

ARIS Cell
Dr. Rajendra Prasad Central Agricultural University
Pusa (Samastipur) 848125

No. 07 /ARIS/Pusa

Dated 13 / 07 /2020

Notice Inviting Tender

For Establishment of LAN

Dr. Rajendra Prasad Central Agricultural University, intends to establish its LAN to College of Fisheries, Dholi. The interested firms are hereby invited to participate in the bidding process (in two bid system) through this notice. The details of the work, items required and terms and conditions can be downloaded from the website www.rpcau.ac.in. The tender document complete in all respect in the prescribed format shall reach the **Controlling Officer, ARIS Cell, Dr. RPCAU, Pusa** latest by 4.00 pm on 12 / 08 /2020 through registered/ speed post.


C/O, ARIS Cell

Memo No. 07 /ARIS/Pusa

Dated 13 / 07 /2020

Copy forwarded to Consultant (Publicity & Information) for publishing of this notice in **English Daily newspaper** in the size 8x6 cm at appropriate place on the earliest possible date. The bills along with tear sheet of the newspapers may be sent to the undersigned for payment.


C/O, ARIS Cell

DETAILS OF WORK

Dr. Rajendra Prasad Central Agricultural University, intends to extend its LAN to College of Fisheries, Dholi. The interested firms are hereby invited to participate in the bidding process (in two bid system) through this notice. The details of the work, items required and terms and conditions can be downloaded from the website www.rpcau.ac.in. The tender document complete in all respect in the prescribed format shall the **Controlling Officer, ARIS Cell, Dr. RPCAU, Pusa** latest by 4.00 pm on ____/____/2020 through registered/ speed post.

Service Deliverables:

The following are the service deliverables required from the selected agency.

1. Establishment of LAN to buildings of College of Fisheries, Dholi. This building will be connected through ISP from existing network of College of Fisheries, Dholi.

A. General Information :

1. The interested firms are required to submit their proposal in two bid system i.e. **Technical Bid** and the **Financial Bid**. The Bidder is required to fill up all these two parts and place them in two separate sealed envelopes, which should be super scribed as "Technical Bid for Establishment of LAN" and "Financial bid for Establishment of LAN" with NIT reference number, as the case may be. Both these envelop must be place in another envelop super scribed "Quotation for Establishment of LAN" with NIT reference number.
2. The Offer should be made in English and no conditional offers will be accepted
3. The Price, terms and conditions of the offer should be valid up to minimum of 180 days.
4. Submitted bid documents with overwriting or erasing will be liable for rejection.
5. The materials should be supplied as per quotation and same shall be verified by the authorized officer before installation.
6. Bidders are required to carry out the work at the specified location on turnkey basis and quote accordingly.
7. The bidders are expected to examine all instructions, forms, terms, project requirements and other details in the tender documents. Failure to furnish complete information as mentioned in the tender documents or submission of a proposal not substantially responsive to the tender documents in every respect will be at the bidder's risk and may result in rejection of the bid.

B. Terms and Conditions:

1. The bidder must show his/ her competency and experience in execution of the work of similar nature by means of the list of clients supported by the adequate proof.
2. The Bidder should be an organization/Company in operation for the last three years from the publication of this notice.
3. The firm should be an **ISO-9001:2000 certified** Original Equipment Manufacturer /their authorised bidder for this tender whose responsibility is to supply and installation of the equipment, giving warranty on the equipments and deliver the desired services.



4. The Bidder must have prior experience in commissioning such projects relevant to this notice i.e. under taken the work of installation of LAN connectivity to Government / PSUs or Corporate firms in India.
5. Rates quoted should be for Dr. RPCAU, Pusa, Samastipur, and Bihar inclusive of all taxes and charges. The rates must include packaging, forwarding, transit, installation and insurance charges. The same should be insured against pilferage, theft, loss or breakage during transit by the supplier before dispatch is made. The responsibility in this respect will be of the supplying firm and not of the university.
6. Supply of the goods is acceptable on bill basis only.
7. Payment shall be made within 30 days from the date of receipt of goods in proper, satisfactory, working conditions and after successful installation and commissioning.
8. The technical bid should include the Earnest Money (EMD) in the form of Demand Draft of a Nationalized Bank (for Rs 100,000/-) drawn in favour of **Comptroller, Dr. RPCAU, Pusa** payable at PNB, RAU, Pusa branch (branch code 4512). The tender received without proper EMD shall be summarily rejected. EMD is exempted for MSME's as per GOI rules with proper certificate.
9. In terms of General Finance Rules (GFR-2017), tenderers may face legal action, if they amend tender, impair or derogates from the tender in any respect within the period of validity of this tender.
10. The bidders will have to attach a certificate to the effect that the material to be supplied will be of the same specification conforming to standard of the items specified.
11. The taxes which are not quoted in tender by the supplier will not be paid by the university under any case.
12. The terms and conditions given by the supplier will not be binding on us. Conditional tenders may be rejected at the sole discretion of the competent authority of the university.
13. The date / period of delivery of stores must be clearly mentioned.
14. The firm should give a certificate that his / her company or sister company is not black listed by any Govt. Department or any Institute in the country.
15. Any dispute arising in the process of the tender shall be referred to the sole arbitrator who in such case will be the Vice-Chancellor of DRPCA, Pusa whose verdict shall be final and binding on both the parties.
16. The tender so submitted shall be governed by the GFR-2017 in effect.
17. The bidders may be called for technical discussion by the purchase committee duly constituted or nominated by the competent authority of this university.
18. The acceptance of tender will rest with the university who does not bind itself to accept the lowest tender and reserves itself the authority to reject or partially accept, any or all the tenders received without assigning any reason.
19. The university reserves the right to place order for the scheduled quantity and or part thereof.
20. **The terms as below related to technical specifications must be strictly followed:**
 - a) *Switches & Access Points should be of Single OEM.*
 - b) *The Active devices should be backed with OEM Warranty Support for 3 years with Replacement with New products.*
 - c) *OEM authorization specific to this tender should be available*
 - d) *Technical compliance duly approved by the OEM letter head is required, failing which the Bid offer will be rejected.*

- e) *Product Certification must be enclosed*
- f) *Product specifications must be supported by catalogue .*
21. Tenders are likely to be rejected in case it does not confirm to the specifications, terms and conditions etc as laid down.
22. The tender must reach to the office of the **Controlling Officer, ARIS Cell, Dr. RPCAU, Pusa** on or before the specified date and time through **Registered post / Speed post** only.
23. All the papers submitted must bear the signature and seal of the authorised person.
24. Accepted Bidder are required to complete work within 90 days from receiving work order from University.
25. Bidder turnover must not be less than 2.0 crore for last three years.
26. OEM turnover must not be less than 5.0 crore for last three years.
27. MSE and Start up exemption will be applicable in turnover and experience as per GOI rules. In case any bidder is seeking exemption from experience/turnover criteria, supporting documents to his eligibility for exemption must be submitted.
28. Performance Guarantee will have to be submitted @10% of contract value by the successful bidder at the time of signing Agreement.
29. Timely servicing/rectification of defects during warranty period, after having been notified of the same, service/rectification must be completed within 06 days time limit, failing which a penalty of 0.5% of the unit price of the product shall be charged as penalty for each week of delay from the seller as per rule.


C/O ,ARIS Cell

Technical Bid

A. General Details of the Organisation:

S. No.	Particulars	Remarks/ Documents to be attached
1	Name of the Agency as mentioned in the Registration Certificate	
2	Address of Head office	
	Telephone:	
	E-mail:	
	Fax number(if any):	
	Name(s) of the contact person(s):	
3	Corresponding Office address (if different from the above address):	
	Telephone number :	
	Name(s) of the contact person(s) along with mobile number and e-mail id.	
4	Year of establishment of the Organisation (enclose certificate of registration)	
5	Years of work experience in providing relevant services	
6	Turnover of the agency for the last three years (attach proof)	2019-20: 2018-19: 2017-18:
6	Income Tax - PAN No. (attach proof)	
7	Tax Payer Identification Number (GSTIN) (attach proof)	
11	The firm is a proprietary/ partnership/Limited Co./Society (Please attach documentary evidence)	
13	Details of clients for whom similar projects are under taken, along with value of orders executed. (attach documentary evidence)	
14	Details of EMD:	
	DD No. & Date of Issue	
	Amount :	INR 100,000.00
	Drawn on Bank	
	(Attach the original copy of DD in	Please enclose the original DD along with the

S. No.	Particulars	Remarks/ Documents to be attached
	favour of Dean, Faculty of Agril Engg., Pusa).	technical bid.

- B. Organisational Competency:** A Brief note pertaining to the Profile and background of the Agency / Firm explaining its previous experience, expertise in general, previous achievements, technical expertise that makes your Agency / Firm most competent to participate in the bidding process. Besides this, the details of similar kind of work experience of the agency is to be furnished in the format Below:

Details of the work executed

S. No.	Year	Name of Project	Name of Client/ Organisation	Value of the Order In INR	Documentary Evidence
1					
2					
3					
4					
5					

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C. Bill of Material

S.No	Items Description	Qty.
1	Firewall ,for 500 Users with 3 years subscription	1
2	Layer 3 Switch,24-port 10/100/1000 Base T PoE+with 4*10G SFP+ Slot managed switch	8
3	24-port 10/100/1000 Base T PoE+with 4*10G SFP+ Slot managed switch	10
4	3 x 3 Dual Band Wireless-AC Managed Access Points	25
5	SFP MODULE, 10G SFP+ Module for single mode Fiber	4
6	12 Port LIU Loaded with SC Pigtails,Coupler & Panels	10
7	3M SC-LC OFC Patch cord ,SM Fiber	10
8	UTP CAT-6A cable (305m box)	20
9	6C SM Optical Fiber Cable with laying	500 Mtr.
10	UTP Cat 6A I/O with single faceplate & SMB	150
11	CAT-6A 24 port Jack Panel Fully loaded	12
12	CAT-6A Patch cord 1mtr.	300
13	CAT-6A Patch cord 2mtr.	200
14	6U Wall mount rack,withPDU,FAN,Cable manager &H/W	10
15	42U Floor mount rack,withPDU,FAN,Cable manager &H/W	1
16	HDPE 40/33 mm duct (in m)	500m
17	PVC pipe/ beat (pcs) with required accessories	4000 pc
18	Online UPS System 3 KVA ,with battery for 1hrs backup & Installation	1
19	Online UPS System 10 KVA ,with battery for 2 hrs backup & Installation	1
20	CAT 6A RJ 45 Connector	500
21	Power supply 3 core 2.5.mm armoured (per m) for provision of switches and sockets as per requirement.	500m
22	Installation charges including splicing, crimping, power switch installation etc.	LS

Technical Specification

OEM Eligibility Criteria

Tender specific OEM authorization letter for Active & Passive items should be submitted along with bid.

Item No. 1. – Firewall – NGFW

S.No	Specification	Compliance (Yes/No)	If Yes, Cross-reference page no.
General Requirements			
1	Network security appliance should support "Stateful" policy inspection technology. It should also have application intelligence for commonly used TCP/IP protocols like telnet, ftp etc.		
2	The proposed vendor must have successfully completed NSS Labs' NGFW Methodology v8.0 testing with a minimum exploit blocking rate of 98%		
3	Proposed vendor must be in Leader quadrant of Gartner Magic Quadrant for Enterprise Firewall as per the latest report		
4	Firewall should be ICSA labs certified		
Hardware & Interface requirements			
1	The platform must be supplied with minimum 8 x 1GE RJ45 interfaces & 6 x 1GE SFP interface slots & 2x 10GE SFP+ interface slots to be used simultaneously from day one		
2	The Appliance should have USB & Console Ports		
Performance and Availability			
1	The Firewall should provide minimum 30Gbps of Firewall throughput & support of >6,000,000 concurrent sessions, and >250,000 new sessions per second from day one		
2	Solution should support Minimum IPS throughput of 5000 Mbps for real world traffic or enterprise mix traffic		
3	Minimum Threat Prevention Throughput (measured with Firewall, Application Control, IPS & Malware Protection enabled) of 4000 Mbps for real world or enterprise mix traffic		
4	IPSec VPN throughput: minimum 10 Gbps		
5	Simultaneous 1000 IPsec Client-to-Site VPN tunnels and 1000 SSL VPN User support from day one		
6	The solution should be supplied with 16GB RAM		
7	Proposed solution must support minimum 10 virtual firewall from day one		
Routing Protocols			

1	Static Routing	
2	Policy Based Routing	
3	The Firewall should support Dynamic Routing Protocol for RIP1 & 2, OSPF, OSPFv3, BGP4, RIPng	
Firewall Features		
1	Firewall should provide application inspection for LDAP, SIP, H.323, SNMP, FTP,SMTP, HTTP, DNS, ICMP, DHCP, RPC,SNMP, IMAP, NFS etc.	
2	IPv6-enabled inspection services for applications based on HTTP, FTP, SMTP, ICMP, TCP, and UDP	
3	Allows secure deployment of next-generation IPv6 networks, as well as hybrid environments that require simultaneous, dual stack support of IPv4 and IPv6	
4	The firewall should support transparent (Layer 2) firewall or routed (Layer 3) firewall Operation	
5	The Firewall should support ISP link load balancing.	
6	Firewall should support link aggregation functionality to group multiple ports as single port.	
7	Firewall should support minimum VLANs 1024	
8	Firewall should support static NAT, policy based NAT and PAT	
9	Firewall should support IPsec data encryption	
10	It should support the IPsec VPN for both site-site and remote access VPN	
11	Firewall should support IPsec NAT traversal.	
12	Control SNMP access through the use of SNMP and MD5 authentication.	
13	Firewall system should support virtual tunnel interfaces to provision route-based IPsec VPN	
14	The Firewall should have integrated solution for SSL VPN	
15	It should support the authentication protocols RADIUS, LDAP, TACACS, and PKI methods	
Integrated IPS Features Set		
1	IPS should have DDoS and DoS anomaly detection and protection mechanism with threshold configuration.	
2	Support SYN detection and protection for both targets and IPS devices.	
3	The device shall allow administrators to create Custom IPS signatures	
4	Should have a built-in Signature and Anomaly based IPS engine on the same unit	
5	Signature based detection using real time updated database & should have minimum	

	10000+ IPS signature database from day one
6	Supports automatic security updates directly over the internet. (i.e. no dependency of any intermediate device)
7	Signature updates do not require reboot of the unit.
8	Configurable IPS filters to selectively implement signatures based on severity, target (client/server) and operating systems
9	IPS Actions: Default, monitor, block, reset, or quarantine
10	Should support packet capture option
11	IP(s) exemption from specified IPS signatures
12	Should support IDS sniffer mode

AntiVirus&AntiBot

1	Firewall should support antimalware capabilities , including antivirus, botnet traffic filter and antispysware
2	Solution should be able to detect and prevent unique communication patterns used by BOTs i.e. information about botnet family
3	The solution should support cloud based sandboxing for prevention from zero day threats
4	Should have antivirus protection for protocols like HTTP, HTTPS, IMAPS, POP3S, SMTPS protocols etc.
5	Solution should have an option of packet capture for further analysis of the incident
6	Solution should uncover threats hidden in SSL links and communications
7	The AV should scan files that are passing on CIFS protocol
8	The proposed system shall provide ability to allow, block attachments or downloads according to file extensions and/or file types
9	The proposed system should be able to block oversized file based on configurable thresholds

Other support

1	Should support features like Web-Filtering, Application-Control & Gateway level DLP from day one
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2	The proposed system should have integrated Enterprise-class Web Content Filtering solution with database which should support over 250 million webpages in 72+ categories and 68+ languages without external solution, devices or hardware modules.	
3	Should support detection over 3,000+ applications in multiple Categories: Botnet, Collaboration, Email, File Sharing, Game, General Interest, Network Service, P2P, Proxy, Remote Access, Social Media, Storage Backup, Update, Video/Audio, VoIP, Industrial, Special, Web (Others)	
4	The solution should have the flexibility to write security policies based on IP Address, User Name & endpoint operating system	
5	QoS features like traffic prioritization, differentiated services,. Should support for QoS features for defining the QoS policies.	
6	It should support the VOIP traffic filtering	
7	Appliance should have identity awareness capabilities	
8	The firewall must support Active-Active as well as Active-Passive redundancy.	
9	Solution must support VRRP clustering protocol.	
Management & Reporting functionality		
1	Support for Built-in Management Software for simple, secure remote management of the security appliances through integrated, Web-based GUI.	
2	Support accessible through variety of methods, including console port, Telnet, and SSHv2	
3	Support for both SNMPv2 and SNMPv2c, providing in-depth visibility into the status of appliances.	
4	Should have capability to import configuration and software files for rapid provisioning and deployment using Trivial File Transfer Protocol (TFTP), HTTP, HTTPS	
5	Should capable to provide a convenient method for alerting administrators when critical events are encountered, by sending e-mail alert messages to administrator defined e-mail addresses	
6	The Firewall appliance should have minimum 450GB of internal storage for logging & reporting functionalities	
7	Solution must allow administrator to choose to	

	login in read only or read-write mode		
8	Proposed solution should support 24X7X365 OEM TAC support and advance Next Business Day Hardware replacement.		

Item No. 2. – Layer 3 Switch

Sl, No	Item	Required Parameter	Compliance (Yes/No)	If Yes, Cross-reference page no.
1	General			
	Form Factor	19 Inch Rack mountable Ethernet switch.		
	Physical Dimensions	To be specified by the vendor		
	Architecture	Non-Blocking architecture		
	IPV6 Compliance	All Functionalities of Switch shall be IPV6 compliant and it should work on IPV6 Platform without any additional hardware/ software.		
	Common Criteria certification (ISO/IEC 15408).	The offered product series or its operating system series must have achieved Common Criteria Certification of EAL2+/ NDPP or higher in the Common Criteria certification.		
2	Interface Specifications:			
	Gigabit Copper ports	At least 24 Nos of 10/100/1000 BaseT ports with RJ45 Connector.		
	Gigabit Fiber Uplink Ports	At least 4 Nos of 1G SFP Slots for inserting SFP Transceivers.		
	10GigabitFiber Uplink ports	At least 4 (Four) Nos of 10G fiber ports either in addition or with replacement of 1Gfiber SFP uplink ports.		
	Transceivers	All the Transceivers/Modules used to connect the Switches should be from the same OEM/make of the switches only		
	Port status display	Each port must have a dedicated LED for status display.		
	Stacking Ports	The switch shall have dedicated stacking connectivity to connect other switches of same type with minimum 100 Gbps speed. The stacking connectivity should be in addition to the other ports mentioned in the specifications and the inter switch connectivity should be redundant.		
3	Hardware Specifications:			
	Back Plane Bandwidth	At least 128Gbps or more		
	Packet throughput	95 mpps or more		

	MAC Addresses	32 K or more		
	VLANs (802.1q tagged VLAN)	1024 or more		
4	Standards and Protocols			
	L2 Loop Protection	IEEE 802.1d Spanning tree protocol 802.1s MSTP (Multiple instances of STP) 802.1w RSTP (Rapid spanning tree)		
	Link Aggregation	802.3ad Link Aggregation		
	QOS Support	At least 8 nos of 802.1p Priority Queues per port		
	IP Multicast	IGMP Snooping		
	Port Mirroring/ Span port	Port mirroring must be available.		
	Routing Protocols	The Switch shall have hardware based forwarding for IPv4 & IPv6. Following protocols shall be supported and enabled :- IPV4 : Static routing, RIPv2, OSPF IPV6 : Static routing, RIPv6, OSPF The switch shall have Dual stack mode to run both IPv4 & IPv6 simultaneously.		
	Router redundancy	Shall have VRRP/HSRP and enabled for IPV4 and IPV6.		
5	Security Features			
	Network Login	MAC and 802.1 X based Login must be available		
	Port Security	MAC Address based Lockdown and Limited Learning.		
	Access Control Lists	L2/L3/L4 access lists - IP based, Source/destination ports, MAC based shall be available.		
	AAA (authentication, authorization and accounting)	AAA using RADIUS must be available		
6	Management and Monitoring:			
	In-band Management	Following in-band management methods shall be available: Web based management (On https/http)		

	Out-of-band management	SSH based management (SSH v2). Following out-of-band management methods shall be available: - Console port - Management Ethernet port.
	Role based Administration	The switch shall support multiple administrator accounts.
	Remote Monitoring	RMON Support
	Network Management	The switch should support SNMP V2c and V3.
	Log Management	Syslog shall be supported
	Flow export	Shall support Netflow/IPFIX/sflow for flow exports.
	Time synchronization	Time synchronization using Network time protocol must be available.
	Configuration backup & restore	The switch shall have feature of backing up the configuration & restoring a backed-up configuration. Multiple Configuration files must be supported.
	TFTP/FTP upload and download	Config/image upload and download from TFTP/FTP server shall be available.
7	Other Requirements:	
	Interface cables	Console cable and power cable (As per Indian standards) to be provided. All Cables shall be factory-terminated.
	Power Supply	The switch shall be powered with Internal redundant (1+1) AC power supply. The power supplies shall be field replaceable.
	Fans	The switch shall have fan for cooling
	Licensing	All the licenses required to implement the features specified in this document shall be provided.
	Safety certification	The switch shall conform to IEC-60950/CSA-60950/EN-60950/UL-60950 standard for safety requirements of information technology equipment.
	Environmental conditions	The offered equipment must be able to operate in the following environmental conditions Operating temperature: 0°C to 50°C Relative Humidity: 10% to 85% Non-condensing
8	Warranty and Support	
	The below Warranty shall be offered directly from the switch OEM.	
	Software upgrades/updates shall be included as part of the warranty	
9	OEM qualification Criteria	

OEM should be leaders in Gartner magic quadrant report since last three years (wired and wireless)

Item No. 3. – Layer 2 PoE Switch

Sr. No	Specifications	Compliance Yes / No	If Yes, Cross-reference page no.
1	Architecture Shall be 19" Rack Mountable 24 RJ-45 autosensing 10/100/1000 POE +ports and 4 SFP+ 1/10GbE ports from Day1 The switch should have 1 (RJ-45 or USB micro-B) serial console port 1GB SDRAM and 6 MB Packet buffer size or better Shall have switching capacity of 128 Gbps Shall have up to 95 million pps switching throughput The Switch should support 16,000 or more MAC address The switch should have Routing table size of <2000 entries (IPv4), <1000 entries (IPv6) The switch should support 370W PoE+ PoE power		
2	Features The switch should support HTTP redirect function The Switch should support Static IP Visibility to do accounting for clients with static IP address		
3	Quality of Service (QoS) The switch should support Traffic prioritization (IEEE 802.1p) to allows real-time traffic classification into eight priority levels mapped to eight queues The switch should support Class of Service (CoS) to sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ The switch should support Rate limiting to sets per-port ingress enforced maximums and per-port, per-queue minimums		
4	Connectivity The switch should Provide graceful congestion management The switch should support Auto-MDIX to provide automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports		
5	IPv6 Feature The switch should support IPV6 host to enable switches to be managed in an IPV6 network The switch should support Dual stack (IPV4 and IPV6) to transition from IPV4 to IPV6, supporting connectivity for both protocols The switch should support MLD snooping to forward IPV6 multicast traffic to the appropriate interface The switch should support ACL and QoS for IPV6 network traffic The switch should support static and RIPng protocols for IPV6		

6	<p>Security</p> <p>The switch should support RA guard, DHCPv6 protection, dynamic IPv6 lockdown, and ND snooping</p> <p>The switch should support Energy-efficient Ethernet (EEE) to reduce power consumption in accordance with IEEE 802.3az</p> <p>The switch should have facility to allow for increased performance by selecting the number of queues and associated memory buffering that best meet the requirements of the network applications</p>	
7	<p>Convergence</p> <p>The switch should support IP multicast routing and PIM Sparse and Dense modes to route IP multicast traffic</p> <p>The switch should support IP multicast snooping and data-driven IGMP</p> <p>The switch should support LLDP-MED (Media Endpoint Discovery)</p> <p>The switch should support IEEE 802.1AB Link Layer Discovery Protocol (LLDP)</p> <p>The switch should support Local MAC Authentication</p>	
8	<p>Resiliency and high availability</p> <p>The Switch should create one virtual resilient switch from four switches and attached the network devices using standard LACP for automatic load balancing and high availability to simplify network operation by reduce the need for complex protocols like Spanning Tree Protocol (STP), Equal-Cost Multipath (ECMP), and VRRP</p> <p>The switch should support Virtual Router Redundancy Protocol (VRRP)</p> <p>The switch should support IEEE 802.1s Multiple Spanning Tree</p> <p>The switch should support IEEE 802.3ad link-aggregation-control protocol (LACP) and port trunking</p> <p>The switch should provide easy-to-configure link redundancy of active and standby links</p>	
9	<p>Management</p> <p>The switch should support SNMPv1, v2, and v3</p> <p>The switch should support cloud based/On-prem management platform offers simple, secure, and cost effective way to manage switches</p>	
10	<p>Manageability</p> <p>The switch should support Dual flash images</p> <p>The switch should allow assignment of descriptive names to ports</p> <p>Find-Fix-Inform</p> <p>The switch should allow multiple configuration files to be stored to a flash image</p> <p>The switch should support ingress and egress port monitoring enable network problem solving</p> <p>The switch should support Unidirectional link detection (UDLD)</p> <p>The switch should support IP service level agreements (SLA) for voice</p>	

11	<p>Layer 2 switching</p> <p>The switch should support IEEE 802.1Q (4094 VLAN IDs) and 1K/<1K VLANs simultaneously</p> <p>The switch should support IEEE 802.1v or equivalent protocol</p> <p>The switch should support Jumbo packet support</p> <p>The switch should support Rapid Per-VLAN Spanning Tree (RPVST+)</p> <p>The switch should support GVRP and MVRP or equivalent protocol</p> <p>The switch should support encapsulation (tunnelling) protocol for overlay network that enables a more scalable virtual network deployment</p>	
12	<p>Layer 3 services</p> <p>The switch should support DHCP server</p>	
13	<p>Layer 3 routing</p> <p>The switch should support static IP routing</p> <p>The switch should support RIPv1, RIPv2, and RIPv6 routing</p> <p>The switch should support OSPFv2 and OSPFv3 protocols for routing between access and the next layer on the LAN.</p> <p>The switch should support Policy-based routing</p>	
14	<p>Security</p> <p>The switch should support IEEE 802.1X</p> <p>The switch should support Web-based authentication</p> <p>The switch should support MAC-based authentication</p> <p>The switch should support Multiple IEEE 802.1X users per port</p> <p>The switch should support Access control lists (ACLs)</p> <p>The switch should provide IP Layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number</p> <p>The switch should support Source-port filtering</p> <p>The switch should support RADIUS/TACACS+</p> <p>The switch should support Secure shell</p> <p>The switch should support Secure Sockets Layer (SSL)</p> <p>The switch should support Port security</p> <p>The switch should support Switch management logon security</p> <p>The switch should support STP BPDU port protection</p> <p>The switch should support DHCP protection</p> <p>The switch should support Dynamic ARP protection</p> <p>The switch should support STP root guard</p> <p>The switch should support Identity-driven ACL</p> <p>The switch should support Per-port broadcast throttling</p> <p>The switch should support Private VLAN</p>	
15	<p>Environmental Features</p> <p>Shall support IEEE 802.3az Energy-efficient Ethernet (EEE) to reduce power consumption</p> <p>Operating temperature of 0°C to 45°C</p> <p>Safety and Emission standards including EN 60950; IEC 60950; VCCI Class A; FCC Class A</p>	

16	Warranty and Support	
	The below Warranty shall be offered directly from the switch OEM. Software upgrades/updates shall be included as part of the warranty	
17	OEM qualification Criteria	
	OEM should be leaders in Gartner magic quadrant report since last three years (wired and wireless)	



Item No. 4. – Access Point with inbuilt controller

Sl no	Required Specification	Complied Yes/ No	If Yes, Cross-reference page no.
1	Wireless Access Points 802.11a/b/g/n/ac Wave 2 standard		
2	Access Point should support 3x3 MIMO (1,300Mbps max rate) with 5Ghz and 2x2 MIMO (300Mbps max rate) radios with 2.4 Ghz. The access point should have min of three integrated Omni-directional down tilt dual-band antennas		
3	Access Point should be 802.11ac Wave 2 ready		
4	AP should have 1x10/100/1000 Gb LAN port.		
5	802.11 a/b/g/n/ac functionality certified by the Wi-Fi alliance.		
6	Access Point can have integrated Antenna.		
7	AP should support standalone mode/ Inbuilt Virtual controller mode for specific requirements. The access points (APs) in Controller Mode should offer enterprise-class performance and features with simplicity and affordability. The same APs feature set available when using cluster-based controllers and Gateways features to provide IT with the same role-based access controls and AI-powered RF optimization features, without the added hardware controller and with no extra licensing cost.		
8	The Max transit power of the AP + Antenna should be as per WPC norms for indoor Access Points. APs will configured as per WPC guidelines for indoor AP.		
9	Access point should have Internal/External Bluetooth Low energy beacon to support advance location-based services for Mobile engagement solutions and Applications.		
10	Should support 16x BSSID per AP radio.		
11	Access point should support 802.11ac beam forming for 802.11ac.		
12	The access point should be capable of performing security scanning and serving clients on the same radio. It should be also capable of performing spectrum analysis and security scanning using same radio.		
13	Should support BPSK, QPSK, 16-QAM, 64-QAM and 256 QAM (256 QAM for 802.11ac only) modulation types		
14	Access point should support 802.3af/at POE standard.		
15	Access point should have console port.		
16	Must support Proactive Key Caching and/or other methods for Fast Secure Roaming.		
17	Must operate as a sensor for wireless IPS		
18	AP model proposed must be able to be both a client-serving AP and a monitor-only AP for Intrusion Prevention services		
19	The Access Point should have the technology to improve downlink performance to all mobile devices.		
	Access point must incorporate radio resource management for power, channel, coverage hole detection and performance optimization		
	PoE Injector, Wall Mount Bracket, PC-AC-IN India AC Power Cord (for PoE Injector) etc		
	should be provided along with the APs and all these accessories		

	make must be same as that of the Access Point.		
20.	AP should have Kensington lock slot.		
21	AP should support standalone mode/ Inbuilt Virtual controller mode for specific requirements.		
22	AP should support 0° C to +50° C Degree operating temperature. The OEM should be in wired and wireless networking for last 10 years		
23	Support Limited Lifetime Warranty does cover min 5 years hardware replacement.		

Item No. 5. – 10G Single Mode Transceiver

Sr. No	Specifications	Compliance (Yes/No)	If Yes, Cross-reference page no.
1	SFP Transceiver Module should be from same OEM as quoted Switch.		
2	10GBASE-LR port (IEEE 802.3ae Type 10GBASE-LR), Full Duplex		
3	Operating temperature: 0°C to 70°C		
4	Operating relative humidity: 0% to 85%, noncondensing		
5	Non-operating/Storage temperature: -40°C to 100°C		
6	Cabling Type: Single Mode		
7	Wavelength: 1310nm		
8	Maximum distance: 10 KM		



Item No. 6. – 12 Core Rack Mountable LIU

Make:- (AMP/Tyco/Molex/Siemon/Panduit/Belden/CommScope)

Sr no	Specifications	Requirement	Compliance (Yes/No)	If Yes, Cross- refere nce page no.
1	Fiber Management Shelf	<p>Configurable Fibre drawer is a 1U rack mount unit for storing and terminating incoming fibre cable. Using our vast range of 6 Pak Plates you can configure your fibre system to suit all fibre applications.</p> <p>Configurable. Fits up to four 6 Pak Plates/ Angled 6 Pak plates</p> <p>Management rings within system to accommodate excess fibre cordage behind the trough adapters and maintain fibre bend radius</p> <p>Sliding drawer for ease of reconfiguring fibres</p> <p>Rugged steel construction finished in attractive</p> <p>Accommodates 1 x 12 fibre Splice Trays</p>		
2	Weight	5KG		
3	Compact size (mm)	45mm H x 485mm W x 255mm D		
4	Optical Fibre Adapter Plates Lorded	SC Duplex Fibre SM Plate		
5	No of Adapter Plate Req	As per Requirement		
6	Pigtail	12 x SC, Single mode, 9/125 µm		
7	No of Pigtail Req	As per Requirement		



Item No. 7. – OFC Patch Cord

Make:- (AMP/Tyco/Molex/Siemon/Panduit/Belden/CommScope)

Sr no	Specifications	Requirement	Compliance (Yes/No)	If Yes, Cross-reference page no.
1	Make and Type	SC to LC Duplex tuned Fiber Optic Patch Cord 3 Mtr, 9/125 Micron		
2	Cable Sheath	LSZH		
3	Cable Diameter	1.8 mm twin zip		
4	Ferrule	Ceramic		
5	Buffer	Tight buffered		
6	Insertion Loss	MAX .3 db		
7	Return Loss	> 45 db		
8	ROHS	ROHS Compliant		

Item No. 8. –CAT 6A UTP Cables (LSZH).

Make:- (AMP/Tyco/Molex/Siemon/Panduit/Belden/CommScope)

Sr no	Feature	Requirement	Compliance (Yes/No)	If Yes, Cross-reference page no.
1	Type	Cat 6A U/FTP Cable is specifically designed to support high speed data network applications such as 10-Gigabit Ethernet (10GBASE-T). The cable is constructed of 4 screened pairs and a drain wire. This cable minimises alien crosstalk, provides excellent signal isolation and provides superior electromagnetic interference (EMI) protection.		
2	Technical Characteristics	<p>Primary Insulation: Polyolefin Screen material: Laminated Aluminium Sheath Type: PVC or LSOH (Flame Test IEC 60332-1) Nominal OD: 7.2 NVP: 75-77% Screen: Each pair enclosed in laminated aluminium foil</p>		

		Drain Wire: tin-coated copper		
3	Electrical Characteristics	<p>Capacitance: 40 pF/m nom. @1 KHz. DC Resistance: 72 /Km max. Propagation Delay: 514 + 36f^{1/2} nS/100m max @1-500 MHz Propagation Delay Skew: 45 nS/100 max @ 1-500 MHz Mean Impedance: 100 ± 6 @ 1-500 MHz Resistance Unbalance: 2% max. Coupling Attenuation: 45dB min @30-100 MHz 40-20 Log (f/100) @ 100-500 MHz</p>		
4	Applications	<p>Category 6A U/FTP Cable is intended for high speed data applications up to 500MHz including: IEEE 802.3 10GBASE-T 10Gb/s IEEE 802.3 1000GBASE-T 1Gb/s TIA/EIA-854 1000BASE-TX 1Gb/s ATM 155Mb/s 155Mb/s</p>		
5	Commercial Standards:	<p>ANSI/TIA/EIA-568-C.2 ISO/IEC 11801 A1.1 ETL independent testing</p>		
6	ETL Certification	Compliant		
7	ETL Certificate	ETL Verified test report should be submitted along with bid.		



Item No. 9. – 6 Core SM OFC Cables

Make:- (AMP/Tyco/Molex/Siemon/Panduit/Belden/CommScope)

Sr. no	Specifications	Requirement	Compliance (Yes/No)	If Yes, Cross-reference page no.
1	Cable Type	6 fiber Single Mode, Armoured, Unitube, Gel filled cable complying to ISO.IEC 11801 - 2nd Edition, type OS2; AS/ACIF S008; AS/NZS 3080,ITU-T REC G 652D, IEC 60793/60794, TIA 568, EIA 455; suitable for use in direct burial, outdoor ducts and backbone cabling.		
2	Armour	Corrugated Steel Tape Armour - Thickness > 0.125mm		
3	Water Blocking	Thixotropic Gel (Tube), Petroleum Jelly (Interstices)		
4	Attenuation	<u>@ 1310nm <=0.35 db/Km MAX</u> <u>@1550nm <=0.22 db/Km MAX</u>		
5	Numerical Aperture	0.14		
6	Attenuation Discontinuity	Both Windows <0.10dB		
7	Core/Mode-Field (um)	9		
8	Clad Diameter (um)	125 +- 1		
9	Coat Diameter	245 +- 10		
10	Loose tube material	Single PBTP Loose tube filled with water blocking Thixotropic gel		
11	Jacket material	UV Stabilised Polyethylene (HDPE)		
12	Peripheral Strength Member	Two Steel wires		
13	Tensile Strength	1000N		
14	Crush Resistance	2000N/10 cm		
15	Cable Diameter	9mm		
16	Max. Bending Radius (during installation)	20 X Overall diameter		
17	Max. Bending Radius (during full load)	10 X Overall diameter		
18	Cable weight Kg/Km	80 kg/km		



Item No. 10. – UTP CAT 6A I/O with Single Faceplate & SMB
 Make:- (AMP/Tyco/Molex/Simon/Panduit/Belden/CommScope)

Sr no	Feature	Requirement	Compliance (Yes/No)	If Yes, Cross-reference page no.
1	Type	Cat 6A Jack offers superior alien crosstalk suppression, excellent insertion loss, and provides enhanced electromagnetic interference (EMI) protection by utilizing robust die cast zinc alloy jack body housing. RJ45 Connector Housing: Zinc Alloy plated Bright Ni/Cu Operating Life: Minimum 750 insertion cycles Contact Material: Copper Alloy Contact Plating: 1.25 micrometres Au/Ni Contact Force: 100g minimum		
2	Mechanical Characteristics	Plug Retention Force: 6.8kg minimum Housing: Thermoplastic, UL94V-0 Operating Life: Minimum 20 determinations Contact Material: Copper Alloy IDC Contact Plating: Matte Tin Contact Force: 100g minimum Wire Accommodation: 22-24 AWG solid Interface Resistance: 20mΩ		
3	Electrical/Optical Characteristics	Initial Contact Resistance: 2.5mΩ Insulation Resistance: >100MΩ		
4	Modular Jack Housing	Zinc Alloy		
5	IDC Connecting blocks	Polycarbonate, 94V-0 rated		

6.	Commercial Standards	TIA-568-C.2 Augmented Category 6 ISO 11801 Amd 1 Class EA IEC 60603-7 FCC Subpart F 68.5 Approvals: ETL independent testing UL-1863
7	ROHS/ELV	Compliant
8	ETL Certification	Compliant



Item No.11. – UTP CAT 6A Jack Panel.

Make:- (AMP/Tyco/Molex/Siemon/Panduit/Belden/CommScope)

Sr no	Feature	Requirement	Compliance (Yes/No)	If Yes, Cross - reference page no.
1	Type	<p>19" 24-port (1U) Cat 6A Shielded Patch Panels are made from robust sheet metal. These panels are also supplied with robust removable rear cable management trays for cable strain relief and neat cable dressing. Port numbering is provided on the front and rear of the panel and individual ports may be colour coded using connector icon labels for site specific network administration.</p> <p>Or</p> <p>24-port, Modular, 1U, PCB based, Unshielded Twisted Pair, Category 6, IIA / FIA 568-C.2 and ISO/IEC 11801,</p>		
2	Mechanical Characteristics	<p>IDC Connector</p> <p>Plastic Housing: Polycarbonate,</p> <p>Operating Life: Minimum 20 determinations</p> <p>Contact Material: Copper Alloy</p> <p>IDC Contact Plating: Tin Matte finish</p> <p>Contact Force: 100g minimum</p> <p>Wire Accommodation: 22-24 AWG solid</p> <p>Patch Panel Characteristics</p> <p>Material: CRS (cold rolled steel)</p> <p>Thickness: 1.52mm (.060")</p> <p>Coating: Black Powder coat Jack Connector</p> <p>Housing: Zinc Alloy plated Bright Ni/Cu</p> <p>Operating Life: Minimum 750 insertion cycles</p> <p>Contact Material: Copper Alloy</p> <p>Contact Plating: 1.25 micrometres Au/Ni</p> <p>Contact Force: 100g minimum</p> <p>Plug Retention Force: 6.8kg minimum</p>		
3	Electrical/Optical Characteristics	<p>Interface Resistance: 20mΩ</p> <p>Initial Contact Resistance: 2.5mΩ</p> <p>Insulation Resistance: >100 MΩ</p>		
4	Category	Should accept 10G Approved Shielded Jacks CAT6A jacks		
5	Front Connector interface	RJ45		
6	Circuit Identification Scheme	Icons on each of 24-ports		

7	Port Identification	9mm or 12mm Labels on each of 24-ports (to be included in supply)
8	Height 1 U	1.75 inches
9	Interface	Polyester Moulding Compound, Black
10	ROHS/ELV	Compliant

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Item No. 12. – UTP CAT 6A Patch Cord 1M Length

Make:-(AMP/Tyco/Molex/Siemon/Panduit/Belden/CommScope)

Sr no	Feature	Requirement	Compliance (Yes/No)	If Yes, Cross - reference page no.
1	Type	Cat 6A Patch Cords, specifically designed to support high speed data networks for 10-Gigabit Ethernet (10GBASE-T) applications.		
2	Conductor	26 AWG stranded bare copper		
3	Length	1 Meter		
4	Screen material	Aluminium/polyester shield with tinned copper drain wire		
5	Warranty	25-year component warranty		
6	Construction	Pairs in Metal Foil , 4 pair stranded S/FTP cable & Outer Sheath should be LSZH		
7	Plug Housing	Clear polycarbonate/Equivalent		
8	Commercial Standards	TIA/EIA-568-C.2 , ISO/IEC 11801 A1.1, FCC Subpart F 68.5, IEC-603-7, UL Listed, UL-1863, CSA C2.2		
9	Electrical Characteristics	Electrical Characteristics Max Voltage: 150 VAC (max) Max Current: 1.5A @ 25°C		
10	Mechanical Characteristics	Operating Life: Minimum 750 insertion cycles Contact Material: Copper Alloy Contact Plating: 1.25 micrometres Au/Ni		
11	ROHS/ELV	Compliant		
12	ETL Certification	Compliant		



Item No. 13. – UTP CAT 6A Patch Cord 2M Length

Make:- (AMP/Tyco/Molex/Siemon/Panduit/Belden/CommScope)

Sr no	Feature	Requirement	Compliance (Yes/No)	If Yes, Cross - reference page no.
1	Type	Cat 6A Patch Cords, specifically designed to support high speed data networks for 10-Gigabit Ethernet (10GBASE-T) applications.		
2	Conductor	26 AWG stranded bare copper		
3	Length	2 Meter		
4	Screen material	Aluminium/polyester shield with tinned copper drain wire		
5	Warranty	25-year component warranty		
6	Construction	Pairs in Metal Foil , 4 pair stranded S/FTP cable & Outer Sheath should be LSZH		
7	Plug Housing	Clear polycarbonate/Equivalent		
8	Commercial Standards	TIA/EIA-568-C.2 , ISO/IEC 11801 A1.1, FCC Subpart F 68.5, IEC-603-7, UL Listed, UL-1863, CSA C2.2		
9	Electrical Characteristics	Electrical Characteristics Max Voltage: 150 VAC (max) Max Current: 1.5A @ 25°C		
10	Mechanical Characteristics	Operating Life: Minimum 750 insertion cycles Contact Material: Copper Alloy Contact Plating: 1.25 micrometres Au/Ni		
11	ROHS/ELV	Compliant		
12	ETL Certification	Compliant		

Item No. 14. – 6U Wall Mount Rack

Make:- (Valrack/Rittal/APW)

S.No.	Descriptions	Compliance (Yes/No)
1	Enclosure should be 19", 6U/500MMD with front glass doorlock & CKD Flat Pack Format	
2	Should have loaded with FANS 90 CFM 230 VAC	
3	Should have loaded with PDU HORIZONTAL 5AMP WITH 6 SOCKET	
4	Should have loaded with HARDWARE FRONT PANEL MTG	
5	Should have loaded with SHELF CANTILEVER 1U/255	
6	Should have loaded with CABLE MANAGER 1U/19"	

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Item No. 15. – 42U Floor Mount Rack

Make:- (Valrack/Rittal/APW)

S.No.	Descriptions	Compliance (Yes/No)
1	Enclosure should be 800x 100 floor mount	
2	Should have Front Perforated Door and Rear Split Perforated Door with Castors	
3	Should have loaded with PDUS-1Ph 230V,32A,Vertical PDU with 12 X 5/15A, 7.36KVA Rating& 3-Meter Power Cord with Indian Plug	
4	Should have loaded with Shelf 725/600w	
5	Should have loaded with Hardware pkt of 20 No& 4 nos of FAN 230VAC 90 CFM	
6	Should have loaded with CABLE MANAGER 1U/19"	

Item No. 16. – 40MM HDPE

Make- Standard ISI marked

S.No.	Descriptions	Compliance (Yes/No)
1	40MM HDPE Pipe Standard ISI make	

Item No. 17. – PVC Conducts

Make- Standard ISI marked

S.No.	Descriptions	Compliance (Yes/No)
1	25mm PVC Pipe ISI Marked Medium	



Item No. 18. – Online UPS, 3KVA
Make:- (Numeric/APC/Vertiv)

Parameters	3KVA On-Line UPS (1PH-1PH)	Compliance (Yes/No)	If Yes, Cross- refere nce page no.
Eligible Brand	Numeric/APC/Vertiv /Hi-rel		
Topology	True Online Double Conversion UPS with inbuilt Isolation Transformer.		
INPUT			
Phase	Single Phase		
Voltage	230V AC		
Voltage Range	160V - 300V AC 110V - 300V AC @ 50% Load		
Power Factor	0.99		
Current THD	<10%		
DC Volt	72 VDC		
Battery Backup	60 Min		
Battery VAH	5400 (12V,75AH x 6 Nos. battery)with battery stand		
Battery Charging	Constant Current & Constant Voltage		
OUTPUT			
Nominal Output voltage	220VAC / 230VAC / 240VAC /± 1%		
Frequency	50Hz ± 0.1Hz		
Frequency synchronisation	47.5 to 52.5 Hz		
Voltage THD	<2% Linear Load <5% Non Linear Load		
Efficiency			
AC/AC (Overall efficiency)	Up to 92%		
ECO mode			
Overload capacity			
105 - 110%	3 min		
111 - 130%	30 sec		
Communication			
RS 232.	Required RS 232		
Operating Temperature	0 ~ 40°C Continuous		
Electrical			
Input Terminal	Input Breaker +Terminal		
Output Terminal	Terminal		
Features			
Convert Mode	UPS Should have Convert Mode		
Bypass parameters	Should be available		

Configurable			
Display	LED + LCD Display		
Mechanical			
Ingress Protection	IP 20		
Standards			
Safety	EN 62040 - 1		
EMI / EMC	EN 62040 - 2		
Performance	IEC 62040 - 3		
Certification	UPS Should have Certified with ISO and BS OHSAS 18001 -2007		



Item No. 19. – Online UPS, 10KVA
Make:- (Numeric/APC/Vertiv)

Parameters	10 KVA On-Line UPS (1PH-1PH)	Compliance (Y/N)	If Yes, Cross-reference page no.
Eligible Brand	Numeric/APC/Vertiv / Hi-rel		
Topology	True Online Double Conversion UPS with inbuilt Isolation Transformer.		
INPUT			
Phase	Single Phase		
Voltage	230V AC		
Voltage Range	160V - 300V AC		
	110V - 300V AC @ 50% Load		
Power Factor	0.99		
Current THD	<10%		
DC Volt	192 VDC		
Battery Backup	120 Min		
Battery VAH	19200 VAH (12V, 100AH x 16 Nos. battery)with battery stand		
Battery Charging	Constant Current & Constant Voltage		
OUTPUT			
Nominal Output voltage	220VAC / 230VAC / 240VAC /± 1%		
Frequency	50Hz ± 0.1Hz		
Frequency synchronisation	47.5 to 52.5 Hz		
Voltage THD	<2% Linear Load		
	<5% Non Linear Load		
Efficiency			
AC/AC (Overall efficiency)	Up to 92%		
ECO mode			
Overload capacity			
105 - 110%	3 min		
111 - 130%	30 sec		
Communication			
RS 232	Required RS 232		
Operating Temperature	0 ~ 40°C Continuous		
Electrical			
Input Terminal	Input Breaker +Terminal		
Output Terminal	Terminal		
Features			
Convert Mode	UPS Should have Convert Mode		
Bypass parameters Configurable	Should be available		

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Display	LED + LCD Display		
Mechanical			
Ingress Protection	IP 20		
Standards			
Safety	EN 62040 - 1		
EMI / EMC	EN 62040 - 2		
Performance	IEC 62040 - 3		
Certification	UPS Should have Certified with ISO and BS OHSAS 18001 -2007		

Item No.20. – CAT 6A RJ45 Connector

Sl.No.	Descriptions	Compliance (Yes/No)
1	CAT 6A UTP RJ45 Connector, Standard Make	

Item No. 21. – Power Cable

Sl.No.	Descriptions	Compliance (Yes/No)
1	2.5mm x 3 Core Power Cables armoured, ISI Mark	

22. – Installation & Commissioning

Sl.No.	Descriptions	Compliance (Yes/No)
1	<p>Installation & Commissioning of above items including</p> <ol style="list-style-type: none"> Laying of UTP Cables Indoor/outdoor through PVC Pipes. Laying of OFC cables Indoor/Outdoor Underground through HDPE/PVC Pipes. Trenching of soils (Hard soil and soft soil) to be done. Notion marking of laid cable to be specified on route by cable markers. Installation of Floor Mount & Wall Mount Enclosures. Installation & Termination of Jack Panels & I/O Points. Installation & Terminations of LIU including Splicing and link testing. Installations & Configuration of all the active devices as per sites requirement & recommendations. Final Integration, Testing and Commissioning with proper Documentation. Project Handover 	

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Financial bid for Extension of LAN

Name of the Firm: _____

Correspondence address: _____

S.N.	Items Description	Qty.	Make	Model/Part No.	Basic Unit Price*	GST	Unit Price	Amount
1	Firewall, for 500 Users with 3 years subscription	1						
2	Layer 3 Switch, 24-port 10/100/1000 Base T PoE+ with 4*10G SFP+ Slot managed switch	8						
3	24-port 10/100/1000 Base T PoE+ with 4*10G SFP+ Slot managed switch	10						
4	3 x 3 Dual Band Wireless-AC Managed Access Points	25						
5	SFP MODULE, 10G SFP+ Module for single mode Fiber	4						
6	12 Port LIU Loaded with SC Pigtaills, Coupler & Panels	10						
7	3M SC-LC OFC Patch cord, SM Fiber	10						
8	UTP CAT-6A cable (305m box)	20						
9	6C SM Optical Fiber Cable with laying Mtr.	500						
10	UTP Cat 6A I/O with single faceplate & SMB	150						
11	CAT-6A 24 port Jack Panel Fully loaded	12						
12	CAT-6A Patch cord 1mtr.	300						



S.N.	Items Description	Qty.	Make	Model/Part No.	Basic Unit Price *	GST	Unit Price	Amount
13	CAT-6A Patch cord 2mtr.	200						
14	6U Wall mount rack,withPDU,FAN,Cable manager &H/W	10						
15	42U Floor mount rack,withPDU,FAN,Cable manager &H/W	1						
16	HDPE 40/33 mm duct (in m)	500m						
17	PVC pipe/ beat (pcs) with required accessories	4000 pc						
18	Online UPS System 3 KVA ,with battery for 1hrs backup & Installation	1						
19	Online UPS System 10 KVA ,with battery for 2 hrs backup & Installation	1						
20	CAT 6A RJ 45 Connector	500						
21	Power supply 3 core 2.5 mm armoured (per m) for provision of switches and sockets as per requirement.	500m						
22	Installation charges including splicing, crimping, power switch installation etc.	LS						
Amount in words: Rupees								
Total Amount :								

Note: All the price should quoted on F.O.R. C.O.F. , Dholi under RPCAU,Pusa basis.



Authorised signatory with seal