TENDER DOCUMENT FOR PURCHASE & INSTALLATION OF IT LAB EQUIPMENTS (UOH/ADV/37(A)

To be opened **Technical & Financial Bids** on **April 18, 2018** at **11:30 A.M** in the Office of **Convener, Tender Opening/Evaluation Committee, University of Haripur**, Hattar Road Haripur.

Name of the Company / Dealer: (Block Letter)

_____

Address of the Company / Dealer: (Block Letter)

_____

_____

Signature and Seal

Telephone No: _____

Fax No:_____

E.mail:_____

Tender Fee of Rs.2000/-(Non Refundable) vide Demand Draft / Pay order No:_____date_____

Earnest Money of Rs._____(Refundable) vide Demand Draft / Pay order No:_____date_____

Date of Submission: _____

SUPPLY & INSTALLATION OF IT LAB EQUIPMENTS

Tender No	**No.UOH/Adv/37(A)**
Bidding Procedure	Open Competitive Bidding as per KPPPRA's & PPRA's rules
Tender Document Cost	Rs.2,000/- in form of DD/Pay Order in Favour of Deputy Treasurer University of Haripur. In case of Tender Document is downloaded from University of Haripur website **(www.uoh.edu.pk)** it should be submitted along with Pay Order/Demand Draft of Rs. 2,000/-. (To be attached with Technical Proposal) No bid will be accepted without Tender Document fee.
Earnest Money	@2% amount of total bid price (be attached with Tender form) in form of DD/Pay Order in Deputy Treasurer University of Haripur.
Submission	(Technical & Financial Bids) Upto **April 18, 2018** at 11:00 am in Procurement Office Through Currier
Opening	(Technical & Financial Bids) Upto **April 18, 2018** at 11:30 am in the Office of Convener Procurement Committee.

Note: Tender Notice is also available on University of Haripur website www.uoh.edu.pk

THE UNIVERSITY OF HARIPUR
KHYBER PAKHTUNKHWA

(PROCUREMENT OFFICE)

Advertisement No. UOH/Adv/37-2018

TENDER NOTICE

Sealed Bids / Quotations are invited from Reputed Firms/Companies (Local/Non-Local), registered with FBR, having active taxpayer status for purchase & Installation of following items to The University of Haripur

S.No.	Description	Reference No.
1	IT Lab Equipments	UOH/Adv/37-2018(A)
2	IT Equipments and Other Items	UOH/Adv/37-2018(B)
3	Sciences Lab Equipments	UOH/Adv/37-2018(C)
4	Sciences Lab Equipments	UOH/Adv/37-2018(D)
5	Photocopier Machine (Fixed Budget) Desktop Computers (Fixed Budget)	UOH/Adv/37-2018(E)
6	Science Lab Equipments (Fixed Budget)	UOH/Adv/37-2018(F)
7	Science Lab Equipments (Fixed Budget)	UOH/Adv/37-2018(G)

TERMS & CONDITIONS:

- The detailed specifications along with terms & conditions for each Reference No. have been set forth in Tender Document, which is available in the **Procurement Office** The University of Haripur, on Payment of **Rs.2,000/- (Non-Refundable)** in form of Bank Draft/Pay order in favor of **Treasurer** The University of Haripur.
- In case of Tender Document is downloaded from The University of Haripur website **(www.uoh.edu.pk)** for each item separately. Each item (Reference No.) should be submitted separately along with Pay Order/Demand Draft of **Rs. 2,000/-**. No bid will be accepted without Tender Document fee for each item.
- Bidders are required to submit complete **"Technical & Financial"** Bids separately of each reference/item.
- Earnest money @ 2% **(Refundable)** amount of total bid price (will be attached with Financial bid) in form of Bank Draft/Pay Order in favor of **Treasurer The University of Haripur.**
- The Tender should reach this office by **April 18, 2018** before **11:00 a.m**. Technical & Financial Bids will be opened on the same day at **11:30 a.m**, in the office of convener Procurement Committee.
- Quotation/Bid must be submitted through Courier/Postal Service. No Quotation/Bid will be received by hand and receipt after due date & time.
- The University reserves the right to accept or reject any or all bids as per KP PPRA's & PPRA's rules.
- Errors and omissions, if any, shall be subject to rectification by the University.

In-Charge Procurement, University of Haripur
Hattar Road Haripur, Ph. No. 0995-615694

Eligibility Criteria

Following particulars/documents make merit for assessment of eligible bidders. Separate sealed proposals should provide Technical & Financial Bids.

S.No	Description	Remarks
1	Certificate of Company / Firm Registration/ Incorporation under the laws of Pakistan	Mandatory
2	Valid Income Tax Registration (NTN).	Mandatory
3	Valid General Sales Tax Registration (Status = Active with FBR as on the date of submission)	Mandatory
4	Submission of undertaking on legal valid and attested stamp paper mentioning a. The firm is not blacklisted by any of Provincial or Federal Government Department, Agency, Organization or autonomous body or Private Sector Organization anywhere in Pakistan. b. The firm/company has not provided the equipment less than the quoted price in any other Govt/Public Sector Organization c. In full compliance of the execution schedule and delivery period mentioned in tender documents.	Mandatory
6	Time Line for delivery period (maximum 05 weeks after issuance of Purchase Order) Minimum will be preferred e	Mandatory
7	Cost of quoted items in Pak Rupee inclusive of all applicable taxes/duties/delivery charges etc.	Mandatory
10	Submission of bid security 2% in shape of DD/Pay Oder in the name of Deputy Treasurer	Mandatory
11	Any other relevant information	Mandatory

Documents regarding "Eligibility Criteria" should be enclosed with Technical Bids. The proposals from firms/companies being qualified for the above specified Eligibility Criteria will only be considered for further evaluation process.

EVALUATION CRITERIA (Total Marks = 60)					
SECTION-A (Total Marks = 33)					
Parameter	**Sub-Parameter**	**Supporting Documents**	**Marks**		**Remarks**
			Total	**Obtained**	
Compliance to Specifications	90-100% compliance with End User's specifications	Certificate from the Original Manufacturer mentioning about the Specifications & Valid Authorization Certificate	21-30		
	80-89% compliance with End User's specifications subject to Main Function is NOT Affected		11 to 20		
	Below 80% compliance		1 to 10		
Special Feature (s)	Special Feature (s) NOT mentioned by the End User's, provided by the firm which enhances the feature and function (s) of the product (s)	Documentary evidence of the special feature (s)	0 to 3		
		Sub Total (A)	**33**		
SECTION-B (Total Mars = 15)					
Product Quality/Service Quality International Quality/Local Quality	Global performance Certificates from ISO or any other international certification agency (Valid & relevant Registration Certificate)	Worldwide Satisfactory Performance Certificates OR Globally Recognized Certification Bodies (Other than Pakistan).	0-10		Performance Certificates mentioning **"Satisfactory"** will get **ZERO marks**
	Performance of the respective supplied equipment in Public Sector Institution and/or Autonomous Institution within Pakistan	Performance Certificate from the user mentioning **"Excellent/very good Performance"** of the respective equipment. The Certificate should NOT be older than 05 years.	0-5		
		Sub Total (B)	**15**		
SECTION-C					
FIRM/COMPANY EVALUATION (Total Marks = 12)					
Operating capabilities	Testing, Commissioning & Caliberation of equipment		0-5		
	Warranty Period/After sale services		0-5		
	Post warranty maintenances services including provision of spare parts		0-2		Warranty period of 1 years is Mandatory
		Sub Total (C)	**12**		
		Sub Total (A+B+C)	**60**		

Scoring Method

- Technical Bids: 60 Points
- Weightage Technical: 60 Points
- Financial Bids: 40 Points
- Total Points (100) = Technical (60) + Financial (40)
- Highest Points (Technical + Financial) consider as lowest bid

Note:

- **Bidders should read these conditions carefully and comply strictly while sending their tenders.**
- **If the Tenderer find any discrepancy, error, or omission in the tender Document he may notify it to the University of Haripur in writing two days before the closing date for Tenders.**
- **The Tender Committee reserves the right to accept or reject any or all quotations/Tenders without giving any reason. The decision of the Tender Committee shall be final and unchallengeable in any court of law.**

1. General

- All Quotations should reach the undersigned within due date as specified in the advertisement through registered post.
- The submission of quotations by hand is not acceptable. Bidders are bound to submit complete form issued by The University of Haripur with stamp and signature on each page and quotes rates of items in column mentioned (it may be for one item or all items) along with bid.
- Tenders must be enclosed in a properly sealed envelope. Any cutting/ correction in bid will make quotation invalid.
- In case of quoting alternate prices, separate tender shall be purchased.
- The bidder shall mention validity of offer, terms of payment, guarantee/warranty period and schedule of delivery.
- Supply order/ contract will be issued subject to the availability of funds.
- Only Manufacturers / distributors / bona fide dealers of the goods shall give tenders. They shall, therefore, furnish necessary declaration for the same.
- Bidder, interested in bidding for one or more items separately, is allowed to do so. However, The University of Haripur reserves the right to award tender for accepting the bid for each item or bid of the whole items and can also change the quantity or specification of the purchases.
- The contractor shall notify forth in written form to The University of Haripur with any change in the constitution of the firm, etc. and such change shall not relieve any former member of the firm, etc., from any liability under the contract.
- The contractor, in respect of the contract, shall accept no new partner/ partners in the firm unless he / they agree to abide by all its terms, conditions and deposits with the University of Haripur a written agreement to this affect. The contractor's receipt for acknowledgement or

that of any partners subsequently accepted as above shall bind all of them.

- Tenders forms shall be filled in ink or typed. No tender filled in pencil shall be considered.
- The tenderer shall sign and stamp the tender form at each page. (Both side of page)
- Rates shall be written both in words and figures. There should not be errors and / or over-writings. Corrections if any should be made clearly and initiated with dates.
- The contractor shall not assign or sub-let his contract or any substantial part thereof to any other agency.
- The University of Haripur reserves the right to accept any tender not necessarily the lowest, reject any tender without assigning any reasons and accept tender for all or anyone or more of the articles for which tenderer has been given or distribute items of stores to more than one firm/ supplier.
- The tender shall remove the rejected articles within 15 days of intimation of rejection, after which University of Haripur shall not be responsible for any loss, shortage or damage and shall have the right to dispose of such articles as it thinks fit, at the tenderers risk and on his account.
- The evaluation will be based on the comparison specification/ model/ makes and expiry. The University of Haripur reserves the right to choose the specification/ models/ makes at its discretion.

2. BID price

- The Bidder shall indicate in his offer, list of items with specifications, standard accessories, make and origin, the unit price and total Bid prices of the goods (Pak Rupees).
- Prices of the optional accessories should be quoted separately. Rates quoted should be F.O.R and C & F, (Pak Rupees) University of Haripur, Haripur.
- Taxes levied by the government, if any, shall be paid by the bidder and must be included in the quoted prices.
- The University of Haripur is exempted from the whole of customs duties under to the Ministry of finance, economic affairs statistics and revenue rules.
- In case of supply from local market or from ready stock, security @ 10% of the total bill will be deducted for a period of six months and will be released subject to receiving satisfactory report from the concerned office. While in the case of C & F prices, the call deposit will be considered as security and retained as stated above.
- In case of items supplied from local stock, sales Tax and Income Tax will be deducted from the supplier's bill as per government rules. GST will be refunded subject to the provision of Sale Tax invoice.

3. **Currencies of BID**
   - The prices shall be quoted in Pakistani rupees in case of F.O.R and foreign currencies in case of C&F,
   - Letter of Credit (LC) will be opened by the University for the Import of some items/ equipments in case of C&F.
4. **BID validity**
   - The Bid will remain valid and open for acceptance of the purchaser for a period of 120 days from the specified date of opening or closing of financial year on the case may be.
5. **Earnest Money**
   - The Quotation must be accompanied with a call deposit of 2% of the local quoted prices with their offer in the form of demand draft/pay order in favor of "Deputy Treasurer, University of Haripur", (refundable).
   - The earnest money shall be denominated in Pakistani rupees and shall be in the form of demand draft, pay order or call deposit, issued by Pakistani bank or branch of a foreign bank, operating in Pakistan,
   - In case of alternate prices, earnest money will be based on the maximum quoted price of the same items. The demand draft shall be returned to unsuccessful bidders.
   - The earnest money may be forfeited in the following cases:
     - When tenderer withdraws or modifies the offer, after opening of tender but before acceptance of tender,
     - When tenderer does not execute the agreement if any, prescribed within the specified time.
     - When the tenderer does not deposit the security money after supply order is given.
     - When he fails to commence the supply of the items as per supply order within the time prescribed.
6. **Signing of BIDS**
   - The person signing the Bids shall initial all the pages of the bid along with official seal/stamp where entries are made.
7. **Dead Line for submission of Bids**
   - All Bids must reach and be received by the purchaser on or before the prescribed date line during the office hours.
8. **Late BIDS**
   - Late bids will not be entertained and returned unopened to the Bidder.

9. Canvassing

- Counseling or canvassing staff or elected representatives by any Tenderer will become liable to disqualification.

10. Delivery of Equipment / Items

- The items/ equipment (s) will be supplied in packed form and opened in front of the Committee. The working manuals, circuit diagrams, related literature and computer programs, if any, must accompany the items/ equipment (s) in original.
- The tenderer shall be responsible for the proper packing, so as to avoid damage under normal conditions of transport by sea, rail and road or air and delivery of the material in the good condition to the consignee at destination.
- In the event of any loss, damage, breakage or leakage or any shortage the tenderer shall be liable to make good such loss and shortage found at the checking / inspection of the material by the consignee. No extra cost on such account shall be admissible.
- The goods will be delivered at the destination gone down in perfect condition.
- The supplier, if he so desires may insure the valuable goods against lost by theft, destruction or damage, by fire, flood under exposure to whether or otherwise viz., (war, rebellion, riot, etc.).
- The insurance charges will be borne by the supplier and University of Haripur will not be required to pay such charges if incurred.

11. Performance Security

- Within one week of issuance of the purchase order successful bidders shall furnish to University of Haripur, the performance security bond as per ***Annexure A*** equivalent to 10% of the bid price in the form of bank guarantee, the performance security shall be payable to University of Haripur as compensation for any loss resulting from the suppliers failure to complete its obligation.
- The performance security will be discharged by the University and returned to the supplier after completion of the supplier's performance obligations under the contract.

12. Forfeiture of Security Deposit

- Security amount in full or part may be forfeited in the following case:
    - When the terms and conditions of contract is breached.
    - When the Tenderer fails to make complete supply satisfactorily.
    - Notice of reasonable time will be given in case of forfeiture of security deposit. The decision of the Purchase Committee in this regard shall be

final.

13. Mode of Payment

- Payment shall be made in the form of cheque which shall be issued after receipt of equipment / items, installation and inspection, according to the following schedule.
    - 90% payment will be made only after the equipment (s) is fully installed and comes in working condition.
    - 10% after three months from the date of commissioning.
- No advance payment will be made. Payments will be made subject to the clearance of account and audit cells.
- The time specified for delivery in the tender form shall be deemed to be the essence of the contract and the successful tenderer shall arrange supplies within the specified period.
- If the supplier requires an extension of time in completion of contractual supply on account of occurrence of any hindrance, he shall apply in writing to the committee, which has placed the supply order, for the same immediately on occurrence of the hindrance but not after the stipulated date of completion of supply.

14. Prices

- Prices charged by the supplier for goods deliver in services performed under the contract shall not exceed the prices quoted the supplier in its bids. The quantity of items to be purchased can be increased / decreased at the approved rates.
- University of Haripur reserves the right to consider a total package deal for all or group of some equipment with a total lowest quoted price for the package rather than lowest prices for the individual items.

15. Standard

- The equipment supplied must be tropical zed and it must be capable of functioning under the climatic conditions of Haipur.
- There shall be no deviation from specification and country of make as provided with each item. In case of any ambiguity in specification/accessories needed for the full functioning of the equipment, the firm must clear it with the Purchase Committee. However, the decision of the Committee will be final.
- The goods with standard accessories supplied under this contract shall confirm to the standard maintenance in the technical specification along with the set of operational and maintenance manual it will be responsibility of the supplier to quote equipment in complete package.

16. Training

- The firm supplying the item/ equipment (s) will demonstrate the operation / working of the equipment (s) to the satisfaction of the quarter concerned and provide training if needed.

17. Calibration of item/equipment

- The approved firm will install the equipment (s) in the presence and satisfaction of the Purchase Committee. In case of any defect in the supplied equipment (s) or if it is not in accordance with the desired specification, the item will be changed at the cost of the supplier.

18. Guarantee / Warranty

- The Tenderer would give comprehensive onsite warranty / guarantee that the goods / stores / articles would continue to conform to the description and quality as specified for a period of **one year** from the date of delivery of the said goods/stores/articles to be purchased and that notwithstanding the fact that the purchaser may have inspected and/or approved the said goods/stores/article, if during the aforesaid period of one year, the said goods/stores/articles, be discovered not to conform to the description and quality aforesaid or have determined (and the decision of the Purchase Committee in that behalf will be final and conclusive), the purchaser will be entitled to reject the said goods/stores/articles or such portion thereof as may be discovered not to conform to the said description and quality, on such rejection the goods/articles/stores will be at the seller's risk and all the provisions relating to rejection of goods etc. shall apply.
- The Tenderer shall, if so called upon to do, replace the goods etc., or such portion thereof as is rejection by Purchase Committee, otherwise the tenderer shall pay such damage as may arise by the reason of the breach of the condition herein contained. Nothing herein contained shall prejudice any other right of the Tender Committee in that behalf under this contract or otherwise.
- The tenderer shall also replace machinery and equipments, in case it is found defective which cannot be put to operation due to manufacturing defect, etc. In case of machinery and equipment specified by the Tender Committee, the tenderer shall be responsible from carrying out annual maintenance and repairs on the terms and conditions as may be agreed. The tenderer shall also be responsible to ensure adequate regular supply of spare parts needed for a specific type of machinery and equipments whether under their annual maintenance and repairs rate contract or otherwise. In case of change of model he will give sufficient notice to the Tender Committee who may like to purchase spare parts from

them to maintain the machinery and equipments in perfect condition.

- The firm must have a representative office in Peshawar/Islamabad/Lahore, which can be contacted in case of any problem encountered during the working of equipment (s).

19. Conforming Tender

- A conforming tender is defined as follows:
    - It is submitted on time.
    - It is lodged at the nominated place.
    - All required forms are completed.
    - Documents are properly signed.
    - It complies with the tender conditions.
    - There are no commercial and contractual qualifications to the tender.
- A non-conforming tender is one, which does not satisfy the above requirements and it may be rejected.

20. Disqualification of Tender

- The tenderer shall observe all relevant statutory and legal requirements when complete the tender. Any Tender engaged in collusion with other tenderers shall be disqualified from tendering.

21. Delay in Delivery

- In case of extension in the delivery period, the recovery shall be made on the basis of following percentages of value of goods stores / work completion which the tenderer has failed to supply / complete the work.

22. Conditions with Percentage

a. Delay up to one fourth period of the prescribed delivery period. **2.5 %**
b. Delay exceeding one fourth but not exceeding half of the prescribed period. **5.0 %**
c. Delay exceeding half but not exceeding three fourth of the prescribed period. **7.5 %**
d. Delay exceeding three fourth of the prescribed period. **10.0 %**

- Fraction of a day in reckoning period in supplies shall be eliminated if it is less than half a day. The maximum amount of shall be 10%.

- The security money shall be refunded immediately after expiry of warranty period provided there is no breach of contract by the supplier and provided there is no outstanding against the tenderer.

23. Recoveries

Recoveries of liquidated damages, short supply, breakage, rejected articles shall ordinarily be made from bills.

C&F = Cost and freight basis

FOB = Freight on Board

Annexure -A

Performance Bond

To

The Treasurer
University of Haripur

Dear Sir,

The AGREEMENT DATE:_____ BETWEEN University of Haripur & M/S _____ NO._____ in consideration of your having concluded a CONTRACT Evidenced by purchase order No. _____Dated._____. With Messer's _____ (supplier) for _____and in consideration of value received from the supplier, we agree and undertake as follows:

1. To make conditional payment of _____or unconditional payments from time to time is called upon totaling the said sum of _____ being 10 % of the contract price mentioned in the said purchase order / agreement upon your written demand (s) without further recourse, questions or reference to the suppliers default in compliance with its obligations, liabilities and responsibilities arising under and in pursuance of the warranties and guarantees committed in the said purchase order / agreement.
2. To accept written intimate (ion) from you is sufficient evidence of default or non compliance as aforesaid in the part of supplier and to make payment accordingly within 15 days of receipt of the written intimations.
3. To keep this guarantee in full force from the date of this guarantee up to two year after the date of installation and successful operation of items/ equipments.
4. No grant of time or other indulgence to or composition or arrangement with supplier in respect of the performance of its obligation under and pursuance of the said agreement / purchase order of any clause thereof, with or without notice to us shall in any manner discharge or otherwise how so ever effect this guarantee and out liabilities and commitments here under.
5. This guarantee should also cover obligations of the supplier so for as the liquidated damages as concerned as provided in agreement / purchase order any recovery on account of liquidated damages shall not reduce the value of 10% provided here in.
6. This guarantee shall be binding on us at our successors in interest and shall be irrevocable.

_____

Name of Person & Designation
Name of Firm/Company

SUPPLY & INSTALLATION OF ITEMS TO UNIVERSITY OF HARIPUR
Schedule of Rates

To
The Treasurer,
University of Haripur,
Hattar Road Haripur.
Sir
I/we have gone through, understood fully and declare that I/ we shall abide by the terms and conditions detailed in the tender document for supply of following items -

My / our rates are as under-

S.No	Description		Qty	Unit Price (Including all Taxes)	Total Price (Including all Taxes)
1	Server	Detail is at Annex A	2		
2	Core Switches	Detail is at Annex B	1		
3	Media Converter	Detail is at Annex-C	20		
4	Media Chassis		1		
Total Including all Taxes(In Figure)					
Total Including all Taxes (In Words)					

Note: Selected items of specialized countries shall be considered for evaluation.

Name of Person & Designation
Name of Firm/Company

Annex-A

Detail Specification of Server

Processor	Intel® Xeon® E52680 v3 2.5GHz,30M Cache,9.60GT/s , Turbo,HT,12C/24T (120W) Max Mem 2133MHz
No of processors	2
Memory	Memory DIMM Type and Speed 2400 MT/s RDIMMs, Memory Configuration type: performance optimize, 32GB RDIMM, 2400MT/x, Dual Rank, X4 Data Width
Qty	2
PCI Slots	Minimum 1 nos. of PCI-Express Gen3 Slot shall be available for future expansion (After taking into account all the mandatory and optional hardware mentioned in this document)
Interface Ports	a. Serial port 1 b. Mouse 1 c. Keyboard 1 d. VGA Graphics 1 e. USB 3.0 or above 4 f. RJ45 Network ports 4+1 (for remote Management) (in case mouse and keyboard are USB based then additional USB ports to be given. Similarly, for serial port converted from USB, additional USB port shall be provided along with USB to serial converter)
Hard Disk Drive	To be supplied with 6 x 900GB – 1TB 12G SAS Enterprise HDD in RAID6
Bays	Should Support minimum 8 nos. of SAS Drives
RAID Controller	12Gbps or higher throughput HW RAID controller supporting RAID 0/1/1+0/5/6 with minimum 1GB of Flash backed write cache
FC HBA	2 X Single port Qlogic 8Gbps FC Host Bus Adapter
Optical Drive (Internal)	DVD-RW Drive(or DVD/CD Compatible Blu-Ray Disc Drive)
Graphics Controller	Integrated on-board graphics with support for 16 Million color: resolution of 1280 x 1024
Gigabit Ethernet ports	4 no's of Gigabit Ethernet ports full duplex. The network ports should also provide the following functionalities for alsupported OS: Ethernet Bonding, Failover and load balancing, Wake on LAN, Pre-Boot Execution Environment (PXE), Multiple VLAN tagging, Multiple VLAN tagging, Auto-negotiation for 10/100/1000 Mbps
Redundant power supplies	Redundant Hot Plug Power Supplies (230 VAC). The power supplies shall be either 80 Plus platinum certified or better
Redundant cooling Fans	Redundant Hot Plug fans

Form Factor	Rack mountable with rack mount kit and rails(preferably 2U or less)
OS Support	The quoted server should support the following Operating Systems: Microsoft Windows Standard &Enterprise Server 2008,2012 R2 and above; RHEL 6 and above ; VMware vSphere™ 5.0 and above
Remote Manageability	a. It shall be possible to manage the server hardware and software components remotely. b. The server hardware shall be manageable even when it is shutdown or crashed. It shall be possible to power on/off and boot the system remotely; c. It shall have the following features: Real time power reading; POST and failure sequence replay; Event log; Browser and CLI support Secure Socket Layer; Secure Shell.
Server Management	OEM software for management of Servers must be included as standard. It should integrate with any SNMP based industry standard Network Management Software. (The SNMP MIBs for all the hardware and software components shall be provided in a DVD media). Should provide Fault management and automatic event handling through e-mail, SMS. Should provide Role based secured remote management using Secure Sockets Layer (SSL) and Secure Shell (SSH) to encrypt management communications. Should provide Pre-failure warning for- CPU, Memory, HDD. Should have local LED/LCD based diagnostic panel for easy fault identification.
Warranty	The entire hardware and software shall carry a comprehensive onsite warranty of 3 years from the date of commissioning

Annex-B

Core Switch

Subtype	Gigabit Ethernet
Ports	24 x 10/100/1000
Jumbo frame support	9198 bytes
Authentication Method	Kerberos, RADIUS, Secure Shell (SSH), TACACS+
Mac address table size	32000 entries
Status indicators	Port transmission speed, port duplex mode, system, status
Routing protocol	RIP-1, RIP-2, RIPng, EIGRP(optional)
Jumbo Frame Support	9198 bytes
Networking	
Subcategory	Network hubs and switches
Form Factor	Desktop, rack-mountable
Type	Switch
Stackable	Stackable
Advanced Switching	Layer 3
Features	ARP support, Access Control List (ACL) support, IPv4 support, IPv6 support, Link Aggregation Control Protocol (LACP), MLD snooping, Multiple Spanning Tree Protocol (MSTP) support, Port Aggregation Protocol (PAgP) support, Quality of Service (QoS), RADIUS support, Rapid Per-VLAN Spanning Tree Plus (PVRST+), Rapid Spanning Tree Protocol (RSTP) support, Cisco StackPower technology, Remote Switch Port Analyzer (RSPAN), STP Root Guard, Shaped Round Robin (SRR), Syslog support, Trivial File Transfer Protocol (TFTP) support, Uni-Directional Link Detection (UDLD), VLAN support, Virtual Route Forwarding-Lite (VRF-Lite), auto-negotiation, auto-uplink (auto MDI/MDI-X), Cisco StackWise-480 technology, layer 3 load balancing, trunking, DHCP snooping, Dynamic ARP Inspection (DAI), Dynamic Trunking Protocol (DTP) support, Energy Efficient Ethernet, Flexible NetFlow (FNF), IGMP snooping
Complaint Standards	IEEE 802.1D, IEEE 802.1Q, IEEE 802.1p, IEEE 802.1s, IEEE 802.1w, IEEE 802.1x, IEEE 802.3ad (LACP), IEEE 802.3x, IEEE 802.3z
Jumbo Frame Support	9198 bytes
Ports Qty	24
RAM	4 GB
Flash Memory	2 GB
Manageable	Yes
Routing Protocol	RIP-1, RIP-2, RIPng /EIGRP

Remote Management Protocol	CLI, RMON 1, RMON 2, SNMP 1, SNMP 2c, SNMP 3, SSH, Telnet
Power Device	
Power Provided	350 Watt
Nominal Voltage	AC 120/230V
Frequency required	50/60 Hz
Type	Internal Power Supply
Power	
Installed Qty	2 (installed)
Power redundancy	Yes
Power redundancy scheme	1+1 (with optional power supply)
Max Supported Qty	2
Interface Provided	
Qty	1,2,24
Environmental Parameters	
Min Storage Temperature	-40 °F
Max Storage Temperature	158 °F
Min Operating Temperature	23 °F
Max Operating Temperature	113 °F
Humidity Range Operating	10-95% (non-condensing)
Software	Included IP base
Expansion Slots	
Type	expansion Slot
Total Qty	1
Free Qty	1
Ports	
Type	10/100/1000
Qty	24
Performance	
Type and value	stacking bandwidth upto 480 Gbps, switching capacity upto 88 Gbps
Capacity	
Type	IPv4 routes, Net Flow entries, switched virtual interfaces (SVIs)
Value	1000,24000
Service & Support details	
Type	limited warranty, technical support, 3 years

Annex-C

Rackmount Chassis for ofc media Convertors

OFC Media convertors

Media convertors	20No.s
Standards and Protocols	IEEE 802.3ab, IEEE 802.3z, IEEE 802.3x
Basic Function	Full Duplex Flow Control (IEEE 802.3x) Extends fiber distance up to 15km
Ports	1 1000M SC/UPC port 1 1000M RJ45 port (Auto MDI/MDIX)

Rackmount Chassis

Types	14-Slot Rackmount Chassis
slots	14 bays to house up to 14 media converters
Power	redundant power supply to ensure non-stop reliable operation
Installation	Hot-Swappable; easy & quick replacement of converter and power supply
Cooling	Mounted two cooling fans for better ventilation