties		
	Nominal mode field diameter	9.2 µm	
	Mode field diameter tolerance	±0.4 µm	
	Cladding diameter	125	
	Cladding diameter tolerance	±1 µm	
	Mode field concentricity error	≤ 0.8 µm	
	Cladding non-circularity	≤ 1 %	
	Coating Diameter	245 ± 10 µm	
5	Optical Fiber Specs		
	Fiber type	G.652D (OS2)	
	Attenuation at 1310 nm	≤ 0.34 dB/km	
	Attenuation at 1550 nm	≤ 0.22 dB/km	
	Cut-off wavelength (NM)	≤ 1260 nm	

	Zero dispersion wavelength	1300 - 1324 nm	
	Chromatic Dispersion	≤ 3.5 ps/nm.km (@1285 - 1330 nm) ≤ 18 ps/nm.km (@1550 nm)	
	Zero-dispersion slope	≤ 0.092 ps/nm ² .km	
	Polarisation Mode Dispersion	≤ 0.2 ps/ $\sqrt{\text{km}}$	
6	Environmental Characteristics		
	Storage Temperature	-40 °C to +60° C	
	Installation Temperature	-20 °C to +70° C	
	Operating Temperature	-20 °C to +60° C	
7	OEM Criteria	All copper; fibre cabling & components should be from single OEM	
8	Make		

S.No	Technical Specification	Compliance (Yes / No)
	24-Port Gigabit and 4-Port 10GE SFP+ L2+ Managed Switch with 24-Port PoE+ - 13 Nos	
	Approved Makes: Tplink/Allied Telesis/Sophos	
	Make: Model:	
	Physical Specification:	
1.	The LAN switch shall be rack mountable with 24 Nos. 10/100/1000 Base-T ports with 4 Nos. SFP+ Ports	
	General Specification:	
2.	The LAN switch shall be available with minimum 128 Gbps Gbps Switching Fabric.	
3.	The LAN switch shall have minimum packet forwarding rate of 95.23 Mpps million packets per second at 64 byte packet length.	
4.	The LAN switch shall support minimum 16K MAC addresses.	
5.	There shall be 512 IGMP groups.	
6.	The switch shall be able to work on both IPv4 and IPv6 (dual stack) from day one.	
7.	The Lab Switch must have 24x 802.3at/af-compliant PoE+ ports with a total power supply of 384 W*.	
8.	All ports in the switch shall operate at wire-speed / line-rate.	
9.	The switch shall be capable of working with AC Power Supply with a voltage varying from 170-240Volts at 50 +/-2 Hz.	
10.	The switch shall support 19 inch rack mounting.	
	Layer - 2 Features:	
11.	The LAN switch shall support IEEE 802.1Q VLAN encapsulation. Maximum 4K VLAN Groups.	
12.	It shall support for Automatic Negotiation of Trunking Protocol, to help minimize the configuration & errors.	
13.	It shall support 802.1d, 802.1p, 802.1Q, 802.1s, 802.1w, 802.1x, 802.1ab, 802.3ad.	
14.	It shall support spanning-tree root guard or any other industry standard protocol to prevent other edge switches becoming the root bridge.	
15.	It shall support IGMP snooping v1, v2 and v3.	
16.	It shall support Link Aggregation Protocol (LACP).	
17.	It shall Support 802.3ah Ethernet Link OAM for Detection of Unidirectional links and to disable them to avoid problems such as spanning tree loops	

18.	It shall be able to discover the neighboring device of the same vendor giving the details about the platform, IP Address, Link connected through etc, thus helping in troubleshooting connectivity problems.	
19.	It shall support for Switch port auto recovery (err disable) to automatically re-enable a link that is disabled because of a network error.	
20.	It shall support Multicast VLAN registration.	
21.	It shall support LLDP / LLDP-MED including client location information. It shall exchange link and device information in multi vendor networks.	
22.	It shall support configuration rollback to replace current configuration with any saved configuration file.	
23.	It shall support configurable maximum transmission unit (MTU) of up to 9000 bytes, with a maximum Ethernet frame size of 9018 bytes (Jumbo frames) for bridging on Gigabit Ethernet ports.	
24.	It shall support auto sensing speed on 10/100/1000 ports, auto negotiating half/full-duplex on all ports and Auto-MDIX.	
25.	QoS Features:	
26.	The LAN switch shall have per-port broadcast, multicast, and unicast storm control.	
27.	It shall have standard 802.1p CoS and DSCP classification using marking and reclassification on a per-packet basis by source and destination IP address, source and destination MAC address, or Layer 4 TCP or UDP port number.	
28.	There shall be eight egress queues per port to enable differentiated management of up to eight traffic types.	
29.	There shall be weighted round robin (WRR) or any other industry standard protocol to provide congestion avoidance.	
30.	There shall be strict priority queuing mechanisms.	
31.	Granular Rate Limiting functions to guarantee bandwidth in increments shall be as low as 64 Kbps.	
32.	Rate limiting support based on source and destination IP address, source and destination MAC address, Layer 4 TCP and UDP information, or any combination of these fields, using QoS ACLs (IP ACLs (IPv4 and IPv6) or MAC ACLs), class maps, and policy maps shall be available. ACL should be based on user defined packet content (Max. 6 bytes length user defined).	
33.	There shall be support for Asynchronous data flows upstream and downstream from the end station or on the uplink using ingress policing and egress shaping.	
34.	There shall be support for Automatic Quality of Service for easy configuration of QoS features for critical applications.	
	Network Security Features:	
35.36.	The LAN switch shall support IEEE 802.1x to allow dynamic, port-based security, providing user authentication.	
37.	The LAN switch shall support for Admission Control features to improve the network's ability to automatically identify, prevent, and respond to security threats and also to enable the switches to collaborate with third-party solutions for security-policy compliance and enforcement before a host is permitted to access the network.	
38.	It shall support port-based ACLs (PACLs) for Layer 2 interfaces to allow application of security policies on individual switch ports. It shall also support VLAN based filters.	
39.	It shall support unicast MAC filtering to prevent the forwarding of any type of packet with a matching MAC address. It shall support Unicast and Multicast MAC addresses and associated VLANs.	
40.	It shall support unknown unicast and multicast port blocking to allow tight control by filtering packets that the switch has not already learned how to forward.	
41.	It shall support IGMP filtering which shall provide multicast authentication by filtering out non-subscribers and limits the number of concurrent multicast streams available per port.	

42.	It shall support for SSHv2, SNMPv3 to provide network security by encrypting administrator traffic during Telnet and SNMP sessions.	
43.	The switch shall support 2 session of Port Mirroring based on port basis / VLAN basis to support intrusion prevention system deployment in different VLANs. It shall support bidirectional data on mirror port which allows IDS to take action when an intruder is detected.	
44.	It shall support RADIUS authentication to enable centralized control of the switch and restrict unauthorized users from altering the configuration.	
45.	It shall support MAC address notification to allow administrators to be notified of users added to or removed from the network / It shall support SNMP Trap for new MAC notification.	
46.	It shall support DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addresses. This can be used to prevent attacks that attempt to poison the DHCP binding database, and to rate limit the amount of DHCP traffic that enters a switch port.	
47.	It shall support DHCP Interface Tracker (Option 82) to augment a host IP address request with the switch port ID.	
48.	It shall support port security to secure the access to an access or trunk port based on MAC address. After a specific timeframe, the aging feature should remove the MAC address from the switch to allow another device to connect to the same port.	
49.	It shall support multilevel security on console access to prevent unauthorized users from altering the switch configuration.	
50.	It shall support BPDU Guard feature, to shut down Spanning Tree Protocol Port Fast-enabled interfaces when BPDUs are received to avoid accidental topology loops.	
51.	It shall support Spanning-Tree Root Guard (STRG) to prevent edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes.	
52.	It shall support for up to 512 access control entries (ACEs).	
	Management:	
53.	The LAN switch shall have CLI support to provide a common user interface and command set with all routers and switches of the same vendor.	
54.	It shall have Remote Monitoring (RMON v1 and v2) software agent to support for enhanced traffic management, monitoring, and analysis.	
55.	It shall have support for RMON groups through the use of a mirrored port, which permits traffic monitoring of a single port, a group of ports, or the entire switch from a single network analyser or RMON probe.	
56.	It shall have layer2 traceroute to ease troubleshooting by identifying the physical path that a packet takes from source to destination or it shall support OAM 802.3ah.	
57.	It shall support Trivial File Transfer Protocol (TFTP) and File Transfer Protocol (FTP) to reduce the cost of administering software upgrades by downloading from a centralized location.	
58.	It shall support Simple Network Time Protocol/Network Timing Protocol (SNTP/NTP) to provide an accurate and consistent timestamp to all intranet switches.	
59.	It shall support RMON v1 and v2 standards.	
60.	It shall support SNMPv1, SNMPv2, and SNMPv3 and Telnet interface to deliver comprehensive in-band management, and a CLI-based management console to provide detailed out-of-band management.	
61.	It shall support IPV6 management. ACL and QoS and IPV6 Neighbour Discovery.	
62.	It Shall Support SDN Platform and have Provision to be Work Standalone or Controller Based and support Zero-Touch Provisioning (ZTP	
63.	Device OEM must be must be ISO 9001 & 14001 Certified at the time of bidding	
64.	Device OEM must be Gartner Magic Quadrant for Enterprise Wired and	

Wireless LAN Infrastructure in Last 4 Quarter		
S.No	Technical Specification	Compliance (Yes / No)
	26-Port 10G Stackable L3 Managed Aggregation Switch with 6 25G Slots-1 No	
	Approved Makes: Tplink/Allied Telesis/Sophos	
	Make: Model:	
	Physical Specification:	
1.	The LAN switch shall be rack mountable with 26× 10G SFP+ ports with 6× 25G SFP28 slots	
2.	The LAN Switch should have 2 x USB 2.0 Ports, 1 x RJ 45 Ports MGMT Port, 1x RJ45 ConsolePort and 1 x USB Type C Port	
	General Specification:	
3.	The LAN switch shall be available with minimum 820 Gbps switching capacity.	
4.	The LAN switch shall have minimum packet forwarding rate of 610.1 Mpps million packets per second at 64-byte packet length.	
5.	The LAN switch shall support minimum 128K MAC addresses.	
6.	The LAN Switch must Support Stacking up to 4 Units and upto 80Gbps Bandwidth on Stacking	
7.	There shall be 2048 IGMP groups.	
8.	The switch shall be able to work on both IPv4 and IPv6 (dual stack) from day one.	
9.	The LAN Switch should support Layer 3 Features like RIP , OSPF v2/v3 , VRRP v2/v3 and ECMP	
10.	All ports in the switch shall operate at wire-speed / line-rate.	
11.	The switch shall be capable of working with AC Power Supply with a voltage varying from 170-240Volts at 50 +/-2 Hz with RPS Support	
12.	The switch shall support 19 inch rack mounting.	
	Layer - 2 Features:	
13.	The LAN switch shall support IEEE 802.1Q VLAN encapsulation. Maximum 4K VLAN Groups.	
14.	It shall support for Automatic Negotiation of Trunking Protocol, to help minimize the configuration & errors.	
15.	It shall support 802.1d, 802.1p, 802.1Q, 802.1s, 802.1w, 802.1x, 802.1ab, 802.3ad.	
16.	It shall support 1k Routing Entries, with 256 IP Interfaces	
17.	It shall support spanning-tree root guard or any other industry standard protocol to prevent other edge switches becoming the root bridge.	
18.	It shall support IGMP snooping v1, v2 and v3.	
19.	It shall support Link Aggregation Protocol (LACP).	
20.	It shall Support ERPS ,STP,MSTP,RSTP, PIM-DM (IPv4)	
21.	It shall Support 802.3ah Ethernet Link OAM for Detection of Unidirectional links and to disable them to avoid problems such as spanning tree loops and should support for L2PT,DLDP	
22.	It shall be able to discover the neighboring device of the same vendor giving the details about the platform, IP Address, Link connected through etc, thus helping in troubleshooting connectivity problems.	
23.	It shall support for Switch port auto recovery (err disable) to automatically re-enable a link that is disabled because of a network error.	
24.	It shall support Multicast VLAN registration.	
25.	It shall support LLDP / LLDP-MED including client location information. It shall exchange link and device information in multi vendor networks.	
26.	It shall support configuration rollback to replace current configuration with any saved configuration file.	

27.	It shall support configurable maximum transmission unit (MTU) of up to 9000 bytes, with a maximum Ethernet frame size of 9018 bytes (Jumbo frames) for bridging on Gigabit Ethernet ports.	
28.	It shall support auto sensing speed on 10/100/1000 ports, auto negotiating half/full-duplex on all ports and Auto-MDIX.	
	QoS Features:	
29.	The LAN switch shall have per-port broadcast, multicast, and unicast storm control.	
30.	It shall have standard 802.1p CoS and DSCP classification using marking and reclassification on a per-packet basis by source and destination IP address, source and destination MAC address, or Layer 4 TCP or UDP port number.	
31.	There shall be eight egress queues per port to enable differentiated management of up to eight traffic types.	
32.	There shall be weighted round robin (WRR) or any other industry standard protocol to provide congestion avoidance.	
33.	There shall be strict priority queuing mechanisms.	
34.	Granular Rate Limiting functions to guarantee bandwidth in increments shall be as low as 64 Kbps.	
35.	Rate limiting support based on source and destination IP address, source and destination MAC address, Layer 4 TCP and UDP information, or any combination of these fields, using QoS ACLs (IP ACLs (IPv4 and IPv6) or MAC ACLs), class maps, and policy maps shall be available. ACL should be based on user defined packet content (Max. 6 bytes length user defined).	
36.	There shall be support for Asynchronous data flows upstream and downstream from the end station or on the uplink using ingress policing and egress shaping.	
37.	There shall be support for Automatic Quality of Service for easy configuration of QoS features for critical applications.	
	Network Security Features:	
38.	The LAN switch shall support IEEE 802.1x to allow dynamic, port-based security, providing user authentication.	
39.	The LAN switch shall support for Admission Control features to improve the network's ability to automatically identify, prevent, and respond to security threats and also to enable the switches to collaborate with third-party solutions for security-policy compliance and enforcement before a host is permitted to access the network.	
40.	It shall support port-based ACLs (PACLs) for Layer 2 interfaces to allow application of security policies on individual switch ports. It shall also support VLAN based filters.	
41.	It shall support unicast MAC filtering to prevent the forwarding of any type of packet with a matching MAC address. It shall support Unicast and Multicast MAC addresses and associated VLANs.	
42.	It shall support unknown unicast and multicast port blocking to allow tight control by filtering packets that the switch has not already learned how to forward.	
43.	It shall support IGMP filtering which shall provide multicast authentication by filtering out no subscribers and limits the number of concurrent multicast streams available per port.	
44.	It shall support for SSHv2, SNMPv3 to provide network security by encrypting administrator traffic during Telnet and SNMP sessions.	
45.	The switch shall support 2 session of Port Mirroring based on port basis / VLAN basis to support intrusion prevention system deployment in different VLANs. It shall support bidirectional data on mirror port which allows IDS to take action when an intruder is detected.	
46.	It shall support RADIUS authentication to enable centralized control of the switch and restrict unauthorized users from altering the configuration.	
47.	It shall support MAC address notification to allow administrators to be notified of users added to or removed from the network / It shall support	

	SNMP Trap for new MAC notification.	
48.	It shall support DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addresses. This can be used to prevent attacks that attempt to poison the DHCP binding database, and to rate limit the amount of DHCP traffic that enters a switch port.	
49.	It shall support DHCP Interface Tracker (Option 82) to augment a host IP address request with the switch port ID.	
50.	It shall support port security to secure the access to an access or trunk port based on MAC address. After a specific timeframe, the aging feature should remove the MAC address from the switch to allow another device to connect to the same port.	
51.	It shall support multilevel security on console access to prevent unauthorized users from altering the switch configuration.	
52.	It shall support BPDU Guard feature, to shut down Spanning Tree Protocol Port Fast-enabled interfaces when BPDUs are received to avoid accidental topology loops.	
53.	It shall support Spanning-Tree Root Guard (STRG) to prevent edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes.	
54.	It shall support for up to 2K access control entries (ACEs).	
	Management:	
55.	The LAN switch shall have CLI support to provide a common user interface and command set with all routers and switches of the same vendor.	
56.	It shall have Remote Monitoring (RMON v1 and v2) software agent to support for enhanced traffic management, monitoring, and analysis.	
57.	It shall have support for RMON groups through the use of a mirrored port, which permits traffic monitoring of a single port, a group of ports, or the entire switch from a single network analyzer or RMON probe.	
58.	It shall have layer2 trace route to ease troubleshooting by identifying the physical path that a packet takes from source to destination or it shall support OAM 802.3ah.	
59.	It shall support Trivial File Transfer Protocol (TFTP) and File Transfer Protocol (FTP) to reduce the cost of administering software upgrades by downloading from a centralized location.	
60.	It shall support Simple Network Time Protocol/Network Timing Protocol (SNTP/NTP) to provide an accurate and consistent time stamp to all intranet switches.	
61.	It shall support RMON v1 and v2 standards.	
62.	It shall support SNMPv1, SNMPv2, and SNMPv3 and Telnet interface to deliver comprehensive in-band management, and a CLI-based management console to provide detailed out-of-band management.	
63.	It shall support IPV6 management. ACL and QoS and IPV6 Neighbour Discovery.	
64.	Device OEM must have operation and their establishment for more than 10 Years	
65.	Device OEM must be must be ISO 9001 & 14001 and 27001 Certified at the time of bidding	
66.	Device OEM must be Gartner Magic Quadrant for Enterprise Wired and Wireless LAN Infrastructure in Last 4 Quarter	

5 Mtrs LC-LC Single mode Patch cords			
Approved Makes: SYSTIMAX, Panduit, Digi Sol, Siemon			
Qty-36 Nos			
Sl. No.	Parameter	Specification	Compliance (Y/N)

1	General	<p>LSZH Jacket Duplex type Low Insertion Loss and Return Loss High Precision Ceramic Ferrule with Good Concentricity IEC 60332-1, ANSI/TIA 568-C.3 & ISO/IEC 11801 Standard RoHS compliance: Directive 2002/95/EC</p>
2	Technical Specifications	<p>Connector Type: LC - LC Fiber Type: OS2 (9/125 Corning Clear Curve) Buffer Diameter (mm): 0.9 ± 0.05 Jacket Thickness: 0.35 ± 0.05 Strength Member: Aramid Yarn Jacket Colour: Yellow Jacket Material: LSZH Cable Diameter (mm): $2.0 \times 3.8 \pm 0.2$</p>
3	Optical Specifications	<p>Insertion Loss : ≤ 0.3(dB) Return Loss : ≥ 50(dB) Mode Field Diameter : $9.2 \pm 0.4 \mu$ (@1310nm), $10.4 \pm 0.5 \mu$ (@1550nm) Attenuation (Max) : ≤ 0.36 dB/km (@1310nm), ≤ 0.25 dB/km (@1550nm) Chromatic Dispersion : ≤ 3.5 ps/nm.km (@1285 - 1330nm), ≤ 18 ps/nm.km (@1550nm) Zero Dispersion Wavelength : 1300 - 1324 nm Cut off Wavelength : ≤ 1260 nm Cladding Diameter : $125 \pm 0.7 \mu$m</p>
4	Mechanical Specifications	<p>Bend Radius (min.): 20D Crush Resistance: 100N/100mm Connector Cable Retention: 50 N (11.24 lbs) Connector Ferrule: Ceramic Connector Repeatability: ≤ 0.2dB (1000 times mating cycle)</p>
5	Standards to Comply	<p>IEC 60332-1 ANSI/TIA 568-C.3 ISO/IEC 11801 RoHS: Directive 2002/95/EC</p>
6	Environmental Specifications	<p>Storage Temperature: -20°C to $+70^{\circ}\text{C}$ Installation Temperature: -20°C to $+70^{\circ}\text{C}$ Operating Temperature: -20°C to $+70^{\circ}\text{C}$</p>
7	OEM Criteria	All copper; fibre cabling & components should be from single OEM

Cat6 RJ45 UTP Jack Specs			
Approved Makes: CommScope, Panduit, Digi sol, R&M			
Qty- 5 Boxes			
Make:		Model:	
Sl. No.	Parameter	Specification	Compliance (Y/N)
1	Plug Type	Cat6 RJ45 UTP Plug suitable for Solid or Stranded Cable	
2	Design	3-Prong Design for accurate termination	
3	Pins Pattern	Staggered	
Electrical			
4	Current Rating	250V AC max, at 2A	
5	Dielectric withstanding	1000V DC/min, <0.5A	

6	Insulation Resistance	>500M Ω , 1000V DC/min.>500M Ω , 1000V DC/min.	
7	Contact Resistance	<20 M Ω	
	Physical		
8	Cable to plug tensile strength	20lbs (89N) min	
9	Durability	above 750 mating cycles	
10	Temperature for operation	-40°C to +125°C	
	Material		
11	Housing material	Polycarbonate UL94V-0	
12	Colour	Transparent	
13	Gold plating thickness	Gold flash 3MU	
14	OEM Criteria	All copper, fibre cabling & components should be from single OEM	

Cat6 UTP Patch Cord			
Approved Makes: SYSTIMAX, Panduit, Digi sol, Siemon			
Qty-20 Nos			
Make:		Model:	
Sl. No.	Parameter	Specification	Compliance (Y/N)
1	Type	Category 6 UTP Patch Cords should be 100% Factory Tested for Better Quality and Suitable for the High-Speed Data Transmission.	
2	Compliance	Should Comply with the ANSI/TIA/EIA-568-C.2 Standard and support Data Networks Speeds Up to 10/100-Base-T and 1000-Base-T	
3	Jacket	Should be LSZH Jacket for Reduced Toxic Gasses Emitted During Combustion	
4	Length	1Mtr / 3Mtr	
5	Conductor Material	24 AWG Stranded copper wires unshielded	
6	Connector Plug	Transparent, 30 μ ” Gold Plated Contact on Phosphor Bronze base material	
7	Boot	Slip on normal transparent	
8	Jacket Type	LSZH (Low Smoke Zero Halogen)	
9	Diameter	5.8 \pm 0.1mm	
10	Plug Insertion	750 Cycles min. using FCC approved plug	
11	Plug & Jack Contact Force	100 Grams min. using FCC approved plug	
12	Plug Retention Force	11 lbf minimum	
13	Current Rating	1.5 Amps	
14	Insulation Resistance	500 M Ω minimum	
15	Contact Resistance	20 m Ω maximum	
16	DC Resistance	0.1 Ω maximum	
17	Voltage Rating	72 Vdc maximum	
18	Standards	<ul style="list-style-type: none"> • Qualified unscreened Class E/Cat.6 • CM LS rated • Channel ANSI/TIA-568-C.2 • IEC 60603-7-4 2nd Edition • ISO/IEC 11801 2.2 Edition • RoHS Compliant 	
19	Operating Temperature	-20° to +70°C	

20	Colour of Patch Cords	Should be available in different Colors like Grey/Blue/Green/Yellow/Orange	
21	Certification	ETL Verified	
22	OEM Criteria	All copper; fibre cabling & components should be from single OEM	

Sl. No.	TECHNICAL SPECIFICATION FOR 9U WALL MOUNT RACK-17 Nos	COMPLIANCE (Y/N)
1	Racks manufactured out of steel sheet punched, formed, welded and Powder coated	
2	Standard for Racks configuration will be welded frame integrated with side panel and vented top cover	
3	Rack should have Front Toughened Glass Door with lock & Key	
4	Rack should have provision to mount on wall	
5	Rack should be 9U(1U=44.45 mm) in Height, 550MM Width, 450MM Depth	
6	Rack should Conform to DIN 41494 or Equivalent EIA /ISO / EN Standard	
7	Rack should have Adjustable mounting depth	
8	Rack 2 No Adjustable, 19" verticals with Punched 9mm Square Hole and Universal 12.7mm-15.875mm-15.875mm alternating hole pattern offers greater mounting flexibility, maximizes usable mounting space	
9	Rack should have 100% assured compatibility with all equipment's conforming to DIN 41494 (General industrial standard for equipment's)	
10	Powder coated finish with seven Tank pretreatment process meeting IS	
11	Rack should be fitted with 1 Fan on Top cover	
12	Rack should have 1 No of Cable Manager	
13	Rack should have 1 No Power Distribution Unit with 6 Nos 5A Indian Round Pin	
14	Rack should have provision for cable entry Exit from Both top & Bottom.	
15	Rack should have 1 Packet of Mounting hardware, Pack of 10	

S. No	Feature	Specification	Compliance (Yes/No)
PVC Conduit Pipe Approved Makes: Sudhakar/Anchor/Polycab/Finolex Qty-2500 Mtrs			
		Make:	Model:
1	Product Type	PVCElectricalConduitPipe	
2	Material	Rigid PolyvinylChloride(RPVC)–Lead-free, non-metallic	
3	Outer Diameter	25mm(<i>Specify as per requirement</i>)	
4	Wall Thickness	Minimum 1.8 mm for25mm ODpipe	
5	Length per Piece	3 meters	
6	Type	HeavyDuty(HD)	
7	Color	Grey/White	
8	Fire Retardant	Yes–Self-extinguishing type	
9	Ingress Protection	MinimumIP65whenusedwithaccessories	
10	Bending Radius	Asper IS9537/3	

11	Surface Finish	Smooth inner and outer surface	
12	Marking	Manufacturer's name, ISI marking, size, type, batch no.	
13	Resistance to Acids/Oils	High resistance	
14	Impact Strength	Minimum 6J (as per IS 9537 Part 3)	
15	Dielectric Strength	≥ 2.0 kV	
16	UV Resistance	Yes	
17	Temperature Range	-5°C to +60°C	
18	Accessories	Compatible with ISI-marked bends, tees, couplers, junction boxes	

Technical Specifications				
HDPE Duct				
Make:		Model No.:		
Quantity: 1300 Meters				
Sl. No.	Specification Parameter	Required Specification	Compliance (Yes/No)	
1	Type	HDPE Telecom Duct		
2	Diameter	40 mm OD/ 33 mm ID		
3	Wall Thickness	Minimum 3.5 mm		
4	Material	High-Density Polyethylene (HDPE), Grade PE-80/PE-100		
5	Color	Orange/Blue/Green/Black (as per site requirement)		
6	UV Resistance	UV Stabilized for outdoor use		
7	Mechanical Strength	As per TEC/GR/FA/HDPE-01/03MAR2004		
8	Operating Temp	-20°C to +70°C		
9	Fire Retardant	Yes		
10	Accessories	End caps, couplers, spacers		
11	Marking	Manufacturer name, standard, and batch no. every meter		
12	Coil Length	Standard 100m or 500 m (cut as per requirement)		

2	Fiber Compatibility	SingleMode9/125 µm	
3	Splicing Loss	≤0.02 dB(Typical≤ 0.01 dB)	
4	Method	Arc Fusion using Fully Automatic Fusion Splicer	
5	Protection Sleeve	Heat-shrinkable splice protections leeve (Minimum 60 mm) to be used	
6	Testing	Each splice point to be tested with OTDR or Power Meter	
7	Enclosure/Tray	All splices to be housedin proper OFC SpliceTray with fiber management	
8	Documentation	Labeling, tagging, and update d fiber route diagram to be provided	
9	Environmental Conditions	Splicing work to be done indust-free environmentor enclosure tent	

ITEM:2 TECHNICAL SPECIFICATIONS OF FIREWALL

TECHNICAL SPECIFICATIONS OF FIREWALL Approved Makes: Sophos/FortiGate/SonicWALL/Palo Alto/Cisco Make: Model:			
S No	Technical specification	Requirement	COMPLIANCE (Y/N)
Hardware Specification			
1.	Dual core architecture and dedicated network process unit for better performance	Required	
2.	Management Purpose I/O Ports	1 x RJ45 MGMT 1 x COM RJ45 1 x Micro-USB	
3.	Ports (Minimum)	8 x GE copper 2 x SFP fibre 2 x SFP+ 10 GE fibre	
	Port density maximum	20	
4.	Local Storage/SSD	Integrated min. 240 GB SATA-III SSD	
Performance Requirement			
5.	Firewall Throughput	47 Gbps	
6.	Firewall IMIX	23 Gbps	
7.	NGFW Throughput	9 Gbps	
8.	IPS Throughput	10 Gbps	
9.	Concurrent Connections	1,22,60,000	
10.	New Sessions Per Sec	1,86,500	
11.	IPsec VPN Throughput	25 Gbps	
12.	No. of IPsec VPN Tunnels	6500	
13.	Threat Protection Throughput	7.4 Gbps	
14.	SSL Inspection Throughput	2.4 Gbps	
REQUIRED FEATURES OF NGFW			
15.	Capable to do stateful inspection of packet passing through firewall.	Required	

16.	Capable to configure firewall policy based upon network, protocol, users, group.	Required	
17.	No fixed zone to interface mapping. Any interface can be configured in any zone	Required	
18.	should be able to block traffic for country based upon Geo-IP.	Required	
19.	Must have Intrusion Prevention System capability and capability to create custom IPS signature and policy	Required	
20.	Capable to identify and block command and control communication.	Required	
21.	Able to block malicious domain or web category and enforce restriction on unwanted domain or URL	Required	
22.	Able to create custom web category and enforce web filter policy with custom category.	Required	
23.	Web keyword monitoring and enforcement to log, report or block web content matching keyword lists with the option to upload custom lists	Required	
24.	Appliance should have feature support for both HA functionalities i.e. Active-Active and Active-Passive for redundancy in future if and when required.	Required	
25.	Firewall should have the feasibility to choose/dedicate a port as HA link. Also, High Availability should support creation of multiple HA Link pairs to add resiliency in case one HA link fails, so that HA can be facilitated robustly.	Required	
27.	Port agnostic DPI scanning	Required	
28.	Capable to inspect TLS1.1, TLS1.2 and TLS 1.3 inspection	Required	
29.	Should be able to enforce policy on certificate state (like invalid date, untrusted issuer, name mismatch etc ..), protocol and cipher for deep packet inspection	Required	
30.	Should be able to apply Application Filtering and Control	Required	
31.	Advanced Threat Protection (detect and block network traffic attempting to contact command and control servers using multi-layered DNS, AFC, and firewall)	Required	
32.	Able to authenticate users with local database and also capability to integrate active directory, LDAP server, RADIUS Server, TACACS+ Server and eDirectory	Required	
33.	Built in Capability for Multi Factor Authentication for Users without any additional cost	Required	
34.	Must have SD-WAN capability and have feature to create SLA profile with Jitter, Latency, Packet Loss. And same should be demonstrated by OEM/Vender in post bid POC if requested.	Required	
35.	SDWAN feature must have source, destination, service, application and user's base policy creation capability. Also, should be able to load balance or load share traffic across multiple gateways on the basis of SLA parameters and same should be demonstrated by OEM/Vender in post bid	Required	

	POC if requested.		
36.	Route Based/Interface based Ipsec Tunnel creation facility should be present in addition to policy-based tunnels creation. Dynamic Routing Protocol such as OSPFv3 should be supported.	Required	
37.	Site to site IPSec VPN with IKEv1 and IKEv2 key exchange capability.	Required	
38.	Capability to apply Traffic Shaping on firewall rule, users, web category and application.	Required	
39.	One appliance reporting and can integrate with external syslog server	Required	
40.	Enforced password complexity feature for user and admin passwords	Required	
41.	Built in 2FA capability with no additional cost for local users, VPN users and admin users authentication.	Required	
42.	Provide compliance report like HIPPA, SOX ,PCI,FISMA.CIPA	Required	
43.	User based reporting and provide threat score to users based upon their activity.	Required	
44.	Log retention customization by category	Required	
45.	Minimum 3 expansion slots to increase port density in future if needed.Should have capability of supporting multigig copper ports such as 2.5Gig.	Required	
46.	Two hot-swappable internal auto-ranging power supply from day 1.	Required	
47.	Export reports as HTML, PDF, Excel (XLS)	Required	
48.	Firewall should support non-repudiation to strengthen logging data security/privacy	Required	
49.	Three Year Subscription license for Firewall, Gateway Anti-Virus, Anti-malware, DPI SSL, Web Filtering Service, App Control Service, Zero day protection, Botnet/C&C protection/ATP, Intrusion Prevention System (IPS), 24x7 support, security and software updates, adv. exchange warranty for the period of 3 years.	Required	
Firewall Management and Certifications			
50.	Firewall can be configured and managed via GUI or via CLI console or a central management console at no additional license /cost.	Required	
51.	Inbuild diagnostic and policy testing tool in GUI for troubleshooting.	Required	
52.	TCP dump utility in command line for advance troubleshooting	Required	
53.	Firewall should be able to keep minimum two firmware version and admin should be able to roll back to previous version from GUI without uploading firmware.	Required	
54.	Firewall product/products family of OEM should have MTCTE certification from TEC	Required	

55.	OEM Support (TAC) Presence in India	Required	
56.	Escalation Matrix for Support	Required	
57.	Software OS family should be having at least one Common criteria EAL4+ Certificate or equivalent Indian certification.	Required	

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ANNEXURE-II

Eligibility Criteria

1	Firm registration certificate from Registrar of companies/Societies/MSME	Mandatory
2	Goods & Service Tax registration	Mandatory
3	PAN Number of the firm/individual	Mandatory
4	IT returns for the last THREE (3) financial years	Mandatory
5	Manufacturer / OEM Authorization Letter needs to be submitted for this specific tender and also authorizing the bidder to submit the bid for tendering which is deemed as an agreement in between the bidder and OEM for the support and Spares till the warrant period.	Mandatory
6	The bidder should furnished Annexure-I providing compliance to the Technical Specification listed along with relevant brochure, certificate etc.,(Compliance Report Should be enclosed with duly signed)	Mandatory
7	The bidder should submit/give Undertaking in compliance with GFR Rule 144(xi) as per the Annexure-IV of this tender document.	Mandatory
8	The bidder should have a cumulative turnover of at least Rs.1crore for the last 3 Financial years.	Mandatory
9	The bidder should have executed similar nature of work worth of Rs. 30 lakh and above during last three financial years for any State or Central government Institutions (must enclosed at least one work order)	Mandatory
10	The bidder should submit/give declaration stating that they are not debarred / blacklisted by any State Government, Central Government & State Govt. Undertakings/enterprises/Organizations and by any other Quasi Government Bodies / Organizations in India for non-satisfactory performance, corrupt & Fraudulent or any other unethical business practices during past 5financial years.	Mandatory

Signature of the bidder with full address,

Contact Number(s) and Mail ID
(To be signed by the authorized signatory)

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ANNEXURE-III
FINANCIAL BID

Name of the Bidder / Firm :

GST Number :

ITEM: 1 - NETWORK

S. No	Item Description	ITEM CODE	Qty	Unit Price (INR)	GST (INR)	Total (INR)	Grand Total (INR)
1	18-Port Gigabit Easy Smart Switch with 16-Port PoE+		5 Nos				
2	Ceiling Mount Wi-Fi 6 Access Point		94 Nos				
3	Hardware Controller for Switches and Access Points		01 No				
4	10-Port Gigabit Smart Switch with 8-Port PoE+		6 Nos				
5	Cat 6 Cable		10 Boxes				
6	6 core Single mode fiber cable		1300 Mtrs				
7	24-Port Gigabit and 4-Port 10GE SFP+ L2+ Managed Switch with 24-Port PoE+		13 Nos				
8	26-Port 10G Stackable L3 Managed Aggregation Switch with 6 25G Slots		1 No				
9	LC-LC Single mode Patch cords		36 Nos				
10	Cat6 RJ45 UTP Jack		5 Boxes				
11	Cat6 UTP Patch Cord 3 Mtrs		10 Nos				
12	Cat6 UTP Patch Cord 1 Mtr		10 Nos				
13	9U Rack		17 Nos				
14	PVC Conduit Pipe with accessories		2500 Mtrs				
15	SFPModule-SingleMode1G		12 Nos				
16	SFP 10G Modules Single Mode Modules		24 Nos				
17	6 Port Fiber LIU		6 Nos				
18	OFC Splicing with Termination Box		100 Nos				
19	OTDR Testing		1 No				
20	HDPE Pipe		1300 Mtrs				

21	Laying of PVC Pipe along with Cat 6 Cable		1 No				
22	OFCCableLaying and Digging		1 No				
23	Installation, Testing, Commissioning and Training		1 No				

ITEM: 2 - FIREWALL

S. No	Item Description	Qty	Unit Price (INR)	Total (INR)	GST (INR)	Grand Total (INR)
1	FIRE WALL	1 No.				

- Prices inclusive of all taxes should be quoted.

Signature of the bidder with full address, Contact Number(s) and Mail ID
(To be signed by the authorized signatory)

ANNEXURE-IV
Undertaking incompliance with GFR Rule 144(xi)

To
The Registrar
Rayalaseema University
Kurnool.

Date:

Dear Sir,

Sub: Tender for

Ref: Tender Reference

I/We, <Bidder/OEM Name> have read the clause regarding restrictions on procurement from a Bidder/ OEM of a Country which shares a land border with India.

I/We hereby certify that I/We, <OEM/Bidder Name>is not from any such country or, if from such a Country, has been registered with the following Competent Authority:

1. Details of competent authority:
2. Registration Certificate Ref. No.:
3. Products for which registered:(registration should be valid for the offered product)

I/We hereby certify that I/We in the event of becoming a successful bidder shall not sub-contract works to any Contractor from a Country which shares a land border with India unless such Contractor is registered with the Competent Authority, as per GFR rule 144(xi).

I/We hereby certify that I/We fulfill all requirements in this regard and eligible to be considered

For <OEM/Bidd>

Authorized signatory:
Name of the authorized Person:
Designation:
Name of Bidder:
Stamp o fBidder:

NOTE:

1. The letter should be submitted on the Letter head of the Bidder/OEM and should be signed by the Authorised signatory.
2. Any deviation would lead to summary rejection of bids.

E-TENDERLETTER

Date:

To

The Registrar
Rayalaseema University, Kurnool.

Ref:	Your tender Notice No.....Dated.....
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I/we have read the contents of the terms and conditions mentioned in your tender schedule and its enclosures and agree to abide by the same.

I/We hereby offer to supply the articles prescribed in the schedule (or such portion thereof as you may specify on the acceptance of tender) at the price given.

I/We agree to hold this offer open for a period of ninety days (90) from the date of acceptance of tender and shall be bound by communication of acceptance dispatched within a period of 15 days from the date of opening of tenders.

I/We have also examined the requisite specifications of the material to be supplied and my/our offer is to supply the required material in accordance with the requisite specifications.

I/We have carefully considered all terms and conditions sated in the tender documents and particulars regarding settlement of disputes and we have signed the same in token of consciously accepting the same and do hereby state that we accept them without any reservations and accordingly.

I/We quote the rate inclusive of all taxes, duties, transportation, insurance etc.

The articles will be ready for delivery within days from the date of receipt of firm orders.

Yours faithfully

(Signature and stamp of the tenderer, State legal status,
Whether Prop Partner, Registered firm, Company etc.)

DECLARATION

1. I, _____ Son/Daughter/Wife of
Sri _____ Proprietor / Director / Authorized Signatory of
the Service Provider, mentioned above, am competent to sign this declaration and execute
this tender document.
2. I have carefully read and understood all the terms and conditions of the tender and
undertake to abide by them
3. I hereby declare that the firm has not been blacklisted by any department /institution in the
State Government/Central Government due to any reason
4. I hereby declare that the firm was not disqualified for any wrong declaration.
5. The information/documents furnished along with the above application are true and
authentic to the best of my knowledge and brief. I/We am/are well aware of the fact that
furnishing of any false information/fabricated document would lead to rejection of my tender
at any stage besides liabilities towards prosecution under appropriate law

Signature of Authorized Person

Date:

Full Name:

Place:

Seal: