



JAWAHAR VIDYA MANDIR
SHYAMALI, RANCHI – 834002
जवाहर विद्या मंदिर, श्यामली, राँची - 834002

No. JVM/OT-12/2018-19

Date: 09.01.2019

INVITATION TO TENDER

Subject: Tender for Supply, Installation and Commissioning of Campus Wide Network (CWN) on turnkey basis at Jawahar Vidya Mandir, Shyamali, Ranchi

Salient Features of the Invitation to Tender

1	Tender Enquiry No. & Date	JVM/OT-12/2018-19, Dated 09.01.2019
2	Project Description	Tender for Supply, Installation and Commissioning of Campus Wide Network (CWN) on turnkey basis at Jawahar Vidya Mandir, Shyamali, Ranchi
3	Pre Bid Meeting	17.01.2019 at 11.30 AM at JVM Shyamali
4	Last date & time of submission of tender document	29.01.2019 by 12.30 PM
5	Date & Time of Opening of Tender	On 29.01.2019 at 1.00 pm . The representatives from the tenderer may be present while opening of the tender.
6	Validity of tender	03 (Three) months from the due date of opening of Techno-Commercial part of the tender document.
7	Completion Time	Two months from the date of issue of work order.
8	Earnest Money Deposit	Rs. 20000/- (Twenty thousand) only
9	Cost of the tender document	Rs. 500/- (Five hundred only)



JAWAHAR VIDYA MANDIR
SHYAMALI, RANCHI – 834002
जवाहर विद्या मंदिर, श्यामली, राँची - 834002

Dated: 09.01.2019

INVITATION TO TENDER

Subject: Tender for Supply, Installation and Commissioning of Campus Wide Network (CWN) on turnkey basis at Jawahar Vidya Mandir, Shyamali, Ranchi

Sealed tenders are invited for award of Supply, Installation and Commissioning of Campus Wide Network on turnkey basis at Jawahar Vidya Mandir, Shyamali, Ranchi as per the Technical Specification attached as Annexure – I from registered, reputed, experienced and eligible firms who have executed similar nature of work in Schools/ Institutions/Organizations and satisfying all the terms and conditions in this tender document.

1.0 Instructions to Tenderers

- 1.1 Tenders are invited in two bid system (i) Techno-commercial Bid & (ii) Price Bid. The 'Techno-commercial Bid' will be made and put in the first envelope containing the title '**Techno-commercial Bid**'. It should contain full information as required in Annexure – II & III and documents mentioned in **eligibility criteria 2.0 & 6.0 of Annexure-I**. The 'Price Bid' will be made and put in the second envelope containing the title '**Price Bid**'. It could include full information as required in Annexure – IV. Both bids should be put in the third envelope which should be prominently super-scribed as "**Tender for Supply, Installation and Commissioning of Campus Wide Local Area Network on turnkey basis at Jawahar Vidya Mandir, Shyamali, Ranchi.**" and addressed to "The Principal, Jawahar Vidya Mandir, Shyamali colony, Ranchi – 834002" on or before **29.01.2019 till 12.30 PM**. The tenders will be opened on the same date at **1.00PM on 29.01.2019**.
- 1.2 Tenders received after due date and time mentioned above, as well as those received without separate sealed envelopes as specified above will not be accepted.
- 1.3 It may be noted that incomplete in any respect or conditional tender will not be accepted.

2.0 Eligibility Criteria

- 2.1 Tenderer should have executed at least one order of local area networking in any organization in last five (5) years from the date of this tender. (Copy of the work orders/ completion certificates)
- 2.2 The tenderer should have the GST and PAN (*Copies of GST Regn. and PAN*).
- 2.3 Tenderer should have local office at Ranchi (Copy of registration/ any other office address proof).
- 2.4 Tenderers should give undertaking for the availability of spares for UTM & Switches for 5 years.



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

2.5 **Earnest Money Deposit:** The tender must be accompanied by earnest money deposit (EMD) in the form of a Demand draft drawn on any Nationalized/ Schedule Bank in favour of Jawahar Vidya Mandir. The earnest money shall be kept deposited up to a period of 06 (six) months beyond the validity of the Tender. The earnest money will not earn any interest. Tenders not accompanied by earnest money shall be rejected. On acceptance of the tender (but not earlier than the expiry date of validity of tender) the earnest money will be returned to the unsuccessful tenderers on request.

2.6 **Cost of the Tender :** The cost of the tender will be Rs.500/- (Five hundred only) non-refundable in the form of a Demand draft/ AT PAR CHEQUE drawn on any Nationalized/ Schedule Bank in favour of Jawahar Vidya Mandir.

IF A FIRM FILING TENDER DOES NOT FULFILS ALL OR ANY OF THE ABOVE ELIGIBILITY CRITERIA MENTIONED ABOVE, THE TENDER OF THE FIRM WILL NOT BE CONSIDERED.

3.0 **Scope of work:** The scope work shall include but not limited to supply and installation of the equipment/ Software as per Technical Specification enclosed at Annexure-I, on FOR, JVM, Ranchi on turnkey basis.

4.0 **Price:** The Tenderer shall quote for the items indicated above on FOR JVM, Shyamali, Ranchi basis. The quoted price shall be firm and binding and shall not be subject to any variation whatsoever on any account till completion of supply. All applicable taxes & duties shall be indicated separately. *(Un-priced copy of Price Bid indicating "quoted" against each item should be submitted along with Techno-commercial bid).*

5.0 **Taxes & Duties:** Except as otherwise specifically provided in the order, the CONTRACTOR shall bear and pay all taxes, duties, levies as charges for the subject work.

6.0 **Validity of Rates:** The rate quoted by the tenderer shall remain valid for a period of 90 (ninety) days from the date of opening of quotation.

7.0 **Time Schedule:**

7.1 The successful tenderer shall be required to complete the supply & installation of above item within two months from the date of receipt of order.

7.2 In the event the supplied material is not conforming to the ordering specification and approved make/brand, the material so supplied will be rejected without paying any price/ compensation. The decision of JVM in this regard will be final.

8.0 **Payment Terms:**

8.1 No advance payment shall be made.

8.2 Subject to the deduction which JVM Shyamali may be authorized to make under the contract, 100% payment shall be released within 30 (thirty) days of on submission of bill along with receipted challan, Inspection & Acceptance Certificate to be issued by JVM and a bank guarantee for 10% of total contract price towards performance guarantee to be kept valid till completion of warranty period. In absence of bank guarantee for 10% of total contract price will be on hold till completion of warranty period.



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

- 9.0 **Warranty:** The hardware, software and networking components shall be covered under comprehensive free onsite warranty for a period of minimum 1(one) year from the date of acceptance. (The tenderer shall indicate standard OEM warranty details). The warranty shall cover faulty design, improper material, manufacturing defects and unsatisfactory performance of system. In case the equipment fails to function inspite of necessary repairing work during the warranty period, the defective equipment shall be replaced with a new one free of cost.
- 10.0 **Inspection:** The inspection of materials shall be carried out by JVM after receipt of materials at destination.
- 11.0 **LIQUIDATED DAMAGES:** Time and date stipulated in the Contract for completion of delivery and installation of CWN shall be deemed to be the important activity of the Contract. If, however, the SUPPLIER fails to fulfill the delivery and installation within the time schedule, or within such extended time schedule as may be further granted, the SUPPLIER shall be liable to pay as Liquidated Damages (LD) and by way of penalty a sum of 0.5% of the contract price per week of delay or part thereof, and such liquidated damages shall be limited to a maximum ceiling of 5% of the Contract Price. In case the reasons for delay in supply & installation of CWN are not attributable to the SUPPLIER, then the LD clause shall not be applicable for such delay.
- 12.0 **Acceptance of Order:** JVM is not bound to accept lowest or any Tender or to assign reasons whatsoever for non-acceptance. JVM also reserves the right to cancel the tender without assigning any reason whatsoever.
- 13.0 **Evaluation of Tender:** Tenderer should quote for all the items as per enclosed price bid format (Annexure-IV). Part offer or incomplete offer shall be liable to be rejected. Price of the techno-commercially eligible tenderer shall be evaluated on overall basis.
- 14.0 **NO CLAIM OR COMPENSATION FOR SUBMISSION OF TENDER:** The Tenderer whose Tender is not accepted shall not be entitled to claim any costs, charges, expenses of and incidental to or incurred by him through or in connection with his submission of Tender, even though JVM may elect to withdraw the Invitation of Tender
- 15.0 **TRANSIT INSURANCE:** SUPPLIER shall arrange transit insurance on his own and at his own cost for transportation of equipment to JVM, Ranchi.
- 16.0 **NEGLIGENCE, DEFAULT AND RISK PURCHASE**
- 16.1 If the SUPPLIER fails to execute the work with due diligence or expedition or shall refuse or neglect to comply with any order given to him in writing by JVM in Contract, JVM may give notice in writing to the SUPPLIER calling upon him to make good the failure, neglect or contravention within such time as may be deemed reasonable and in default of the compliance with the said notice, JVM without prejudice to its rights under the Contract, may rescind or cancel the Contract holding the SUPPLIER liable for the damages that JVM may sustain in this regard.



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

16.2 Should the SUPPLIER fail to comply with such notice within a reasonable period from the date of serving thereof, JVM shall have the option and shall be at liberty to take the work wholly or in part out of the SUPPLIER's scope and may get the same executed by alternate agency at SUPPLIER's risk and cost. This shall be without prejudice to JVM's rights under other clauses of this Contract.

17.0 SUSPENSION AND TERMINATION

17.1 JVM may at any time temporarily stop the work under the Contract or any part thereof by serving notice in writing to the SUPPLIER. Work so suspended shall be resumed by the SUPPLIER on receipt of instructions from JVM in writing. JVM will not be liable to the SUPPLIER for any damage or loss caused by such period of suspension of work.

17.2 JVM will be at liberty to terminate the Contract without prejudicing its right and affecting the obligations of the SUPPLIER by giving 15 days' notice in writing in the following events:

- a) If the SUPPLIER fails to comply with the provision/provisions of the Contract.
- b) If the SUPPLIER is involved in any action involving moral turpitude.

18.0 **Arbitration:**

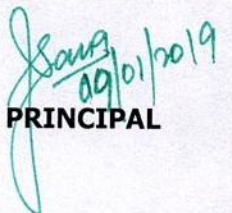
18.1 Any disputes, differences, whatsoever, arising between the parties, the arbitration shall be governed and regulated in all respect according to Laws of India.

18.2 The Arbitration proceedings in case of other Indian companies shall be regulated and governed by Indian Arbitration and Conciliation Act 1996, or such modification thereof.

18.3 The venue of arbitration proceeding shall be Ranchi.

18.4 Work under this Order shall be continued by the Supplier during the arbitration proceedings, unless otherwise directed in writing by PURCHASER or unless matter is such that the work cannot possibly be continued until the decision of the arbitrator is obtained.

The tenderers are requested to confirm acceptance of all terms & conditions as per tender enquiry.


PRINCIPAL



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

Annexure -I

SPECIFICATION OF NETWORKING EQUIPMENTS, CABLES, SOFTWARE & ACCESSORIES

1.0 INTRODUCTION

Jawahar Vidya Mandir(JVM), is an educational institute in Jharkhand located at Shyamali Colony, Ranchi. The school features education from the kindergarten to senior secondary levels. It has a permanent affiliation to the CBSE, and is managed by a committee appointed by MECON, Ranchi (Jharkhand).

The school consists of separate campuses for primary, secondary and higher secondary. A big and sprawling section for senior secondary has been constructed. The proposed network shall be Convergence Ready Enterprise LAN based on open standards, Agile, Secure, scalable based on IPv6/IPv4 compliant TCP/IP Ethernet network on fiber optics backbone. For this, a TCP/IP based LAN is proposed for campus wide networking.

Generally no fixed IP address shall be assigned to client PCs, instead Dynamic Host Configuration Protocol (DHCP) services of Active Directory controller/Backup Active Directory controller shall be used to assign IP addresses to PCs on LAN. The IP Addressing shall be based on IPv4/IPv6 dual stack. All computer equipment's shall primarily be based on IPv4 addresses. But at the same time IPv6 traffic shall be seamlessly supported by the systems.

The campus wide data network shall be based on with fiber optics cable as the medium of communication. Cat6 UTP (unshielded twisted pair) cable shall be used inside the building.

2.0 SCOPE OF WORK

The broad scope of work of the successful bidder shall include, but not limited to the following:

Design, configure, testing at works, supply, installation, laying, erection, testing, integration, acceptance, commissioning of Ethernet networks & UPS Power Distribution, as applicable along with associated equipment's, hardware, software on a turnkey basis. Bidder shall provide all the latest hardware including networking equipment at the time of detailed engineering stage, which is proven. All related hardware shall be IPv4/IPv6 dual stack compliant.

2.1 CAMPUS WIDE NETWORK

2.1.1 Structured communication network comprising of Fiber Optics (FO) Cable, UTP, Cat 6 cables, switches, Unified threat management (UTM), Wi-Fi Access points, information outlets, patch panels, connectors, racks, etc. for communication with existing servers/ PCs/ network printers and any other equipment as required.

2.1.2 One Unified Threat Machine (UTM) shall be installed at IT Room. The UTM shall be connected to more than one (WAN) internet leased lines for redundancy in case of failure of one line. The UTM shall be connected to LAN through the available network switch.

Sanjiv Kumar Singh



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

- 2.1.3 Managed switches shall be supplied at all edge switches level. The network switch shall also be Layer-2 switch. All Layer-2 edge switches shall have 1G uplink port, Fiber Patch Panel, Light Interface Unit (LIU).
- 2.1.4 All network switches shall be supplied from same make.
- 2.1.5 Necessary cables including power cable, distribution box, plug points, switches and accessories including earthing as may be required for smooth and reliable operation of networking equipment. The UPS Power will be provide by JVM.
- 2.1.6 All of the Building shall be equipped with managed wireless access points with proper security. For this purpose, sufficient nos. of managed wireless access points shall be provided in the respective buildings.
- 2.1.7 Wall Mounted Network Rack 6U (600mmx550mm) suitable with redundant Power Strips, Cable Manager shall be provided. No local integration is permitted.
- 2.1.8 Software configuration for the following minimum items shall be under the scope of the bidder:
- Installation of DHCP servers as per IP schema provided by JVM.
 - Perimeter Security Solution (Next Generation UTM)
 - Internet access implementation as per JVM Internet access policy.
 - UTM, Edge switches, Managed wireless access points & any other accessories in buildings.
 - Any other configuration which is necessary for proper functioning.
- 2.1.9 Passive components including information outlets, patch panels, splicing enclosures, patch cords, connectors, media converters etc. required for completion of structured cabling shall be provided by the successful tenderer. All the passive components namely cable, connectors, patch chords (CAT6), I/O, Faceplate etc. shall be supplied of same make i.e. from single OEM
- 2.1.10 All pipes and cables laying including termination, accessories including HDPE pipes/GI pipes, PVC conduits/channels, DP boxes, supporting structures, clamps, route markers, identification tags, ferules etc. required for laying of cables.
- 2.1.11 All cable laying inside and outside the building including any excavation work required for laying of cables shall be done by the tenderer.
- 2.1.12 Spares shall be supplied required during erection, testing, commissioning and warranty maintenance, at free of cost.
- 2.1.13 Preparing/ making test plan & procedures and getting approval from purchaser/consultant.
- 2.1.14 Acceptance test as specified in this TS.



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

- 2.1.15 Minor civil works such as chipping/ cutting of floors for making grooves, making holes/ opening through walls, ceiling or floors, drilling of holes through steel structures and frames, grouting of frames, hooks on wall/ceiling etc. required for execution of work. After erection, surface shall be made good by plastering/painting to their original shape and finish.
- 2.1.16 The bidder shall arrange for posting of required technical supervision staffs during erection, testing and commissioning of the system.
- 2.1.17 The bidder shall assure arrangement for posting of required technical supervision staffs during erection, testing and commissioning of the system
- 2.1.18 Drawing & Documents in softcopy and hardcopy.
- 2.1.19 The bidder shall provide connectivity including cable laying for any additional locations to be decided by the purchaser at a later stage during the execution of the project at the same terms and condition.
- 2.1.20 The bidder shall note and consider that the supply of the Active components shall be deferred and will be dependent on the completion of the building. The warranty/guarantee of the active components shall start from the actual supply/erection/commissioning of the equipment's.

2.2 Network Control Center or IT Room

A network control center (NCC) / IT Room is envisaged as the shared, reliable and secure IT infrastructure services center. The proposed IT Room shall facilitate consolidation of services, applications and IT infrastructure.

The IT room is envisaged to accommodate UTM appliance, switches, access points etc. for Campus Wide Networking.

2.3 Battery Limit

Scope of the bidder extends up to the following units:

- 2.3.1 All locations where computer equipment e.g. PCs, network printers, other network equipment's are proposed to be located in JVM school at Shyamali, Ranchi for connecting in network.

Handwritten signatures: J. J. and T. J.



JAWAHAR VIDYA MANDIR
SHYAMALI, RANCHI – 834002
जवाहर विद्या मंदिर, श्यामली, राँची - 834002

2.3.2 Following main units coming under school shall be interconnected over the proposed Campus Wide Networking (CWN):

S.NO	Name of Major Units.
1.	IT/NCC ROOM
2.	SECONDARY SECTION INCHARGE ROOM
3.	MULTI-PURPOSE HALL
4.	SECONDARY LADIES STAFF ROOM
5.	SECONDARY GENTS STAFF ROOM
6.	3 SMART CLASSROOMS
7.	SENIOR PRIMARY SECTION INCHARGE ROOM
8.	CONFERENCE ROOM
9.	SECONDARY BIOLOGY LAB
10.	SECONDARY PHYSICS LAB
11.	CHEMISTRY LAB 1 & 2
12.	PRIMARY LADIES STAFF ROOM
13.	PRIMARY LIBRARY ROOM
14.	PRIMARY GENTS STAFF ROOM
15.	SENIOR SECONDARY SECTION INCHARGE ROOM
16.	SENIOR SECONDARY GENTS STAFF ROOM
17.	MULTI-MEDIA HALL
18.	VC ROOM
19.	COUNCIL ROOM
20.	SENIOR SECONDARY LIBRARY ROOM
21.	SENIOR SECONDARY PHYSICS LAB
22.	EXAM ROOM
23.	SENIOR SECONDARY BIOLOGY LAB
24.	SENIOR SECONDARY LADIES STAFF ROOM
25.	DEAN ROOM
26.	COMMERCE ROOM
27.	SENIOR SECONDARY COMPUTER LAB
28.	PRIMARY WING CORDINATORS ROOM

2.4. GENERAL

- 2.4.1. The Bidder shall satisfy himself thoroughly regarding networking equipment's, hardware, and software requirements specified in the technical specification and take full responsibility for suitability thereof for output, reliable working as well as ease of operation and maintenance including replacement with minimum down time.
- 2.4.2. All related networking equipment's / systems shall be complete in all respects and any networking equipment, hardware and software not covered in the technical specification but essential for proper design and operation shall be deemed to be included in the scope of the Bidder.

Tom
Tamiz



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

- 2.4.3. Bidder has already satisfied himself, with the nature and location of work place, kind of equipment, facilities, services, necessary interfacing etc.
- 2.4.4. The successful bidder shall be responsible for coordinating the supplies and execute the work with the time schedule. Necessary hardware/software so required shall be included in scope of work of bidder.
- 2.4.5. All the equipment & supplies shall be suitable for the tropical climatic conditions prevailing at JVM site.
- 2.4.6. All software and documentation shall be provided in English language only. Drawing should be submitted in AutoCAD format.
- 2.4.7. Tentative equipment location details Is included in the TS. However, actual locations and cable length shall be decided during the execution of the job.

2.5 Obligation of bidder

- 2.5.1. Requisite diagnostic programs, test equipment's and all documentation for hardware/software shall be provided.
- 2.5.2. The bidder shall arrange for storing the equipment at site prior to installation.
- 2.5.3. Preparation & submission of all relevant drawings & documents.
- 2.5.4. The bidder shall be responsible in case any hardware or software supplied by them infringe patents. The bidder shall indemnify the purchaser against any damage or penalties on this account.
- 2.5.5. All tools and testing equipment required for installation and commissioning of the complete system shall be supplied.
- 2.5.6. Internet services at JVM will be provided from the purchaser. However, to ensure services availability in case of internet line failure, a separate line at JVM from a different service provider shall be provided by the purchaser.

The necessary security Appliance (UTM) as per specification shall be provided by the bidder.

- 2.5.7. All documents submitted for approval/information shall be provided as hardcopy and on CD-ROM/ DVD-ROM in format required for Document Management System of purchaser.
- 2.5.8. All deployment shall be done as per the best industry practices before deployment the procedure based on best practices need to be approved before roll out.

Int. Tanu.



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

2.6 Obligation of Purchaser

- 2.6.1. Providing needful administrative & statutory clearance for laying of FO cable inside the school area as per the cable route finalized.
- 2.6.2. Necessary space for the Network switches, PCs/Printers at different units of building all over the school area.
- 2.6.3 Providing Main UPS Power for the distribution by the bidder and Internet connection.

3.0 Technical Specification

3.1 Proposed System

The proposed network shall comprise of one Unified Threat Management (UTM) System at IT/NCC Room. More than one line (WAN) shall be connected to UTM, for redundancy to provide seamless connection in case of breakdown. One main Layer-2 network switch shall be connected to UTM through 4 core single mode fiber link. A DHCP server shall be connected to provide dynamic IP addresses to the PCs present in the network. Another two 48 port switches shall be connected in the IT room through the mail switch. All switches supplied shall have inbuilt SPF port. Various units, rooms and buildings shall be connected to the network switch through edge switches in conjunction with fiber patch panel light interface unit (LIU) and Media Convertors(whenever applicable).

The philosophy and technical description for networking, hardware and software is given below:

3.2 Network & Hardware

- 3.2.1 The campus wide network of JVM shall be based on TCP/IP Gigabit Ethernet network with 4 Core single mode fiber optics cable as the medium of communication. In the IT Room, the edge switches shall be connected to network switch using 4 Core single mode Fiber link. However, inside school buildings, the edge switches shall be connected to other edge switches using 4 Core single mode Fiber link in conjunction with LIU.
- 3.2.2 Cat 6 UTP (unshielded twisted pair) cable shall be used inside the various rooms and areas with controlled environment with short distances, wherever required. The actual cable length of Fiber Optics and Cat 6 UTP cable shall be calculated at the detail engineering stage. All fiber optics & UTP cable shall be laid in a structured fashion.
- 3.2.3 All available client centers, the PCs shall be connected to information outlets. Factory crimped patch cord shall be used for connecting PCs through I/O boxes. There shall be enough provision for addition of I/Os in client PCs for future. The information outlets shall be connected to the edge switch.
- 3.2.4 FO cable shall be of 4-core single mode heavy duty PVC sheathed. The single mode FO cable shall be laid in GI conduit



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

- 3.2.5 Inside the office buildings, 4-core FO single mode FO cable shall be laid in medium duty 1" PVC conduit. Cat 6 UTP cable shall be laid in medium duty 1" PVC pipe for over ground and concealed wiring.
- 3.2.6 All UTP cables shall be connected to the Cat 6 patch panel at one end and Cat 6 information outlet (I/O) at the other. All fiber cable cores at the end location shall be terminated on fiber optic patch panel light interface unit (LIU) & a media convertor (wherever applicable).
- 3.2.7 F/O patch cords shall be used for connecting F/O ports of the switch to the patch panel. Fusion splicing shall be done wherever it is required to branch off the FO cable from one junction point to another. While splicing FO Cable, utmost care shall be given to the fiber management and there after issues like accessibility bend radius control and compact design shall be taken care of. Fusion based splicing technique shall be applied to limit the attenuation within permissible limit as per standard. Splicing with pigtail termination on F/O patch panel shall be adopted at all branched off locations. All the switches, patch panels and splicing units shall be housed in suitable enclosures.
- 3.2.8 Wherever cable is laid, loop shall be provided. Anti-Vibration clamping shall be provided with each loop and bend of fiber optic backbone in the school area. Welding, drilling whenever carried out near high power lines, control cables and network cables shall be done as per the standard safety practices. All the fiber cores shall be terminated in the Light Interface Unit (LIU) even if all the cores are not used.
- 3.2.9 Indoor cabling between switch and PCs shall be of CAT6 unshielded twisted pair cable in PVC pipes in a structured fashion from I/O box to Patch Panel and from Patch Panel to switch in wall mounted racks.
- 3.3 System Configuration Diagram**
Indicative System Configuration of the Proposed CWN along with block is given as diagram in last page. The bidder may propose better configuration for the same.
- 3.4 Location of switches**
Tentative locations and quantities of edge switches and other networking equipment's including FO cables, Cat6 cable and I/O boxes & Wireless access points etc. are also indicated in the subsequent clauses of this TS. Exact location of edge switches and related accessories and their quantities shall be finalized at engineering stage.
- 4.0 Minimum Specification of Hardware (As per approved makes of purchaser)**
The specification given here is the minimum specification. However, the exact specification shall be determined during engineering stage.

Handwritten signature/initials



JAWAHAR VIDYA MANDIR
SHYAMALI, RANCHI – 834002
जवाहर विद्या मंदिर, श्यामली, राँची - 834002

4.1 Unified Threat Management (UTM) :

The Minimum specification for UTM box is mentioned below:

SLNO	Item	Description
1	General	<ol style="list-style-type: none">1. Firewall must be appliance based2. The platform must have hardened OS3. The Firewall should be ICSA Lab Certified or EAL certified4. The appliance should be rack mountable5. Should support IPv4 & IPv6 traffic6. Should support automatic ISP failover as well as ISP load sharing (if required)
2	Interface and Connectivity requirement	The appliance shall have minimum 4(three) nos. of 10/100/1000 Mbps Ethernet ports. Each port shall be user configurable to support LAN – 1 No WAN – 2 Nos. DMZ – 1 No
3	High Availability	The firewall must support active-active as well as active –passive redundancy for future expansion
4	Performance requirements	<ol style="list-style-type: none">1. Firewall throughput – minimum 1000 mbps2. The firewall must support at least 1000 nos. of concurrent connections3. Intrusion Prevention System(IPS) throughput 100 mbps or better4. Antivirus throughput 150 mbps or better5. Reporting and log storage including hardware and software with minimum 3 months log storage capability
6	Authentication Requirements	<ol style="list-style-type: none">1. Support user-id, password based authentication2. Support for RADIUS, LDAP and TACACS+ integration for authentication3. Support for native active directory integration4. Support for at least 200 users
8	Administrations/ Management requirements	<ol style="list-style-type: none">1. The firewall must support https & SSH management2. Should have configurable option to define remote access to firewall on any interface and restrict the same to specific IP/subnet3. The firewall must provide a graphical user interface (GUI) for making changes to firewall rule set
9	Network IPS	<ol style="list-style-type: none">1. Should have inbuilt IPS engine to prevent intrusion attempt2. Able to prevent denial of service and distributed denial of service attacks3. Shall support automatic security updates directly over the internet4. Shall support attack recognition for IPv4/IPv6 encapsulated packets5. Support several prevention techniques including drop packet, TCP-rst (client, server & both) etc.



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

SLNO	Item	Description
10	Web content filtering	<ol style="list-style-type: none">1. The appliance should facilitate embedded web content filtering feature2. Web content filtering solution should work independently with the need to integrate with proxy server3. Should have facility to block URL based on categories4. Should be able to block different categories/sites based on users5. Should have configurable options to allow/deny access to the websites incase if the URL rating is unavailable6. Should have facility to schedule configurations so that non work related sites are blocked during office hours and allow access to all sites except non harmful sites during non office hours7. The solution should have option to block java applets, active X as well as cookies8. Should have configurable policy options to define the URL exempt list
11	Anti Virus & Anti Spam	<ol style="list-style-type: none">1. Gateway antivirus & anti spyware<ol style="list-style-type: none">a. Shall scan HTTP, FTP, POP3 & SMTP trafficb. Shall detect, tag & quarantine spam mail2. Gateway anti spam<ol style="list-style-type: none">a. Shall scan POP3, SMTP & IMAP traffic for spamb. Shall detect, tag & quarantine spam email
12	Other requirements	<ol style="list-style-type: none">1. Provision to create secure zones/DMZ2. Bandwidth management – should have option for configure traffic shaping on a per policy basis for specific application /specific networks and should be able to define guaranteed bandwidth and maximum bandwidth per policy3. The solution should be capable scanning encrypted VPN tunnel traffic originating from the unit for virus4. The appliance should have built in proxy5. Reporting – standard user activity report/customized report and other standard reports6. URL rating service

4.2 Fiber Optic Cable

FO Cable (4 cores) shall be tested to comply with the most recent revision of TIA/EIA-568-C.3 and ISO/IEC 11801 standards, and their published addenda. The minimum bandwidth and maximum cable attenuation of the cable shall meet the requirements as per EIA standards. The fibers shall support minimum 1 Gigabit Ethernet to a minimum distance as per EIA standards.

4.3 Wall Mounted Racks 6U

1. Features 6U wall-mounted enclosure
2. Adjustable mounting depths up to 17" by 2 front vertical rackmount rails
3. 3. Ventilated front door and side panels for increased airflow
4. Locking, reversible front door
5. Locking, removable side panels
6. Fully assembled for quick installation
7. Meets all enclosure requirements towards PCI DSS



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

SI NO.	SPECIFICATIONS	Dimension
1.	Installed whole system maximum rack depth (in)	16.5
2.	Installed whole system maximum rack depth (cm)	41.9
3.	Installed whole system minimum rack depth (in)	3
4.	Rack Height	6U
5.	Shipping Dimensions (HWD/in)	17.5" x 26.4 "x 20.5"
6.	Unit Dimensions (in.)	14.5 x 23.63 x 17.78
7.	STYLE	WALL MOUNTED
8.	Certifications	EIA-310-E

4.4 Unshielded Twisted Pair (UTP) Cable

Category 6, TIA/EIA 568-C.2

- 23 AWG solid bare copper conductor, Polyethylene insulation.
- Sheath Fire retardant PVC Compound (FRPVC)
- UL tested for TIA/EIA-568C.2, 3P
- Frequency tested up to minimum 600MHz
- Attenuation (dB/100m) – 32.8MAX. At 250 MHz, 43.2MAX. At 400MHz, 54.8MAX at 600MHz
- ETL verified to CAT 6, Zero Bit Error verified by ETL Approvals
- Box of 350 meters Packing.
- 45ns Max Delay skew

4.5 LIU for FO

- Fiber Patch panel is recessed unit
- Has 19" mountings and 1U height
- Available in 12 & 24 port with internal cable spools
- Suitable for SC/LC adapters
- Dimensions: 440mm x 200mm x 40mm • Thickness: 1.2mm

4.6 Managed L2 Access Switch (48 ports & 24 ports with SFP ports)

Interfaces

- 24 port Managed Ethernet switch with 2 No 10G SFP+ Ports
- 24 port Managed Ethernet switch with 4 No 10G SFP+ Ports
- 48 port Managed Ethernet switch with 4 No SFP+ Port
- Management Port : 10/100/1000BASE-T RJ-45 (1G) port for management.
- IPv4/IPv6 Dual stack ready. • Switching Fabric >=30 Gbps.
- Configurable up to 8000 MAC addresses.

Network Management features:

- Web based.
- Telnet and TFTP access.
- RMON. • SNMP agent.

Performance

- Switch Fabric, • Layer 2/MAC Addresses
- VLANs
- Processor, • RAM, • Flash Memory

For Ranj...



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

4.7 Wireless Access Point

- Network standard: IEEE 802.11b/g/n
- Uplink: Auto-sensing 10/100 BaseT Ethernet
- Wireless Medium: Direct Sequence Spread (DSSS)
- Media Access Protocol Carrier sense multiple access with collision avoidance (CSMA/CA)
- 15 d Bi directional antenna for boosting signal level. Range: 100ft
- Compliance: Operates license free as a Class B device; complies with DOC regulations;
- Virtual LAN (VLAN) Support
- Quality of Service (QoS) support
- Automatic Configuration Support
- Remote Configuration Support
- Direct console port
- Voltage: 240V A/C
- Quality of Service (QoS) Support
- Automatic Configuration Support
- Remote Configuration Support
- Direct console port

4.8 Media Convertors

Supporting the IEEE 802.3 standard, Ethernet copper-to-fiber media converters provide connectivity for Ethernet, Fast Ethernet, Gigabit and 10 Gigabit Ethernet devices. Some converters support 10/100 or 10/100/1000 rate switching, enabling the integration of equipment of different data rates and interface types into one seamless network.

Network Protocols

- 10, 100, Gigabit and 10G Ethernet • 10G OTN
- T1 / E1 and T3 / E3 / DS3>
- SONET (OC-3, OC-12, OC-48 and OC-96) • Fiber Channel
- Serial RS-232 / 422 / 530
- Protocol Transparent, supporting data rates up to 11.32Gbps

Fiber Cable and Connector Types

- SFP, SFP+ and XFP Standard Wavelength Transceivers
- SFP, SFP+ and XFP CWDM Transceivers
- ST, SC, LC and MT-RJ Connectors
- Single-mode and Multimode Fiber • Dual and Single Fiber

Copper cable and connector Types

- Copper RJ-45
- BNC and Mini BNC
- Coax
- UTP Category 4, 5 and 6

4.9 Information Outlets with Single/Duplex faceplate

- PCB based
- Durability Modular Jack 750 mating cycles
- Wire terminal 200 termination cycles



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

- Accessories Strain relief and bend limiting boot for cable
- Approval UL
- Modular jacks shall meet the ANSI/TIA-568-C.2 requirements for Category 6 performance
- The 110-style insulation displacement connectors shall be capable of terminating 22-24 AWG solid or 24 AWG stranded conductors
- Jack contacts: Beryllium copper with thick gold and minimum thick nickel under plate
- Contact: Phosphor bronze 50" gold
- ROHS complaint

4.10 Faceplate

- ½ -Port, White, Material ABS
- UL 94 V-0 No. of ports One with shutter
- High Impact Plastic Body ABS material 86mm*86mm with label and label covers

5.0 Tentative Requirements of Network Switches & LAN Points/FO/UTP Cable

5.1 Secondary Building

SL NO	FLOOR NAME	LAN POINTS (NOS.)	WIRELES ACCESS POINTS	NETWORK SWITCH ES (NOS.)	F/O CABLE	UTP CABLE IO TO ES
1.	GROUND FLOOR					
	a. Multi-Purpose Hall	2				
2.	FIRST FLOOR					
	a. 3 Smart-Class Rooms	6 (each class will have 2 IO)	1	1		
	b. Ladies Staff Room	2				
	c. Section In-Charge Room	2				
3.	SECOND FLOOR					
	a. Gents Staff Room	2				
	TOTAL	14	1	1		

5.2 Senior Primary Building

SL NO	FLOOR NAME	LAN POINTS (NOS.)	WIRELESS ACCESS POINTS (NOS.)	EDGE SWITCH ES (NOS.)	F/O CABLE	UTP CABLE IO TO ES
1.	GROUND FLOOR					
	a. Senior Primary In-charge Room	2				
2.	FIRST FLOOR					
	a. Conference Room	2	1			
3.	SECOND FLOOR					
	a. Secondary Physics Laboratory	2		1		
	b. Secondary Biology Laboratory	2				
	TOTAL	8	1	1		



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

5.3 Junior Primary Building

SL NO	FLOOR NAME	LAN POINTS (NOS.)	WIRELESS ACCESS POINTS (NOS.)	EDGE SWITCHES (NOS.)	F/O CABLE	UTP CABLE IO TO ES
1.	GROUND FLOOR					
	a. 4 Staff Rooms & Coordinator Room	10 (each room will have 2 IO)	1			
	b. Chemistry Lab (Secondary & Senior Secondary)	4 (each room will have 2 IO)				
2.	FIRST FLOOR					
	a. Primary Library Room	2		1		
3.	SECOND FLOOR					
	a. Staff Room	2				
	TOTAL	18	1	1		

5.4 Senior Secondary Building - A

SL NO	FLOOR NAME	LAN POINTS (NOS.)	WIRELESS ACCESS POINTS (NOS.)	EDGE SWITCHES (NOS.)	F/O CABLE	UTP CABLE IO TO ES
1.	GROUND FLOOR					
	a. Section In-charge Room	2				
	b. Gents Staff Room	2				
	c. Multi-Media Room	2	1	1		
2.	FIRST FLOOR					
	a. Council Room	2				
	b. VC Room	2	1			
	c. Exam Room	2				
	d. Biology Lab	2		1		
3.	SECOND FLOOR					
	a. Library Room	2				
	b. Sr. Secondary Physics Lab	2				
	TOTAL	18	2	2		

Handwritten signature



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

5.5 Senior Secondary Building - B

SL	FLOOR NAME	LAN POINTS (NOS.)	WIRELES ACCESS POINTS (NOS.)	EDGE SWITCHES (NOS.)	F/O CABLE	UTP CABLE IO TO ES
1.	GROUND FLOOR					
	a. Ladies Staff Room	2				
2.	FIRST FLOOR					
	a. Commerce Room	2				
	d. Dean Room	2				
3.	SECOND FLOOR					
	a. Computer Lab	2	1	1		
	TOTAL	8	1	1		

5.6 Network Control Center/ IT Building

SL	FLOOR NAME	LAN POINTS (NOS.)	WIRELES ACCESS POINTS (NOS.)	EDGE SWITCHES (NOS.)	F/O CABLE	UTP CABLE IO TO ES
1.	FIRST FLOOR					
	a. IT Room	2	1	3		
	TOTAL	2	1	3		

5.7 Summary of minimum Requirements of Network Switches/FO/UTP cables

Total no. of switches (all types) = 12(including spare)

Total no. of Access Points = 8(including spare)

Total LAN Points = 72

5.8 Communication Cable:

Communication cable for connecting servers, all PCs, printers (local as well as remote) covered under this scope of supply shall be provided by the bidder.

Tentative cable length has been indicated above. The actual cable length shall be decided at detail engineering stage.

4-Core single mode Fiber Optics Cable: Tentative cable length as per BOQ Cat 6 UTP cable.
Tentative cable length as per BOQ

All other type of cable like printer cable, power cable etc: as required.

6.0 Documents to be submitted by the bidder along with the tender:

- Details of the networking equipment's, Software and other items offered as per the Technical Specification.
- Implementation Plan together with activity bar chart.
- Complete Bill of Quantities based on the Technical Specifications as mentioned in the Tender Document.



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

7.0 Preliminary Acceptance Test (PAT)

Computer Network, Hardware and Software

After successful erection of the system, preliminary acceptance testes shall be started for a period of 5 days for each zone. The bidder in the presence of the purchaser shall carry out the acceptance test. In order to qualify for acceptance, all the individual equipment including network equipment's, hardware & software shall operate up to 24 hours a day for seven consecutive days, demonstrating compliance of all functionalities as per the TS.

Error free functioning of operating system/ system software/ networking software and any other special utility software supplied by the bidder shall be demonstrated during the preliminary acceptance test period of each location. The purchaser on successful completion of acceptance test shall provide preliminary acceptance certificate.

8.0 Implementation

8.1 Implementation Mechanism

A project Steering Committee comprising representative from bidder and purchaser shall oversee the implementation of the Campus Wide Networking System.

8.2 Post Implementation – Extended Support

The bidder shall provide post implementation support to the purchaser to ensure the efficient day-to-day functioning of the networking system as indicated in clause.

8.3 Completeness

Any equipment, materials or supplies which may not be specifically mentioned but are necessary for carrying out the correct out the contract work shall be in the scope of the bidder and the systems must be complete in all respects.

8.4 Commissioning

The commissioning of Campus wide networking shall be carried out after successful completion of the PAT of all the zones. All the networking equipment including network switch etc. shall work in tandem during commissioning to establish successful integrated operation of the network.

8.5 Final Acceptance Test (FAT) :

After successfully commissioning of the system, final acceptance tests shall be undertaken for a period of 5 days for integrated operation of the network across all zones. The bidder in the presence of the purchaser shall carry out the final acceptance test.

Up-time efficiency is defined as productive and error free use of equipment. Any unutilized time during the test shall also qualify as uptime provided there are no hardware and software malfunctions.

The purchaser on successful completion of final acceptance test and submission of as built drawings and data sheets shall issue final acceptance certificate.



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

9.0 UPS Power Supply & Distribution

Presently there are 2x20 KVA online UPS (one at the IT Room and the other at the Senior Secondary computer lab). Necessary arrangements from the nearest UPS point shall be made available to powering up the needs of switches in the CWN.

9.1 The Following shall be in the scope of the bidder.

- Power cables, power distribution board – as required.
- Circuit Breakers etc. – as required.

10. Cabling Requirement

A. Communications Structured Cabling System

- 10.1. Cable Infrastructure Project requires an structured cabling system. The cabling system shall be backed by Manufacturers 5 Years System Warranty. The system warranty shall be facilitated by the Contractor and be established between the Customer and the cabling system Manufacturer.
- 10.2. Deploy 2 data circuit(s) to each user outlet as a standard configuration. Data circuit(s) shall consist of Category 6 certified UTP cable, patch panels, faceplates, and patch cords as a standard configuration. End-to-end data circuit beginning at the work area equipment shall include a work area patch cord, faceplate with jacks, horizontal cable, rack mount patch panel, and cross-connect patch cords connecting the equipment in the IT Room.
- 10.3. Deploy optical fiber data circuits in the backbone consisting of multi-fiber trunk cable, fiber patch panel Light interface unit (LIU), Media Convertor, and patch cords as a standard configuration. End-to-end data circuits beginning at the IT Room shall include a cross-connect patch cord, fiber enclosure, multi-fiber trunk cable, another fiber enclosure LIU, media convertor and another cross-connect patch cord connecting the equipment in the Main Cross-connect (MC). Backbone circuits shall contain fiber trunk cables and patch cords.

11.1 Installation Procedure for Category 6U/UTP Horizontal Cabling:

UTP cable laying & termination has to be done in accordance with manufacturer's printed instructions. All copper horizontal cables shall be installed in the following manner:

- 11.1. For indoor surface and concealed cable laying, medium duty PVC channel/pipe (ISI) of adequate size shall be used. Cable raceways shall not be filled greater than the NEC maximum fill for the particular raceway type.
- 11.2. Cables shall be installed in continuous lengths from origin to destination (no splices) unless specifically addressed in the document.
- 11.3. The cable's minimum bend radius of 4 times the cable diameter and maximum pulling tension of 25lbs shall not be exceeded.



JAWAHAR VIDYA MANDIR
SHYAMALI, RANCHI – 834002
जवाहर विद्या मंदिर, श्यामली, राँची - 834002

- 11.4. Cables shall not be attached to ceiling grid or lighting support wires.
- 11.5. The fiber stack shall be neatly coiled within fiber termination panel. No lack loops shall be allowed external to the fiber optics.
- 11.6. Each cable shall be individually attached to the respective termination panel by mechanical means.
- 11.7. Each fiber cable shall be stripped upon entering the termination panel and individual fiber routed in the termination panel.
- 11.8. Each fiber shall be clearly labelled at the entrance to the termination point. Cables labeled within the bundled shall not be acceptable.
- 11.9. Dust caps shall be provided on the connectors and couplings.
- 11.10. In each cable run, some extra length shall be kept at suitable points to enable one or two straight through joints in future. When a number of cables are laid together, the extra cable length shall be adjusted to stagger the straight through joints.
- 11.11. Cable route marker shall be provided at a distance of every 250m on the cable route and also at places or corners wherever, route of the cable changes.

12.0 Spares and Consumables

12.1 Spares

Bidder shall supply all spares required during erection, commissioning and warranty. The bidder shall submit the detailed list along with the tender document.

12.2 Consumables

The bidder shall provide all consumables as required for erection, testing and successful commissioning of the system at his own cost. Such consumables are defined as :

- a. Network/Edge Switches.
- b. Cables : Patch Cords, Fiber Optics, Cat 6 etc.
- c. Access Points.

12.3 Tools and tackles

The bidder shall bring all necessary installation/maintenance tools, tackles & testing equipment's as required during installation, commissioning and warranty maintenance of the system. In addition to the above, the bidder shall also supply the following tools and tackles.

- RJ connector crimping tool: 1 no.
- Power driven screwdriver: 2 no.



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

13.0 Drawings & documentation for networking equipment's

All drawings, documents, instruction manual etc. shall be in English language and all dimensions, weight and quantity in metric unit. The successful bidder shall submit drawings and documents for review and approval of purchaser/consultant in three copies.

13.1 Drawing/Documentation (List)

The following shall be submitted for approval At basic engineering stage:

- Network control center/ IT Room layout diagram
- Network diagram (for equipment and cabling) overall/zone wise At detail engineering stage:
- System configuration drawing including networking.
- Cable schedule and layout overall/ zone wise/ unit wise.
- Cable routing and layout overall/ zone wise/ unit wise
- Datasheet for all the equipment's (hardware, software & networking equipment).
- Single line diagram for power supply to computer system/ other computer and network equipment.
- Test quality certificates: test quality certificates for switches and passive items stage wise shall be submitted for approval.

Hardware and networking installation for individual equipment.

- Hardware and networking trouble shooting/ maintenance manuals for individual equipment
- Logical screen shots for hardware/software configuration wherever applicable.

13.2 Drawings/ Documents Approval Procedure

Purchaser/ Consultant shall scrutinize the submitted drawings/documents and comments, if any, shall be communicated to the bidder. The bidder shall incorporate the comments in the drawing correctly and the responsibilities of completeness of incorporation etc. lies with him. The revised drawings/documents shall be submitted for final approach and records.

14.0 Project Implementation Schedule and Progress Monitoring

14.1 The project envisages design, procurement, configure, testing at works, supply, handling at site, installation, erecting, laying, testing, integration, acceptance and commissioning of network along with associated equipment, hardware, software on turnkey basis including minor civil works within battery limits of the package.

14.2 Project Implementation methodology

- Supply, installation and commissioning of switch and all other networking equipment envisaged for computer center including cable laying as per tentative implementation schedule for work building, to be indicated by purchaser during engineering stage.
- Laying of FO cable as per implementation schedule.



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

14.3 Project Schedule

The Tenderer shall submit the following before finalization of contract

- Deployment of site personnel for construction/ erection
- Off-site/On-site organization chart for execution of the project.

14.4 The successful bidder shall have to submit the following:

- The detailed project network schedule both in hard and soft copy covering further details of project activities, area-wise, within 1 month from Effective date of contract for approval and finalization by the Purchaser/ Consultant.
- The format of progress report shall be discussed and finalized within 1 month
- The progress reports in approved format shall be submitted every month.
- Updated detailed project network schedule shall be submitted every month along with progress report.

14.5 Progress Monitoring

In general, progress of the following major activities to be reported:

- Issue of ordering/ technical specifications and placements of orders on sub-vendors for bought out items/ components.
- Detailed design and engineering including submission of drawings and their approval, subsequent revisions and resubmissions.
- Manufacturing activities at the works of the contractors/ associates/ sub-vendors
- The progress report on inspection status.
- Dispatch of equipment to site
- Site activities including receipt of material/ equipment at site, construction and erection, testing and commissioning

One month prior to start of site activities, the contractor shall submit a schedule for site-execution, along with quantitative program of month-wise physical targets. After the site activities are started, the contractor shall furnish information on site activities viz: daily, weekly and monthly progress reports on constructions/ erection, receipt of equipment against the monthly construction/ erection plan etc. The contractor shall also indicate resource deployment at site, highlights of critical areas and constraints faced, in the site progress reports.

Other information related to site activities as may be required by the purchaser and Consultant, shall also be submitted by the contractor.

In the interest of timely completion of project, if required, the priority construction/ erection may be altered by the Purchaser and Consultant, in consultation with the contractor.

15.0 The Purchaser/Consultant shall also have the right to:

- Invite the Contractor for daily/ weekly / monthly meetings to review the progress of the project.
- Depute Purchaser's authorized representatives for ascertaining / expediting progress at contractor's works
- Suggest remedial actions to bridge-up time gap between planned progress and observed progress

Handwritten signature



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

16.0 Indicative Minimum Bill of Quantity (BOQ)

S/no	Equipment	Quantity
A. SUPPLY		
1	Wall Racks 6U	11 Nos.
2	Firewall/Perimeter Security Appliance (UTM)	1 No.
3	Managed Layer-2 Edge Switch- (48 port,4 SFP)	4 No.
4	Managed Layer-2 Edge Switches- (24 port,2SFP)	7 Nos.
5	Managed Layer-2 Edge Switches- (24 port,4SFP)	1 No.
6	Managed Wireless Access Points	8 Nos.
7	Outdoor armoredSingle mode Fiber optic cable (4 core)	900 Metre
8	UTP CAT6 cable	900 Metre
9	RJ45 connector	500 Nos.
10	24 port CAT6 UTP Patch Panel	20 Nos.
11	Single Port, CAT6 information outlet	50 Nos.
12	FO LIU	4 Nos.
13	Media Converter	4 Nos.
14	Tools & Tackles/consumables	1 Lot
15	Training of Personnel	1 Lot
16	Electrical power cabling along with power cables, distribution board, Switch board with required accessories for networking equipments at near each Rack	11 Nos.
B. Erection, Commissioning & Testing		
1	UTP cable laying 1 inch PVC conduit, patch cord, FO patch Cord, pigtail	900 Metre
2	Outdoor Laying of FO cable in 1.5" HDPE conduit	700 Metre
3	Indoor Laying of FO cable in 1 inch PVC conduit	200 Metre
4	Splicing per core	20 Nos.

Remarks:

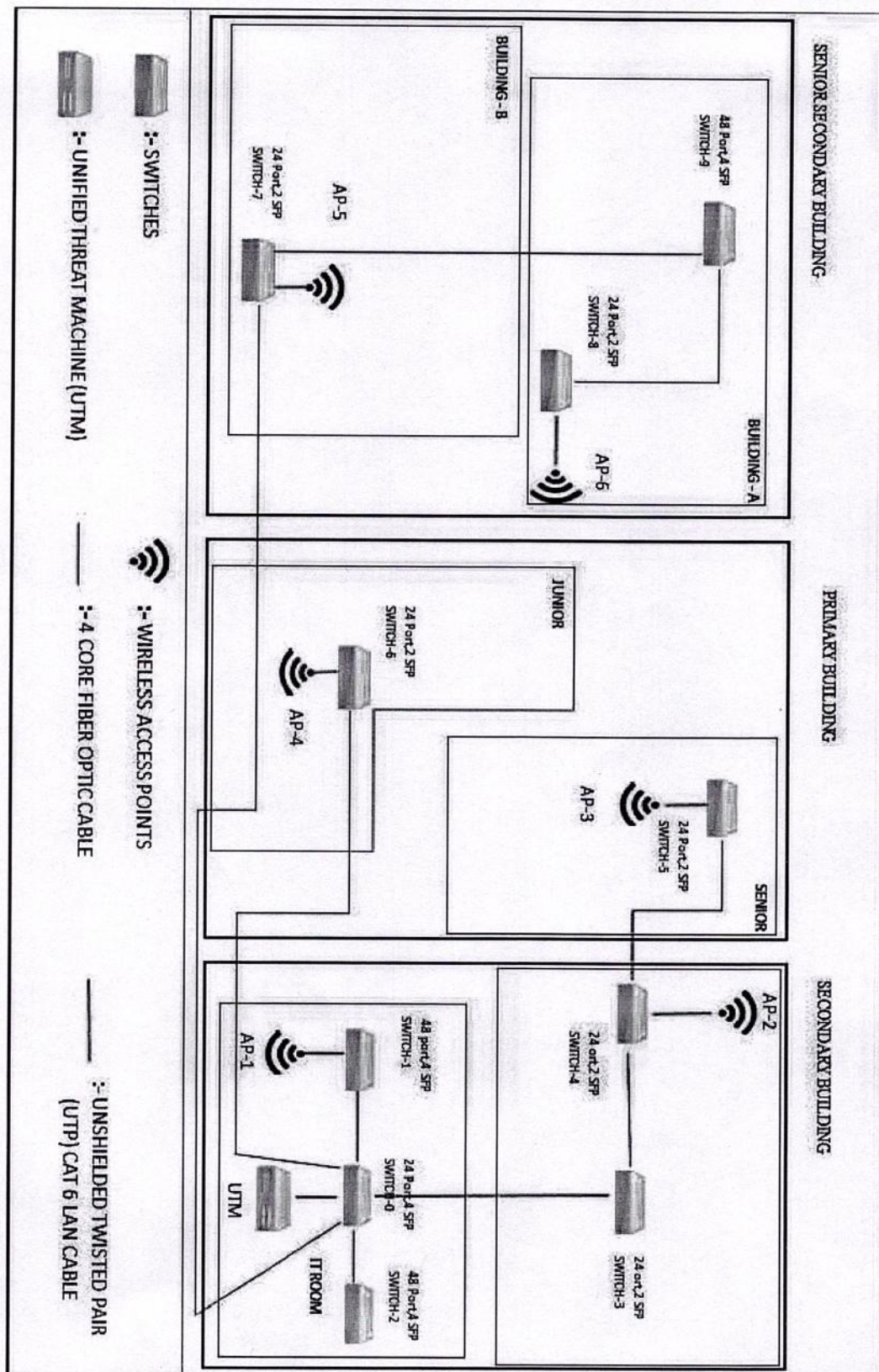
- Any other items (hardware/software and support) required for fulfillment of the project shall be supplied by the bidder



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002



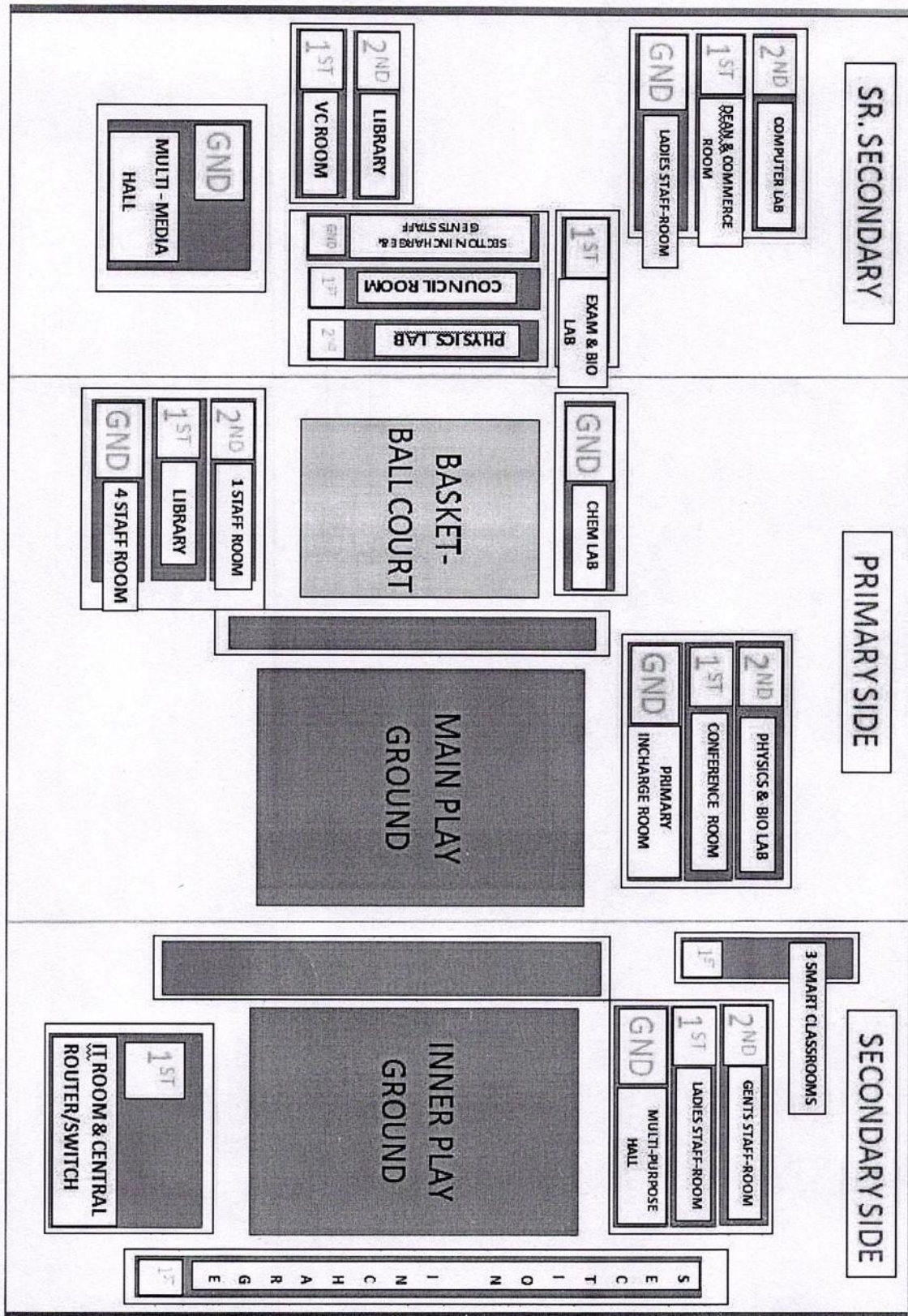
Handwritten signature



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002





JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

Annexure - II

Techno – Commercial Bid Declaration by the Bidder:

Sl.No	Description	Indicate also page number where attached
1.	Name, address & telephone number of the agency / firm	
2.	Name, Designation, Address and telephone No. of authorized person	
3.	Please specify as to whether Tenderer is sole Proprietor / Partnership firm / Private or Limited Company	
4.	Copy of PAN card issued by Income Tax Department	
5.	GST Registration (Please attach)	
6.	Copy of Work order attached	
7.	Details of Bid Earnest Money Deposit: a) Amount: b) Demand Draft / Banker's Cheque No: c) Date of issue: d) Name of issuing Bank:	

This is to certify that I / We before signing this tender have read and fully understood all the terms and conditions contained in the tender document and undertake myself / ourselves to strictly abide by them.

Signature of the Tenderer with Seal



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

Annexure – III

Sl. no	Equipment	Quantity	Make & Model	T.S. Complied (Yes/ No)	Price Quoted (Yes/ No)
1	Wall Racks 6U	11 Nos.			
2	Firewall/Perimeter Security Appliance (UTM)	1 No.			
3	Managed Layer-2 Edge Switch- (48 port,4 SFP)	4 No.			
4	Managed Layer-2 Edge Switches- (24 port,2SFP)	7 Nos.			
5	Managed Layer-2 Edge Switches- (24 port,4SFP)	1 No.			
6	Managed Wireless Access Points	8 Nos.			
7	Outdoor armoredSingle mode Fiber optic cable (4 core)	900 Metre			
8	UTP CAT6 cable	900 Metre			
9	RJ45 connector	500 Nos.			
10	24 port CAT6 UTP Patch Panel	20 Nos.			
11	Single Port, CAT6 information outlet	50 Nos.			
12	FO LIU	4 Nos.			
13	Media Converter	4 Nos.			
14	Tools & Tackles/consumables	1 Lot			
15	Training of Personnel	1 Lot			
16	Electrical power cabling along with power cables, distribution board, Switch board with required accessories for networking equipments at near each Rack	11 Nos.			
B. Erection, Commissioning & Testing					
1	UTP cable laying 1 inch PVC conduit, patch cord, FO patch Cord, pigtail	900 Metre			
2	Outdoor Laying of FO cable in 1.5" HDPE conduit	700 Metre			
3	Indoor Laying of FO cable in 1 inch PVC conduit	200 Metre			
4	Splicing per core	20 Nos.			

Signature of the Tenderer with Seal



JAWAHAR VIDYA MANDIR

SHYAMALI, RANCHI – 834002

जवाहर विद्या मंदिर, श्यामली, राँची - 834002

Annexure – IV

Price Bid Format

SNo.	Equipment	Quantity	Unit Rate	GST	Total Amount
A. SUPPLY					
1	Wall Racks 6U	11 Nos.			
2	Firewall/Perimeter Security Appliance (UTM)	1 No.			
3	Managed Layer-2 Edge Switch-(48 port,4 SFP)	4 No.			
4	Managed Layer-2 Edge Switches-(24 port,2SFP)	7 Nos.			
5	Managed Layer-2 Edge Switches- (24 port,4SFP)	1 No.			
6	Managed Wireless Access Points	8 Nos.			
7	Outdoor armoredSingle mode Fiber optic cable (4 core)	900 Metre			
8	UTP CAT6 cable	900 Metre			
9	RJ45 connector	500 Nos.			
10	24 port CAT6 UTP Patch Panel	20 Nos.			
11	Single Port, CAT6 information outlet	50 Nos.			
12	FO LIU	4 Nos.			
13	Media Converter	4 Nos.			
14	Tools & Tackles/consumables	1 Lot			
15	Training of Personnel	1 Lot			
16	Electrical power cabling along with power cables, distribution board, Switch board with required accessories for networking equipments at near each Rack	11 Nos.			
B. Erection, Commissioning & Testing					
1	UTP cable laying 1 inch PVC conduit, patch cord, FO patch Cord, pigtail	900 Metre			
2	Outdoor Laying of FO cable in 1.5" HDPE conduit	700 Metre			
3	Indoor Laying of FO cable in 1 inch PVC conduit	200 Metre			
4	Splicing per core	20 Nos.			

Declaration by the Bidder:

I have carefully gone through the Terms and Conditions contained in the Tender Document (JVM/OT-12/2018-2019 Dated. 09.01.2019) Supply, Installation and Commissioning of Campus Wide Network (CWN) on turnkey basis at Jawahar Vidya Mandir, Shyamali, Ranchi All the Terms and Conditions of the tender enquiry are acceptable to us.

Signature of the Tenderer with Seal

