NOTICE INVITING TENDER

Tender No. AIIMS Bhopal/Store/Networking/2013-2014/01 Dated 28.08.2013

On behalf of Director, All India Institute of Medical Sciences (AIIMS) Bhopal, Notice Inviting Tender for Supply, Installation, Testing and Commissioning of Networking Equipment for Network Connectivity at Girls Hostel and Boys Hostel of AIIMS Bhopal are invited under Two Bid System in sealed cover.

Detailed Description and Term & Conditions of Tender Document may be seen and downloaded from AIIMS Bhopal website www.aiimsbhopal.edu.in or may be obtained directly from the Office of Store Officer, 1st Floor, E-Wing, Medical College Building, AIIMS Bhopal, Saket Nagar, Bhopal-462024 (MP) on any working day from 28th August 2013 to 18th Sept 2013 from 10.00 Hours to 17.00 Hours on payment of Tender Document cost Rupees 1,050/- (Non Refundable) Including VAT@5% in the form of DD, drawn from any Nationalized Bank in favour of “Director, AIIMS Bhopal”). Last date of submission of tenders is 19th Sept 2013 (Up to 14.00Hrs) in the Tender Box kept in the Office of the Store Officer at address mentioned above.

( Admn. Officer )
# Schedule of Tender

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Schedule</th>
<th>Particulars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cost of Tender Form</td>
<td>Rupees. 1050/- (One Thousand Fifty Only) Non Refundable including VAT@5% in the Form of DD in favour of “Director, AIIMS Bhopal” from any Nationalized bank. Those who have downloaded the tender document from website enclose Tender Document Cost DD with Technical Bid.</td>
</tr>
<tr>
<td>2</td>
<td>Date for issue of Tender Document</td>
<td>28th August 2013</td>
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<tr>
<td>3</td>
<td>Last date for Sale of Tender Document</td>
<td>18th Sept 2013</td>
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<tr>
<td>4</td>
<td>Date for submission of tender</td>
<td>19th Sept 2013; 14.00 Hours</td>
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<tr>
<td>5</td>
<td>Date for Opening of Technical Bid</td>
<td>19th Sept 2013; 15.00 Hours</td>
</tr>
<tr>
<td>6</td>
<td>Earnest Money Deposit</td>
<td>The Banker’s Cheque/DD (Non-interest bearing) /FDR of EMD of Rupees 20,000/- (Twenty Thousand) is to be drawn in favour of “Director, AIIMS Bhopal”. In respect of successful bidder it will be returned after the submission of Performance Security Deposit to AIIMS Bhopal and Performance Security Deposit should remain valid for a period of Ninety Days beyond the date of completion of all contractual obligations including 36 Months Warranty. Any other dues outstanding shall also be recovered from the Performance Security Deposit. In the case of unsuccessful Bidders, the EMD shall be refunded within 30 days of award of contract to successful bidder/bidders.</td>
</tr>
</tbody>
</table>

Note:-

1. The details of Tender Terms & Conditions are mentioned in Tender Document.

1. Tender Form can be purchased from Office of Store Officer, 1st Floor, E-Wing, Medical College Building AIIMS Bhopal by paying Cost of Bid Document of Rupees 1,050/-
(One Thousand Fifty only) Non Refundable including VAT@5% in form of Demand Draft of any Nationalized Bank drawn in favour of “DIRECTOR, AIIMS BHOPAL” payable at BHOPAL from 28th August 2013 to 19th Sept 2013 in all working days from 10.00 Hours to 17.00 Hours or downloaded directly from AIIMS Bhopal website www.aiimsbhopal.edu.in. Those who have downloaded the tender document from website should must have enclose a DD for Rs. 1050/- (One Thousand Fifty only ) along with their Technical Bid (NON-REFUNDABLE) INCLUDING VAT @5% BY WAY OF SEPARATE DEMAND DRAFT DRAWN IN FAVOUR OF DIRECTOR, AIIMS, BHOPAL AND THE SAME SHOULD ESSENTIALLY BE ENCLOSED ALONGWITH THE TECHNICAL BID. THE BIDDERS SHOULD SPECIFICALLY SUPERSCRIBE, “DOWNLOAD FROM THE WEBSITE” ON THE TOP LEFT CORNER OF THE OUTER ENVELOPE CONTAINING TECHNICAL BID & FINANCIAL BID SEPARATELY. IN NO CASE, THE TENDER COST FEE SHOULD BE MIXED WITH EMD AMOUNT. THE TENDERS NOT FOLLOWING THE ABOVE PROCEDURE, THEIR BIDS WILL BE SUMMARILLY REJECTED.

2. The Director, AIIMS Bhopal reserves the right to reject any or all tenders without assigning any reasons whatsoever.

3. Interested Bidders are advised to visit AIIMS Bhopal website www.aiimsbhopal.edu.in / www.aiimsbhopal.nic.in and CPP Portal www.eprocure.gov.in for details of this Tender Document.

Enclosed : Tender Document

(Administrative Officer)

Copy to:

1. Director/Dy. Director(Admn)/Financial Advisor/Store Officer of AIIMS, Bhopal
2. Notice Board of Admn/Store Department for wider publicity and Vendors information.
3. IT Department, AIIMS Bhopal- Requested for upload the same in the AIIMS Bhopal Website www.aiimsbhopal.edu.in / www.aiimsbhopal.nic.in / CPP Portal www.eprocure.gov.in for wider publicity.
TENDER DOCUMENT

Supply, Installation, Testing and Commissioning of Networking Equipment for Network Connectivity at Girls Hostel and Boys Hostel at AIIMS Bhopal

IMPORTANT DATES

Publication of NIT in the News papers : 28.08.2013

Uploading of NIT on AIIMS Bhopal website
www.aiimsbhopal.edu.in, 28.08.2013
www.aiimsbhopal.nic.in,
www.eprocure.gov.in

Date of issue of Tender Document : 28.08.2013

Last Date of Sale of Tender Document : 18.09.2013

Last Date & time for submission of Tender Document : 19.09.2013 upto 14.00 Hours At the Tender Box kept at the Office of Store Officer, 1st Floor, E-Wing, Medical College Building, AIIMS Bhopal, Saket Nagar, Bhopal-462 024 (MP)

Last date for submission of Pre Bid Queries by Tenderers : 09.09.2013 up to 17.30 Hrs. by email to itsupport@aiimsbhopal.edu.in / stores@aiimsbhopal.edu.in

Pre Bid Clarification : Shall be uploaded on website www.aiimsbhopal.edu.in by 12.09.2013 upto 17.30 Hours. Tenderers should download the same and attach signed copy with Technical Bid Document.

Date & time for opening of Technical Bid : 19.09.2013 at 15.00 Hours on 1st Floor of Medical College Building, AIIMS Bhopal, Saket Nagar, Bhopal-462 024 (MP)

Date & time for opening of Financial Bid : Will be intimated separately in due course of time to only those Bidders, whose bids found “Technically Responsive”.

Tender No.: AIIMS Bhopal/Store/Networking/2013-2014/01  Page No.(4)
TENDER DOCUMENT

Supply, Installation, Testing and Commissioning of Networking Equipment for Network Connectivity at Girls Hostel and Boys Hostel at AIIMS Bhopal


2. The cost of Tender Document is Rupees 1050/- (One Thousand Fifty only) (Non Refundable) including Vat@5%. Tender document can be had in person from the Office of the Store Officer on any working day from 28.08.2013 to 18.09.2013 during 10:00 to 15:00 Hours on payment of said cost in the form of Demand Draft in favour of “Director, AIIMS Bhopal”, payable at Bhopal. The Tender Document can also be downloaded from the AIIMS website (http://www.aiimsbhopal.edu.in). In this case it is necessary for the Tenderer to pay the cost in the form of Demand Draft drawn in favour of “Director, AIIMS Bhopal”, payable at Bhopal and is kept in the Technical Bid Envelope. The reference of the DD is to be supercribed on the main envelope of Technical Bid.

3. The Parties interested for any clarification, should send their Pre Bid enquiries (if any) through email to store@aiimsbhopal.edu.in by 09.09.2013 up to 17.30 Hours No need to visit AIIMS Bhopal in person for clarification, the clarification will be uploaded by 12.09.2013 up to 17.30 Hours on AIIMS Bhopal website www.aiimsbhopal.edu.in, copy of clarification downloaded should be enclosed, duly signed and stamped along with their Technical Bid Document in Technical Bid Envelope during submission of their bids to AIIMS Bhopal. However for understanding clearly the Client’s requirement, Bidders are advised to visit AIIMS Bhopal and the following Officials of AIIMS Bhopal may contacted, so that they can be Coordinate their visit to Girls Hostel and Boys Hostel of AIIMS Bhopal (i.e. site of Networking connectivity required) and give them the necessary briefing regarding the essential/desirable features of the networking requirement:-

Sh. Neetish Tiwari, Contact Cell No. : 7773000881
Sh. Sandeep Tiwari, Contact Cell No.: 9200008919

4. The time is essence of this Tender. the entire Networking job including Supply, Installation, Testing and Commissioning is required to be completed in all respects within 45 (Forty Five) Days, and Tenderers who have the capacity to be complete the desired Networking
The Tender Document has been divided into the following chapters:

1. **Chapter-I: General Instructions & Information to Bidders** (Page No. 8 to 10)
2. **Chapter-2: Terms & Conditions and Eligibility Criteria of Contract** (Page No. 11 to 19)
3. **Chapter-3: Introductory Layout Plan & Schedule of Requirements & Technical Specifications** (Page No. 20 to 34)
4. **Chapter-4: Technical Bid** (Page No. 35 to 36)
5. **Chapter-5: Check List** (Page No. 37)
6. **Chapter-6: Performance Bank Guarantee Form** (Page No. 38)
7. **Chapter-7: Financial Bid** (to be utilized by the bidders for quoting their prices and price bid should be kept in separate sealed envelope superscribed as Financial Bid for supply, installation, testing and commissioning of Network Equipment to AIIMS Bhopal due on 19.09.2013).
Equipment for Networking at Girls Hostel and Boys Hostel at AIIMS Bhopal) (Page No. 39 to 56)
Chapter – I

GENERAL INSTRUCTIONS & INFORMATION TO BIDDERS

1. The Tenderer must fulfil the following specifications/conditions:-

(a) A Registered Office or Branch Office or Technical Support Office of the participating firm should be located preferably at Bhopal City. Availability of a responsible person on call on all working days between 09.00 Hours to 17.30 Hours, so that the 24x7 onsite Service Support under 36 Months warranty obligations as per requirement of AIIMS Bhopal may expedited.

(b) The tenderer should have its own Bank Account, PAN, TAN, TIN, VAT and Service Tax Number. Payment will be made electronically only.

(c) The tenderer should be a reputed Agency/Firm/Company having at least three years dealing experience with the Government Departments, Certificate in token of Proof of experience, of the concerned Department should be enclosed for ready reference.

(d) The tenderers should require to submit detailed Technical Specifications in accordance to the required Technical Specifications mentioned at Schedule of Requirement and Technical Specifications at Chapter-3 of each of the Networking Equipment/Accessories for which the rates they have been quoted along with their Technical Bid Documents with their quoted items nos. and their firm name without indicating any prices for assessing the Technical Competency of the Offered items with the help of Subject Expert during Technical Evaluation of the Bid by AIIMS Bhopal.

(e) The rates are to be quoted on FOR-Destination with Supply, Installation, Commissioning and Testing job completion basis only. However, their breakup is necessary.

(f) The offer of Tenderers quoting rates as per Technical Specifications laid down in Schedule of Requirement and Technical Specifications (Chapter-3).

(g) The tenderer should submit self-attested copies of the Income Tax Returns and Audited certified Accounts for the last three financial years (i.e. for 2010-11, 2011-2012 and 2012-2013). A Letter duly signed and stamped by the Chartered Accountant/Company Secretary clearly mentioning the Last three years Turnover of the firm must accompany with Technical bid.

(h) The tenderer should give an Affidavit duly Notarized on Stamp Paper worth Rupees 50/- in clear and un-ambiguous language that it has never been black listed/no criminal case pending by any of the organisation with whom, it had dealing for supply of similar items during last five years nor has been penalized for inferior or poor quality in supply.
2. Brief Information regarding Network Connectivity requirements at Girls Hostel and Boys Hostel of AIIMS Bhopal

AIIMS Bhopal, Saket Nagar, Bhopal-462 024 is going to be setup a campus wide Local Area Network from Medical College Building (already Network services are efficiently functional through 1 GB NKN Network band width received from Govt. of India) to Girls Hostel (around 150 Meter distance from Medical College Building) and Boys Hostel (around 250 Meter distance from the Medical College Building) and both the buildings (i.e. Girls and Boys Hostel are connected from the Medical College through the Standard Optical Fibre Cable terminated to both ends). This network shall provide with high-speed access to all computers, and Internet access connectivity. The objective is to be achieved by deploying Gigabit link on the OFC backbone from the Medical College to the entire both Hostel Rooms to facilitate the Student of MBBS, staying with AIIMS Bhopal Campus on 24x7 basis Internet services to improve their Academic excellence as per the vision of MOHFW, Govt. of India, in a 2-tier topology consisting of a central core switch followed by access switches in sequence to connect the desktops over Gigabit Ethernet Converter from both ends (i.e. receiver end and delivery end). In addition to the procurement of the switches and hardware, related network security and management software will also be procured. This is a turnkey type work/project including supply of materials and implementation of the work comprising of laying cables, mounting switching, structured cabling and maintenance of campus wide network (i.e. from Medical College to Girls and Boys Hostel Network Connectivity) and so on.

Following considerations shall be kept in mind, to arrive at the solution of the campus wide LAN at AIIMS Bhopal:

Modularity: It is a key requirement, in the sense that incremental additions should be possible at the hardware & software levels, as evolving needs justify expansion.

Scalability and expandability: Scalability and expandability are the stated requirements of the proposed campus network at AIIMS Bhopal. The solution should be scalable and expandable, if required, should be easy with minimal changes in the network.

Flexibility: Flexibility and ease of adding new services or features (Data, Voice, Video, and Wireless etc.) required due to the dynamic operating environment. The proposed solution should also be flexible enough to support current standards and foreseen upcoming standards.

QOS: Quality of Service is required in the proposed network as various user groups and various applications will be running on the network. All the network components being proposed should support standard traffic policies & QOS.

Reliability: High Reliability of all the products constituting the core of the above said campus network & other sub systems is crucial. The products should have the self-
healing with fast convergence features in case of any failure. The equipment’s proposed should have high MTBF and proven reliability.

**Security:** It is one of the key requirements of proposed campus network as different user groups are using this common infrastructure with very sensitive applications. So provision of adequate security has to be provided on the network between different user groups.

**Management:** Complete visibility and control of the network, as well as the provision of being able to exchange data with the management platforms or other sub-systems is crucial to the proposed campus network. The NMS should support features for centralized proactive management, statistical analysis, troubleshooting tools, configuration tools etc. and enabling or disabling particular node or route.

**Simplicity:** The proposed network design should be simple with minimum variety of components and preferably from a single manufacturer. This also implies simple to understand, implement & maintain the entire system.

The proposed network solution should be on Gigabit Ethernet technology and should support multimode Fibre Optic/Single mode Optic Fibre/Cat 6 Cable.

The present requirement of LAN Nodes in the Girls Hostel and Boys Hostel Buildings are as under:-

**Consolidated Nodes Break-up Details-Girls Hostel (Building -1) :-**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Floor’s Location</th>
<th>Nos. of LAN Node</th>
<th>Switch 24 Port with 2-Combo SFP’s, Support 10/100/1000 GB, Managed</th>
<th>Patch Cord 1 Meter. Rack Side</th>
<th>Patch Cord 3 Meter. User Side</th>
<th>Cable Manager</th>
<th>24 Port Cat 6 Jack/ Patch Panel</th>
<th>9U Rack</th>
<th>Wireless Access Point 300 MBPS</th>
<th>UPS 1.5 KV</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Ground Floor</td>
<td>22</td>
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<tr>
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<td>20</td>
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<tr>
<td>5</td>
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<td>1</td>
<td>1</td>
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<tr>
<td>6</td>
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## Consolidated Nodes Break-up Details - Boys Hostel (Building No. 2):

<table>
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<tr>
<th>S. No.</th>
<th>Floor's Location</th>
<th>No. of LAN Node</th>
<th>Switch 48 Port with 2-Combo SFP's, Support 10/100/1000 GB, Managed</th>
<th>Patch Cord 1 Meter. Rack Side</th>
<th>Patch Cord 3 Meter. User Side</th>
<th>Cable Manager</th>
<th>48 Port Cat 6 Jack/Patch Panel</th>
<th>9U Rack</th>
<th>Wireless Access Point 300 MBPS</th>
<th>UPS 1.5 KV</th>
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</table>
Chapter -2

TERMS AND CONDITIONS

1. The Tender submitted after the due date and time mentioned in “IMPORTANT DATES”, shall be rejected.

2. Submitted bid must be clearly legible, duly signed by the authorized signatories. Any erasure or alteration must appear specifically in the Bid.

3. Prospective Bidder likely to visit AIIMS Bhopal Campus (i.e. Girls Hostel and Boys Hostel) prior to submission of their bid for clearly assessment of the requirement of Networking need of AIIMS Bhopal under intimation to the following Officials:-

   **Sh. Neetish Tiwari, Contact Cell No. : 7773000881**

   **Sh. Sandeep Tiwari, Contact Cell No. : 9200008919**

   No disputes regarding the form, nature or quality of infrastructure and site shall be entertained by AIIMS Bhopal after submission of the Bid by any of the Bidder.

4. **SCOPE OF WORK:-**

   The scope of works include the Supply, Installation, Testing and Commissioning of Network Equipment for providing efficient Network Services access to the Rooms of Girls Hostel and the Boys Hostel of the AIIMS Bhopal and its integration with existing LAN setup available at Medical College Building to includes but not limited to the following tentative works:-

   1. Indoor UTP Cable Laying through PVC Pipe, Casing including all materials.
   2. Installation of IO/Crimping/Patch Panel/ Rack/ Switch and System Integration.
   3. Laying and Termination of CAT6 UTP Cable. All cabling must be “structured”.
   5. All the Operating/Setup Driver’s CD’s, Operational manuals, Stationery and Similar accessories made available by Equipment vendor would be handed over by the Agency/Contractor/Firm to AIIMS Bhopal after Successful installation, testing and commissioning work is over.
   7. Repair/Refurnishing work owing to damage caused due to cabling or any other work related to this Job/Project. There should not be any hanging or uncovered wire.
   8. Patch cord should be branded and factory crimped.
9. Equipment furnished shall be complete in every respect with all mountings, fittings, fixtures and standard accessories normally provided with such equipment's and/or needed for erection, completion and safe operation of the equipment's as required by applicable codes though they may not have been specifically detailed in the tender document, unless included in the list of exclusions. All similar standard components/parts of similar standard equipment's provided, shall be inter-changeable with one another.

10. The Bidder shall be responsible for providing all materials, equipment's, and services, specified or otherwise, which are required to fulfill the intent of ensuring operability, maintainability, and reliability of the complete equipment covered under this specification within his quoted price. This work shall be in compliance with all applicable standards, statutory regulations and safety requirements in force of the date of award of this contract.

11. The bidder shall also be responsible for deputing qualified personnel for installation, testing, commissioning and other services under his scope of work as per this specification. All required tools and tackle for completing the scope of work as per the specification is also the responsibility of the bidder.

12. The installation of equipment's shall be accepted only after installation tests are satisfactorily over.

13. The bidder should ensure while installation and integration of existing LAN with new Network connectivity, day-to-day functioning of official work and existing network setup/connectivity/internet connectivity should not get disrupted/hampered.

14. The bidder’s proposal shall include the list of tools (such as crimping tool, Krone punch tool) and other accessories, which are required for installation of the connection. No separate charges for fixing/crimping/other connection charges / Labor Charges would be paid by AIIMS Bhopal.

15. The switches proposed by the bidders must be compatible to support the existing network and the facility of the repairmen/replacement available in Bhopal city.

16. The scope covers design/development of a suitable architecture/layout of the proposed networking system, preparation of bill of materials, pre-dispatch inspection / testing, packing and forwarding, transportation, insurance and carrying out further activities at sites viz. unloading, storage, (space to be provided by the owner) further handling, erection, testing and commissioning including successful completion of acceptance tests and any other services specified.

17. AIIMS Bhopal reserves the right for quantity variation due to increase/decrease in requirements. The bidder shall also provide all required equipment which may not be specifically stated herein but are required to meet the intent of ensuring completeness, maintainability and reliability of the total system covered under this specification, including integration and interoperability with the existing LAN, on occurrence of such necessary requirement, the written immediate intimation along with brief technical justification shall be given by the Bidder to the AIIMS Bhopal and after
obtaining necessary approval on writing from AIIMS Bhopal, if the extra work shall be carried out without obtaining approvals from AIIMS Bhopal, AIIMS Bhopal shall not liable to pay any extra cost to the bidder.

18. **Scope of Work shall also include:-**
   a) Powering on equipment after ensuring correctness of terminations interfaces and power supply and making the system ready for testing and commissioning.
   
   b) Testing of LAN Cables after laying, terminations and ferruling at both the ends. All testing tools and instruments shall be brought by the bidder and taken back after the testing.
   
   c) Configuration of the equipment as per the requirements of AIIMS Bhopal including Network segmentation and Network Monitoring though network management s/w.
   
   d) Site acceptance tests to establish satisfactory performance of the equipment's as per specs.
   
   e) Assistance for familiarization and operation of the installed system & services for 36 months after acceptance of system.
   
   f) Onsite warranty for all Installation and Hardware delivered for minimum Three years and extended as per OEM guarantee/warranty offered.

19. In case, the quantity of laying cables or fixing wall mount sockets etc. exceeds or is less than the quantity in bid price schedule, the payment for the executed quantity shall be paid on pro-rata basis, for the actual quantities consumed / for which the installation is carried out through the Bidder on Certification by Authorized Network Engineer/IT Expert/Representative of AIIMS Bhopal.

20. Any other work required for making the network functional up to the satisfaction of the AIIMS Bhopal.

5. **Time Schedule for Completion:** The entire Networking job is to be completed in all respects within 45 (Forty Five) Days from the date of issue of Work Order. The work shall Deemed to be commenced within 5 days from the date of acceptance letter or date of handling over of site, whichever is earlier. Time is the essence of the contract and shall be strictly observed by the Contractor. The work shall not be considered as complete until the AIIMS Bhopal have certified in writing that this has been completed and the defects liability period shall commence from the date of such certificate.

6. **Submission of Acceptance Letter:** Tenderer is required to submit to AIIMS Bhopal within 5 Working Days from the receipt of the Work Order from AIIMS Bhopal.

7. **Supply of Materials:** Within the 10 Days of the Date of Acceptance Letter to AIIMS Bhopal.
8. **Installation and commissioning of all items:** Within the 40 Days from the Date of Acceptance Letter to AIIMS Bhopal.

9. **Fine tuning/testing/ Troubleshooting & stabilization:** Within the 7 Days from the Installation and Commissioning of all items.

10. All necessary permissions and approvals (including statuary, regulatory permissions, approvals etc.) required for carrying out the contract work shall be the responsibility of the bidder.

11. **Quality of Goods and Services:** The equipment/product must confirm to the Technical specifications given in Chapter-3 and of desired quality. The bidder shall guarantee that item delivered to the purchaser are brand new and not refurbished one. Consistency in quality shall be maintained for the entire lot of products offered. All the required quantity of items in schedule of requirement shall be of the same brand and model no. The bidder shall not substitute any internal components or subsystems of the product by similar items of different manufacturers. All the equipment shall be supplied with the relevant interface cables, and necessary standard accessories. The vendor shall be responsible for the quality of supply. Successful bidder has to past non-removable sticker on all kind of all Networking Equipment with details of Tender no., Bidder’s name, Address, Contact detail, Service Centre/ help line number and warranty expiry date.

12. **Penalty:** If the selected firm fails to deliver the items or execute the Installation, Testing and Commissioning networking job or replace the defected/spurious items within the stipulated date & time, a penalty on a weekly basis for delay @ ½ % on per week basis, subject to maximum of @ 5% of total Order Value as penalty and the actual cost paid to be an outside agency by the All India Institute of Medical Sciences (AIIMS) Bhopal after made deduction from the firm’s pending bills or Performance Security, as the case may be.

13. All India Institute of Medical Sciences (AIIMS) Bhopal shall be the sole authority to cancel or amend the order, as per requirement for the period of One Year from the date of Issue of Work Order on price offered by the L-1 Agency (i.e. Prices offered by the Agency shall valid for 1 year from the date of issue of Work Order), and also to place order for supply, Installation, Testing and Commissioning of Networking Equipment/Services beyond office hours/holidays/place of supply for which, no additional payment shall be made with reference to the rate quoted on this Tender Bid.

14. The tendering Firm/Agency/Company shall be bound by the details furnished by him/her to the All India Institute of Medical Sciences (AIIMS) Bhopal while submitting the tender or at subsequent stage. Upon selection of the tendering Firm/Agency/Company, if at any stage, the documents furnished by him/her is found to be false or the quality of the articles or rates are found of poor quality/ different Technical Specifications, it would be deemed to be a breach of terms of contract, the contract shall be cancelled and performance security shall be stand forfeited.

15. The rate quoted by the selected tendering Firm/Agency/ Company, and as approved by the All India Institute of Medical Sciences (AIIMS) Bhopal, shall remain valid throughout the period of contract and the request to increase the rates
for any or all items, during the currency of contract, shall not be entertained at any stage.

16. The selected firm(s) shall not be allowed to transfer, assign, pledge or sub-contract its rights and liabilities under this contract to any other agencies without prior written consent of the All India Institute of Medical Sciences (AIIMS) Bhopal. If it is found that the firm has given sub-contract for supply, installation, testing and commissioning of networking equipment for Networking in Girls Hostel and Boys Hostel of AIIMS Bhopal on the basis of Work/Procurement/Supply order, the contract shall stand cancelled & the performance security shall stand forfeited.

17. The conditional/incomplete bids shall not be considered and shall be declared un-responsive.

18. All entries in the tender form should be legible and filled clearly in the published in the Financial Bid Form (Chapter-7) only. If the space furnishing the information is found insufficient, a separate sheet duly signed by the authorized signatory may be attached. No overwriting or cutting or other than issued forms is permitted in the bid forms. In such cases, the tender shall be declared un-responsive.

19. The tender documents should be sealed and clearly super-scribed with the words “Tender for Supply, Installation, Testing and Commissioning of Network Equipment for Networking of Girls Hostel and Boys Hostel at AIIMS Bhopal”.

20. If a tendering Firm/Agency/Company decides to withdraw from the bidding before the financial bids are opened, the AIIMS Bhopal shall have the authority to forfeit the EMD of Rupees 20,000/- (Rupees Twenty Thousand only) deposited with the technical bid.

21. All India Institute of Medical Sciences (AIIMS) Bhopal shall not be responsible for any financial loss or other damage or injury to any item or person deployed/supplied by the successful bidder in the course of their performing the duties to this office in connection with Work order/supply order for Networking Equipment and its Installation.

22. The Competent Authority of All India Institute of Medical Sciences (AIIMS) Bhopal reserves the right to relax/withdraw any of the terms and conditions mentioned in the tender documents, if doing so is in the interest of the AIIMS Bhopal.

23. The Tender should be dropped only in the designated Tender Box kept at the Office of the Store Officer, 1st Floor, E-Wing, Medical College Building, AIIMS Bhopal, Saket Nagar, Bhopal-462024 (MP). The closing time and date for acceptance of tenders shall be 14.00 hours on/ before by 26.08.2013. No tender received later the stipulated date & time or from other modes/place shall be entertained & shall be declared un-responsive.

24. The tenders will be opened on the same day (i.e. on 26.08.2013) in Office Room of the Designated Officer at 1st Floor, Medical College Building, AIIMS Bhopal, Saket Nagar, Bhopal-462 024(MP) at 15:00 hours in the presence of such tendering Firm/Agency/Company or their authorized representatives (only One representative
from each of company shall be allowed) who wish to be present/witness at the time of opening of bids.

25. The AIIMS Bhopal reserves the right to place an order for supply of any items mentioned in the Financial Bid (Chapter-7) or otherwise, to any other firm(s) in emergency/unavoidable situation.

26. This office shall have the full authority to reject any/all offer(s) without assigning any reason thereof. Any enquiry after submission of the Bid will not be entertained.

27. The contract will be valid from the date; it is awarded/formalities completed. This office will, however, reserve the right to conduct performance review at any time during the contract period and deficiencies, if any, noticed shall be required to be rectified and compliance reported. This office reserves the right to sou-moto terminate the contract by giving one month’s notices at any point of time.

28. The rate submitted by the tendering Firm/Agency/Company should not be higher than the Govt. Approved / DGS&D Rates at which the Network Equipment/Accessories are being supplied by it to other Govt. Institutes/Ministries/Departments/PSUs. If subsequently it is found that the firm has supplied Network Equipment/Accessories at higher rates to the All India Institute of Medical Sciences (AIIMS) Bhopal, the excess amount shall be recovered from the Performance Security and/or from the pending bills of the firm along with a penalty of Rupees 1000/- (One Thousand) on firm on such occasion and shall be doubled on subsequent occasions.

29. WARRANTY – 3 Years (i.e. 36 Months) Onsite Warranty:-

(i) The Agency/Firm/Company warrants comprehensively that the Onsite warranty for all Hardware delivered and installed for minimum for 36 Months (i.e. Three Years) and extended as per OEM Guarantee/ Warrantee period. The equipment must be warranted against all manufacturing / installation defects for at least a period of 36 months (Please indicate Guarantee/Warrantee period offered by you on the product in your quote) from the date of successful installation and acceptance. In case, a part thereof or the whole equipment is found defective the same will have to be rectified/replaced on free of charge basis without lapse of time.

(ii) The on-site replacement warranty shall remain valid for a period of 36 Months from the date of recording of acceptance of goods at AIIMS Bhopal. Free maintenance services shall be provided by the Bidder during the period of warranty for 3 year period inclusive of all spare parts and labour etc. The maximum response time for maintenance complaint from any of the destinations specified in the Schedule of Requirements/Work/Purchase order (i.e. time required for bidders maintenance Engineer to report at the installation after a request call/email from Store/IT Department is made or letter is written) shall not exceed 48 Hours.

(iii) The selected tendering Firm/Agency/Company shall also provide the name and mobile number of a key person, who can be contacted at any time, even beyond the office hours and on holidays. The person should be capable to
understand the Network Problems and their Troubleshooting and making arrangement for taking appropriate measures for restoring/resume the smooth Networking services at the earliest to AIIMS Bhopal.

30. **Bid Pricing:** Prices stated in the Bid-Offers submitted by Contractors are in accordance with Terms & Conditions in the bidding document. The Bidders further understand that the quantities and scope of work as specified in this Tender may vary at the time of Award of Work Order as per the discretion and requirements of AIIMS Bhopal.

31. The tendering Firm/Agency/Company should have its own Bank Account Number, TIN/TAN Number, PAN Number, VAT and Service Tax Registration Number. Self-attested copy of the same should be enclosed. The Bank name and account number should be intimated to Account Officer, AIIMS Bhopal to which all payments for supply, installation, testing and commissioning of Networking Equipment for Networking in Girls Hostel and Boys Hostel of AIIMS Bhopal will be made through ECS transfer in case of the successful bidder.

32. Any complementary scheme offered by the manufacturer shall be provided to the All India Institute of Medical Sciences (AIIMS) Bhopal with no additional cost.

33. The bills raised by the selected tendering Firm/Agency/Company should have all tax registration numbers printed on bill. The bill shall be signed by the authorized signatory of the firm across a revenue stamp. Validity of the tax registration during the currency of contract shall be the sole responsibility of the tendering Firm/Agency/Company. The bill shall be raised indicating permissible taxes separately and the copies of proof of Service Tax/VAT or other applicable taxes deposited to Tax Authorities by the firm for recent period, just before the submission of Bills must also be enclosed for reference of AIIMS Bhopal authorities.

34. **Payment Terms:** Bills in triplicate after successful completion of entire networking job including its Installation, Testing and Commissioning by the Selected firm along with the acceptance certificate issued by the Technical Representative of AIIMS Bhopal, should be raised for payment. Payment shall be released after deducting TDS as per Income Tax Rules and any other deductions as per Government rules and payment shall be released only after it is ensured that the items/quantity and quality of items supplied or work carried out are to the entire satisfaction of this office within 30 days. If any items/service are found to be defective, or not of the desired quality etc., the same shall be replaced immediately, for which no extra payment shall be made by AIIMS Bhopal and necessary deduction in lieu of any defect may deducted either from the Pending bill of the Agency or the Performance Security Deposit of the Agency, which so ever applicable.

35. **Amendment/Clarification of Tender Document:-**

(i) At any time prior to the last date for receipt of bids, the Competent Authority of AIIMS Bhopal may for any reason, whether at its own initiative or in response to a pre bid clarification received through email up to the stipulated date mentioned in “IMPORTANT DATES” requested by a prospective Tenderer, modify the Tender Document by an amendment/clarification.
(ii) The amendment/clarification shall be uploaded on AIIMS Bhopal website www.aiimsbhopal.eud.in and all prospective bidders are requested to visit above mentioned website regularly till the scheduled date of bid submission against this tender to AIIMS Bhopal and compulsorily be download its copy and ensure that they have kept after duly signed, signature copy in their Technical Bid Envelop during submission of bid to AIIMS Bhopal.

(iii) In order to afford prospective Tenderers reasonable time in which to take the amendment/clarification into account in preparing their bids, the AIIMS Bhopal may, at its discretion (if desired/decided), extend the last date for the receipt of the Bids.

(iv) The Institute (i.e. AIIMS Bhopal) reserve the right to fine tune the technical specification till the opening of the Financial Bid.

36. Any dispute is subject to the jurisdiction of Civil Court Bhopal.
ELIGIBILITY/EVALUATION CRITERIA

1. The tenderer must fulfil the following specifications (all documentary proofs, self-attested and stamped (seal), are required to be submitted along with the technical bid):

(a) Documentary proof of the Registered Office/Branch Office of the Tenderer should be submitted.

(b) The tenderer should have its own Bank Account, PAN, TIN, TAN Number, VAT and Service Tax Number. Self-attested Photostat of all should be enclosed.

(c) The Tenderer should be a reputed &financially sound Networking Equipment Supply Agency/Firm/Company having minimum experience of three years and expertise in supply, installation, testing and commissioning the Network equipment to Central Government Institutes/Ministries/Departments/Public Sector &Undertakings etc. Proof of experience in the form of copy of certificates obtained from Government. Department. etc. should be enclosed. Copy of Income Tax Return and Audited Certified Accounts for the last three years may also be enclosed with the Technical Bid.

(d) The Tenderer should have an annual turnover of not less than Rupees 20 Lakh in last three financial years Copy of relevant stipulated proof may also be enclosed with Technical bid.

(e) The Agency/Firm/Company should have executed at least 1 No. of Supply/Purchase Order worth not less than Rupees 8 Lakh or 2 Nos. of Supply/Purchase Orders worth not less than Rupees 6 Lakh each or 3 Nos. of Purchase Orders worth not less than Rupees 4 Lakh each for any Govt. Institution/ Corporate customers for the supply and installation of similar nature items in the last Three Financial years(2010-2011, 2011-2012 and 2012-2013). Please enclose the relevant Orders copies for necessary reference along with Technical Bid Document.

(f) The tendering Firm/Agency/Company are advised in their own interest to quote their rates for Supply, Installation, Commissioning and Testing of full job work complete in all respect as per the Technical Specifications laid down in Schedule of Requirement and Technical Specifications(Chapter-3).

(g) The Technical Responsive bidder’s, Financial Bid shall only be opened and L-1 bidder shall be decided by the overall L-1 bid basis.

(h) The Earnest Money Deposit of Rupees 20,000 (Twenty Thousand only), refundable (without interest), should be necessarily accompanied with the technical bid in the form of Banker’s Cheque/Demand Draft/FDR drawn from any Nationalized Bank in favour of “Director, AIIMS Bhopal”, Payable at Bhopal, failing which the tender shall be declared un-responsive. EMD shall be refunded to the unsuccessful bidders within 30 days of award of contract to the successful bidder/bidders.
(i) The successful Tenderer shall have to deposit a **Performance Security @5% of order value in the form of Demand Draft/FDR/Bank Guarantee in favour of “Director, AIIMS Bhopal” Payable at Bhopal. If Bidder interested to furnish the Performance Security in the way of Bank Guarantee, the Format enclosed at Chapter-6 for reference**. The performance security should remain valid for a period of Ninety days beyond the date of completion of all contractual obligations including 36 Months onsite warranty.

(j) The Tenderer should give an affidavit duly notarized on Stamp paper worth Rupees 50/-, therein clearly and un-ambiguously mentioning that it has neither been black listed/no criminal case is pending against him by any of the Govt. Institute/Ministries/Departments/PSU with whom, it had contract/executed the similar nature work for supply, installation, testing and commissioning of Network Equipment during last three years nor has been penalized by such organization on account of poor/spurious quality.

(k) Details regarding Quality, Technical Specification etc. have been given against each item in the Schedule of Requirement and Technical Specifications (Chapter-3). Rates should strictly be quoted accordingly. Items where brand has not been indicated, rates should be quoted for best available/good quality product conforming to the prescribed/prevailing standards.

(l) In his own interest the tenderer is advised to submit the desired papers/documents with their technical bid as per the Check List indicated in **Chapter-5** failing which their bid shall be declared un-responsive.

(Authorized Signatory)

All Terms and Conditions Read & Signed by me

Signature:........................................................................................................

Name of Tenderer:...........................................................................................

Rubber Stamp:...............................................................................................
Chapter – 3

LAYOUT PLAN & GENERAL TECHNICAL SPECIFICATIONS

1 Suitable Local Area Network solution for the in-house campus wide network (i.e. for Girls and Boys Hostel) should be quoted.

2 Supply, Install, Testing and Commissioning of the Network Switches, Access Nodes etc., and associated equipment’s as per the scheme of solution.

3 Supply, Install, Test and Commissioning of the cabling components and associated equipment’s as per the scheme of solution.

4 Test connectivity end-to-end and commission the system for proper connectivity as a part of QA/QC and UAT procedures documentation of the system installed and commissioned. Provide the details of the VLAN and security policy to be implemented, and its implementation.

Objectives:
The new network in the Girls and Boys Hostel in AIIMS Bhopal should be reliable, scalable, robust, and manageable with a futuristic scope of expansion in any other nearby location/building.

Functional Requirements:
1. The network should continually add capacity in terms of users and bandwidth without any fundamental change in the architecture.

2. The network by no means should disrupt the previous operational network except for addition of users.

3. The network should handle changes without disrupting the user environment.

4. It should cater to hi-end design applications and for future educational engineering institute.

5. The network should have absolute security in terms of Internet, Wireless accesses and Intranet.
Layout Plan (Introductory)

Girls Hostel

L Shaped Girls Hostel

All Networking
Open Area in every floor
80 Feet

Details: - 9u Rack, OFC Convertor
Router .48 - Port Switch Cable
manager, patch panel patch card,
UPS 1.5 KVA
Boys Hostel

Details:
- 9u Rack, OFC Convertor
- Router .48
- Port Switch Cable
- manager, patch panel patch card,
- UPS 1.5 KVA
Schedule of Requirement and Technical Specifications

1. The items mentioned in the Financial Bid (Chapter-7) will be required by this office for Networking with Supply, Installation, Testing and Commissioning complete in all respect at the Girls Hostel and Boys Hostel of AIIMS Bhopal. For carry out the Networking with the help of given below essential Networking Equipment/Accessories will be given to the tendering Firm/Agency/Company by way of Work/Purchase Order.

2. The Agency will have to supply, install, test and commission the desired Network Equipment/accessories at the Girls Hostel and Boys Hostel of AIIMS Bhopal immediately but not later than the period as stipulated in the Chapter-2 (i.e. Terms and Conditions).

3. All India Institute of Medical Sciences (AIIMS) Bhopal shall be the sole authority to cancel/amend any order, as per requirement, and also to place order for supply, installation, testing and commissioning of Network equipment/accessories items beyond office hours/holidays/place of supply for which, no additional payment shall be made.

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| 1      | Optical to Ethernet Convertor 10/100/1000 GB | Technical parameters:  
1. Standard Protocol:  
IEEE802.3 10 Base-T standard  
IEEE 802.3u 100Base-TX/FX standard  
IEEE 802.3z 1000Base-TX/FX standard  
2. Connector: One UTP RJ-45connector, One SC/ST Connector  
3. Operation mode: full duplex mode or half duplex mode  
4. Environmental temperature: 0°C-60 °C  
5. Relative humidity: 5%-90%  
6. TP cable: CAT6 UTP cable  
7. Transfer fiber:  
multi-mode: 50/125, 62.5/125 or 100/140μm  
single mode:: 8.3/125, 8.7/125, 9/125 or 10/125μm  
8. Max. 2M buffer memory built in chip  
9. Automatic identification of MDI/MDI-X crosses line  
11. Warranty : 3 Years onsite Warranty | 4   | Nos. |
| 2      | Fiber Patch Cord                 | 1. Fiber Optic Patch cord: LC/MTRJ/SC, MM Compliance  
2. Attenuation: <=0.3 dB  
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| 3      | Switch 24 Port with 2-Combo SFP's, Support 10/100/1000 GB, Managed. Make Preferred: Cisco/Juniper/Extreme/Dlink | **CORE SWITCH: Switch 1:**  
The central switch should have following features: Hardware Performance Required:  
• The Switch Should be stackable  
• 24 Ports of 10/100/1000 with 4 Fiber GBICs.  
• The Switch should support a minimum of 56 Gbps of Switching Fabric Capacity.  
• The Switch should support a minimum of 41 Mpps of forwarding capacity at wire rate.  
• It should be possible to have the VLAN configuration done centrally.  
• Switch should have one dedicated Out of Band management port  
• Switch should be a wire speed non-blocking switch.  
• Certifications required: UL, TUV, IEC, EAL3  
• Certifications required: FCC, EN, RoHS  
**Layer 1 Feature:**  
• Support for 100BASE-FX, 10/100 BASE-TX, 10/100/1000BASE-T, 1000BASE-SX/-LX full duplex  
**Layer 2 Features:**  
• Minimum 500 VLANs should be supported.  
• Link Aggregation should be based on IEEE 802.3 ad.  
• Minimum 9000 MAC Address support.  
• 802.3x flow control  
• 802.1P Prioritization and 802.1q VLAN Tagging support.  
• 802.1D IEEE 802.1s, IEEE 802.1w.  
• Jumbo Frame support.  
• 802.1Q VLAN Trunking.  
**Layer 3 Features:**  
• Should support Static routing, RIPv1, RIPv2 from day 1.  
• IGMP v1, v2, and v3  
• IGMP filtering on access and trunk ports  
• IP multicast routing protocols: DVMRP, PIM Version 2 (Sparse Mode & Dense Mode)  
• Multicast Source Discovery Protocol (MSDP)  
• Full Internet Control Message Protocol (ICMP) support  
• ICMP Router Discovery Protocol  
**Traffic Management:**  
• Support for L2/L3/L4 Ingress Traffic Policing.  
• Should support traffic policing with higher level of granularity with 64 Kbps traffic flow for both Fast Ethernet and Gigabit Ethernet ports.  
• Single console port and single IP address to manage all features of the system                                                                                       | 8    | Nos. |
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<td>• Manageable through network management software on a per-port and per-switch basis, providing a common management interface for routers and switches</td>
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<td>• SNMP v1, v2, and v3 instrumentation, delivering comprehensive in-band management</td>
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<td>• Command-line interface (CLI)-based management console to provide detailed out-of-band management</td>
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<td>• Remote Monitoring (RMON) software agent to support four RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis</td>
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<td>• Analysis support, including ingress port, egress port, and VLAN SPAN</td>
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<td>Advanced Security</td>
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<td>• TACACS+ /RADIUS, which enable centralized control of the switch and restrict unauthorized users from altering the configuration.</td>
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<td>• Standard and extended ACLs on all ports.</td>
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<td>• 802.1x user authentication.</td>
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<td>• Router ACLs (RACLs) on all ports (no performance penalty).</td>
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<td>• VLAN ACLs (VACLs).</td>
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<td>• Private VLANs (PVLANs) on access and trunk ports.</td>
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<td>• Dynamic Host Configuration Protocol (DHCP) snooping.</td>
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<td>• Protection against Unicast, Multicast &amp; Broadcast Storms on a per port basis.</td>
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<td>• DHCP relay functionality should be provided.</td>
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<td>• Layer 2-4 ACL on all ports.</td>
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<td>• Support for port security to prevent unauthorized stations from accessing the switch by restricting the number of MAC addresses allowed to access the port as well as by statically configuring the MAC address.</td>
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<td>• Support for IGMP and IGMP Snooping.</td>
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<td>• MAC Address Based Security (802.1x).</td>
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<td>• Radius Support.</td>
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<td>Switch 48 Port with 2-Combo SFP’s, Support 10/100/1000 GB, Managed Make Preferred: Cisco/Juniper/Extreme/Dlink</td>
<td><strong>CORE SWITCH : Switch 1:-</strong>&lt;br&gt;The central switch should have following features: Hardware Performance Required:&lt;br&gt;&lt;br&gt;• The Switch Should be stackable&lt;br&gt;• 48 Ports of 10/100/1000 with 4 Fiber GBICs.&lt;br&gt;• Switch should have one dedicated Out of Band management port&lt;br&gt;• Switch should be a wire speed non-blocking switch.&lt;br&gt;• FCC, EN, RoHS&lt;br&gt;• Certified UL, TUV, IEC, EAL3&lt;br&gt;• The Switch should support a minimum of 104 Gbps of Switching Fabric Capacity.&lt;br&gt;• The Switch should support a minimum of 77 Mpps of forwarding capacity at wire rate.&lt;br&gt;• It should be possible to have the VLAN configuration done centrally.&lt;br&gt;Layer 1 Feature:&lt;br&gt;• Support for 100BASE-FX, 10/100 BASE-TX, 10/100/1000 BASE-T, 1000BASE-SX, LX full duplex&lt;br&gt;Layer 2 Features:&lt;br&gt;• Minimum 500 VLANs should be supported.&lt;br&gt;• Link Aggregation should be based on IEEE 802.3 ad.&lt;br&gt;• Minimum 9000 MAC Address support.&lt;br&gt;• 802.3x flow control&lt;br&gt;• 802.1P Prioritization and 802.1q VLAN Tagging support.&lt;br&gt;• 802.1D IEEE 802.1s, IEEE 802.1w.&lt;br&gt;• Jumbo Frame support.&lt;br&gt;• 802.1Q VLAN Trunking.&lt;br&gt;Layer 3 Features&lt;br&gt;• Should support Static routing, RIPv1, RIPv2 from day 1&lt;br&gt;• IGMP v1, v2, and v3&lt;br&gt;• IGMP filtering on access and trunk ports&lt;br&gt;• IP multicast routing protocols: DVMRP, PIM Version 2 (Sparse Mode &amp; Dense Mode)&lt;br&gt;• Multicast Source Discovery Protocol (MSDP)&lt;br&gt;• Full Internet Control Message Protocol (ICMP) support&lt;br&gt;• ICMP Router Discovery Protocol&lt;br&gt;• Traffic Management&lt;br&gt;• Support for L2/L3/L4 Ingress Traffic Policing.&lt;br&gt;• Should support traffic policing with higher level of granularity with 64 Kbps traffic flow for both Fast Ethernet and Gigabit Ethernet ports.&lt;br&gt;• Single console port and single IP address to manage all features of the system</td>
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<td>• Manageable through network management software on a per-port and per-switch basis, providing a common management interface for routers and switches</td>
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<td>• SNMP v1, v2, and v3 instrumentation, delivering comprehensive in-band management</td>
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<td>• Command-line interface (CLI)-based management console to provide detailed out-of-band management</td>
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<td>• Remote Monitoring (RMON) software agent to support four enhanced traffic management, monitoring, and analysis</td>
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<td>• Analysis support, including ingress port, egress port, and VLAN SPAN</td>
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<td>Advanced Security</td>
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<td>• TACACS+ /RADIUS, which enable centralized control of the switch and restrict unauthorized users from altering the configuration.</td>
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<td>• Standard and extended ACLs on all ports.</td>
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<td>• 802.1x user authentication.</td>
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<td>• Router ACLs (RACLs) on all ports (no performance penalty).</td>
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<td></td>
<td></td>
<td>• VLAN ACLs (VACLs).</td>
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<td>• Private VLANs (PVLANs) on access and trunk ports.</td>
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<td>• Dynamic Host Configuration Protocol (DHCP) snooping.</td>
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<td>• Protection against Unicast, Multicast &amp; Broadcast Storms on a per port basis.</td>
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<td>• DHCP relay functionality should be provided.</td>
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<td>• Layer 2-4 ACL on all ports.</td>
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<td>• Support for port security to prevent unauthorized stations from accessing the switch by restricting the number of MAC addresses allowed to access the port as well as by statically configuring the MAC address.</td>
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<td>• Support for IGMP and IGMP Snooping.</td>
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<td>• MAC Address Based Security (802.1x).</td>
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<td>• Radius Support.</td>
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</table>
| 5     | Router Support Gigabit network  | Embedded hardware-based cryptography acceleration (IPSec)  
Total onboard WAN 10/100/1000 Ports 8  
RJ-45-based ports 8 supporting both LAN and WAN protocols.  
Open slot for LAN and WAN Connectivity - slots 4  
Memory DRAM - Minimum 1GB  
Memory DRAM) - Maximum 2 GB  
Compact Flash (external) - Minimum 1 GB  
External USB 2.0 flash memory slots 2  
USB / RJ45/Serial Console port (up to 115.2 kbps) 1  
Power-supply options AC,  
Redundant Power Supply No  
Power Specifications :  
AC input voltage 100 to 240 VAC auto  
Ranging  
AC input frequency 50 to 60 Hz  
Physical Specifications :  
Rack-mount Yes  
Environmental Specifications :  
Operating Conditions :  
Temperature 32 to 104°F (0 to 40°C)  
Relative humidity 10 to 85%  
Non-operating Conditions :  
Temperature -40 to 158°F (-40 to 70°C)  
Relative humidity 5 to 95%  
Regulatory Compliance :  
Telecom TIA/EIA/IS-968  
CS-03  
IEEE 802.3  
Router should have IPSEC and Firewall features from day 1.  
MPLS features from day 1 including L2 VPN, L3 VPN, LDP, RSVP.  
Router should be minimum EAL 3 Certified.  
Routing, Switching and wireless should be from same OEM for ease of Management and Integration. | 2   | Nos. |
<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Item Description</th>
<th>Technical Specification</th>
<th>Qty.</th>
<th>Unit</th>
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</thead>
</table>
| 6      | **Cable Terminator Box (Rack)** Size Height: 9U, Width 600 mm x Depth 800 mm   | 9U Rack Size: Height - 9U, Width x Depth: 600 mm x 800mm  
Powder quoted steel/ Heavy Duty Extruded Aluminum Frame Body with perforated (minimum 65 % perforation) Steel Doors, 1000 Kg Weight Carrying Capacity Completely covered & have security locks  
All covers can be removed & operable from all sides  
Uninhibited access to all mounting points inside the racks, Proper ventilated with Four Fans, Power Cable management. Two Power strips having 10 - 5A /15A sockets each, Adjustable shelf & accessories to accommodate equipment’s, Fitted with Copper strip for providing earthing to the equipment’s. | 14   | Nos. |
| 7      | **Cable Managing System**                                                        | 1. Type : Unshielded twisted pair Cabling Managing System, Certificate by Intertek (ETL) for the 4-Connectors channel testing to the Cat 6 Cabling Managing system as per the ANSI/TIA 568 C.2 & as well as the ISO 11801 standards up to 600 MHz Compliance  
2. Networks Supported: 10 /100/1000 GB Ethernet,155 Mbps ATM, 1000 Mbps IEEE 802.3ab Ethernet, and proposed Cat 6 Gigabit Ethernet  
3. Approvals: TIA / EIA 568-B.1, ETL Verified: IEEE 802.3ab, Zero-bit Error, ETL verified  
4. Warranty: 25-year Systems warranty; Warranty to cover Bandwidth of the specified and installed cabling managing system, and the installation costs  
5. Performance characteristics to be provided along with bid: Attenuation, Pair-to-pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR for 4-connector channel. | 16   | Nos. |
<table>
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<tr>
<th>Sr.No.</th>
<th>Item Description</th>
<th>Technical Specification</th>
<th>Qty.</th>
<th>Unit</th>
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</thead>
</table>
| 8     | 24 Ports Patch/Jack Panel | 1. Type: 24-port, Modular, PCB based, Unshielded Twisted Pair, Category 6, TIA / EIA 568-C.2 and ISO/IEC 11801 Compliance  
2. Ports: 24  
3. Port arrangement: Configured as 6 Port Module with individually replaceable CAT-6 Jacks  
4. Circuit Identification: Front of each module shall be capable of accepting 9 mm to 12 mm labels  
5. Port Identification: 9mm or 12mm Labels on each of 24-ports (to be included in supply.  
6. Modular Jack: 750 mating cycles  
7. Wire Terminal: 200 Termination Cycles  
8. Accessories: Integrated bend-limiting strain-relief unit for cable entry  
9. Materials: Housing Polyphenylene oxide, 94V-0 rated, Wiring blocks: Polycarbonate, 94V-0 rated,  
10. Jack contacts: Beryllium copper, plated with 1.27 mm [.000050] thick gold in localized area and 3.81 mm [.000150] minimum thick tin-lead in solder area over 1.27 mm [.000050] minimum thick nickel under plate  
11. Panel: Black, Powder Coated Steel  
12. Approvals: UL listed / ETL Verified  
13. Termination Pattern: TIA / EIA 568 A and B;  
14. ROHS Compliant: ROHS/ELV Compliant  
15. Warranty: 3 Years Onsite Warranty                                                                 | 8    | Nos.  |
| 9     | 48 Ports Patch/Jack Panel | 1. Type: 48-port, Modular, PCB based, Unshielded Twisted Pair, Category 6, TIA / EIA 568-C.2 and ISO/IEC 11801 Compliance  
2. Ports: 48  
3. Port arrangement: Configured as 6 Port Module with individually replaceable CAT-6 Jacks  
4. Circuit Identification: Front of each module shall be capable of accepting 9 mm to 12 mm labels  
5. Port Identification: 9mm or 12mm Labels on each of 48-ports (to be included in supply.  
6. Modular Jack: 750 mating cycles  
7. Wire Terminal: 200 Termination Cycles  
8. Accessories: Integrated bend-limiting strain-relief unit for cable entry  
9. Materials: Housing Polyphenylene oxide, 94V-0 rated, Wiring blocks: Polycarbonate, 94V-0 rated,  
10. Jack contacts: Beryllium copper, plated with 1.27 mm [.000050] thick gold in localized area and 3.81 mm [.000150] minimum thick tin-lead in solder area over 1.27 mm [.000050] minimum thick nickel under plate  
11. Panel: Black, Powder Coated Steel  
12. Approvals: UL listed / ETL Verified  
13. Termination Pattern: TIA / EIA 568 A and B;  
14. ROHS Compliant: ROHS/ELV Compliant  
15. Warranty: 3 Years Onsite Warranty                                                                 | 8    | Nos.  |
<table>
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<tr>
<th>Sr.No.</th>
<th>Item Description</th>
<th>Technical Specification</th>
<th>Qty.</th>
<th>Unit</th>
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</thead>
</table>
| 10     | Patch Cord (1 Meter.)             | 1. Type: Unshielded Twisted Pair, Category 6, TIA / EIA 568-C.2 & ISO/IEC 11801 Compliance  
2. Conductor: 24 AWG 7 / 32, stranded copper conductors 100 Ohm  
3. Length: 1 Meter.  
4. Plug Protection: Transparent Slim boot  
5. Warranty: 25-Years on Component/3-Years onsite Warranty  
6. Insulation: Flame Retardant Polyethylene  
7. ROHS Compliant: ROHS/ELV Compliant                                                                                                   | 427  | Nos. |
| 11     | Patch Cord (3 Meter.)             | 1. Type: Unshielded Twisted Pair, Category 6, TIA / EIA 568-C.2 & ISO/IEC 11801 Compliance  
2. Conductor: 24 AWG 7 / 32, stranded copper conductors 100 Ohm  
3. Length: 3 Meter.  
4. Plug Protection: Transparent Slim boot  
5. Warranty: 25-Years on Component/3-Years onsite Warranty  
6. Insulation: Flame Retardant Polyethylene  
7. ROHS Compliant: ROHS/ELV Compliant                                                                                                   | 427  | Nos. |
| 12     | CAT 6 - UTP Cable (305 Meter. in 1 Box) | 1. Type: Unshielded Twisted Pair, Category 6, TIA / EIA 568-C.2 & ISO/IEC 11801 Compliance  
2. Material: Conductors should be 23 AWG Solid Bare Copper  
Insulation, Polyethylene, Separator should be Cross-member (+) fluted Spline, Jacket should be Flame Retardant PVC, Approvals should be UL Listed: ETL verified to TIA / EIA Cat 6  
3. Operating temperature should be -20 Deg. C to +60 Deg. Centigrade  
4. Frequency: Tested up to 600 MHz  
5. Packing: Box of 305 meters  
6. Delay Skew 45ns MAX  
7. Impedance: 100 Ohms + / - 15 ohms, 1 to 600 MHz  
8. Performance characteristics to be provided along with bid, Attenuation, Pair-to-pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR  
9. ROHS Compliant: ROHS/ELV Compliant                                                                                                   | 5    | Box  |
| 13     | Wi-Fi Access Point                | **Wireless LAN Controller – Quantity-1**  
Wireless LAN Controller should have configuration and management of at least 16 Access points from day 1. Controller should be scalable to handle 32 Access Points in future.  
Wireless Controller should be capable of delivering centralized security policies, QoS, and Layer 3 fast roaming for enterprise WLANs.  
The controller Architecture should be Layer 3 based and it should support both Centralized and Distributed functionalities.  
Should support in-service software upgrade.  
The Controller should support video and VoIP with fast roaming                                                                 | 14   | Nos. |
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<th>Sr.No.</th>
<th>Item Description</th>
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<td>The controller should support Discovery Protocol or equivalent</td>
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<td>Capable of supporting Quality of service (QoS), and Layer 3 fast</td>
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<td>roaming for WLANs</td>
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<td>RF security: Detect and avoid 802.11 interference</td>
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<td>Layer 2 security: 802.1X (PEAP, EAP-TTLS, EAP-TLS), WPA, 802.11i (WPA2)</td>
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<td>VLAN Assignments</td>
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<td>Authentication, Authorization, and Accounting (AAA)/RADIUS authentication support</td>
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<td>Capable of automated recovery from failures of access point and controller to maximize the availability of the wireless network</td>
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<td>The Wireless LAN Controller should support IEEE 802.11a, 802.11b, 802.11g, 802.11d, 802.11h, 802.11n</td>
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<td>Web-based authentication</td>
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<td>Should support in-service software upgrade</td>
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<td>Management</td>
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<td>SNMP v1, v2c, v3</td>
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<td>Web-based: HTTP/HTTPS Interface</td>
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<td>Command-line interface: Telnet, SSH, Console port</td>
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<td><strong>Indoor Wireless Access Point (Quantity-14)</strong></td>
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<td>Should support IEEE 802.11 a/b/g/n</td>
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<td>Support Security Feature 802.11i, WPA2, WPA, 802.1X, AES, TKIP</td>
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<td>Should have integrated antenna, both 5GHz and 2.4GHz</td>
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<td>Support for 300 Mbps per radio using 2x2 MIMO, two-spatial-stream support.</td>
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<td>802.11a/n (5 GHz) or 802.11b/g/n (2.4 GHz) operation</td>
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<td>Should support WIPS</td>
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<td>Wireless AP should have LED indicators for ease of identification of key status such as operating status, error/warning, etc</td>
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<td>Supporting 5GHz or 2.4GHz</td>
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<td>Wireless AP should support in-line PoE power via PoE switches/PoE injectors</td>
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<td>Allows centralized and automatic firmware upgrades on remote access points across the enterprise</td>
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<td>No data, security credentials, or encryption keys should be stored locally on AP</td>
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<td>Management Support</td>
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<td>Should be centrally manageable through a wireless controller from which the AP will download all parameters like boot image, configurations etc</td>
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<td>Uplink – Auto sensing RJ-45 10/100 / 1000 Mbps Ethernet</td>
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<td>14</td>
<td>UPS 1.5 KV</td>
<td>One on-line UPS shall be provided for providing power supply to Layer-3 and Layer-2 Switches located in Girls and Boys Hostel of AIIMS Bhopal. All cabling from this UPS to various floors shall be included in the scope of this offer. Capacity of the UPS has been estimated as 1.5 kVA for bid evaluation purposes. However, Bidder shall provide the exact Power requirements of Layer 3 and Layer 2 Switches and quote alternative prices for the required UPS system. Input voltage 230V Single Phase Input voltage range 160-270V, Frequency 50Hz, Frequency range 47Hz-53Hz, Output Power 1.5 kVA, Nominal Voltage 230V Single Phase, Voltage Regulation + 1.0%, Nominal Output Frequency 50Hz, Frequency stability + 0.1%, Load power factor 0.8% Lag to unity True Online, Battery Backup 30 Minutes, Battery Type SMF Battery, Operating Temperature 0 to 45 degree Centigrade, Humidity 95% Non-condensing</td>
<td>16</td>
<td>Nos.</td>
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</tbody>
</table>
Chapter – 4

TECHNICAL BID
(It is mandatory for all Bidders; they should fill all fields “Clearly” in this form)

1. For the Supply, Installation, Testing and Commissioning of Network Equipment for Networking of Girls Hostel and Boys Hostel at All India Institute of Medical Sciences (AIIMS) Bhopal, Saket Nagar, Bhopal-462024 (MP)

2. Name of Company/ Firm/ Agency and its Registration No. : ___________________________________________________

3. Name of proprietor / Director of the Company/Firm/Agency : ___________________________________________________

4. Full Address of Reg. Office (A copy of Company/ Firm/ Agency registration must be enclosed) :

   ___________________________________________________

   Telephone Nos. : ______________________________________

   Fax Nos. : ___________________________________________

   E-mail Id : ___________________________________________

5. Details of Banker of the Firm with full address :

   ___________________________________________________

   Telephone Nos. of Banker : ______________________________________

   Fax Nos. of Banker : ______________________________________

   E-mail Id of Banker : _______________________________________
6. Bank Ac/s No. of Firm for ECS payments: __________________________________________

7. PAN, TIN, TAN, VAT, Service Tax Registration No of the Firm (Enclose a copy of the same)
   __________________________________________

8. Details of Cost of Tender: _______________________________________________________

9. Details of EMD: ________________________________________________________________

10. Un-priced duly signed stamped List of Items including their Technical Specification for those items Tenderer want to participate in this tender with its Technical Bid without indicating price: _______________________________________________________

11. Financial turnover of the tendering Company/Firm/Agency for the last three financial years:(Attach separate sheet if space provided insufficient)

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Amount (Rs. In Laces)</th>
<th>Remarks, if any</th>
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<tbody>
<tr>
<td>2010-2011</td>
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<td>2011-2012</td>
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<td>2012-2013</td>
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The tenderer should also submit self-attested copies of the Income Tax Returns and Audited certified Accounts for the last three financial years (i.e. for 2010-11, 2011-2012 and 2012-2013). A Letter duly signed by CA/CS of firm must accompany for intimating last three Financial Turnover clearly.
12. Give details of major contracts handled by the tendering Company / Firm / Agency for the last three years in the following format (enclose the elf-attested copies): (if the space provided is insufficient, a separate sheet may be attached)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Details of client along with address, telephone numbers and Fax numbers</th>
<th>Amount of Contract (Rs. in Lakh)</th>
<th>Duration of Contract</th>
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<tbody>
<tr>
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<td>From</td>
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</table>

(Signature of authorized person)

Date: ________________________ Full Name: ________________________

Place: ________________________ Seal: ________________________
CERTIFICATE

1. I, _______________________________Son / Daughter / Wife of Shri ________________ Proprietor / Director/authorized signatory of the Agency/Firm/Company, mentioned above, is competent to sign this declaration and execute this tender document;

2. I have carefully read and understood all the terms and conditions of the tender and undertake to abide by them;

3. The information / documents furnished along with the above application are true and authentic to the best of my knowledge and belief. I / we, am / are well aware of the fact that furnishing of any false information / fabricated document would lead to rejection of my tender at any stage besides liabilities towards prosecution under appropriate law.

4. I, do hereby declare that the our firm has neither been blacklisted/no criminal case pending against him(attach an affidavit duly notarized on Stamp Paper Worth of Rupees 50/- ) stating that no criminal/Black listing case is pending against the firm) by any of the Govt. Institute/Ministries/Departments/PSUs with which the firm had contracted for supply, installation, testing and commissioning of Network equipment during the last three years nor has been penalized by such Offices/organizations for supply installation, testing and commissioning of poor/spurious Network Equipment/Accessories etc.

(Signature of authorized person)

Date: ______________________________ Full Name: ______________________________

Place: ______________________________ Seal : _______________________________
Chapter-5
CHECK LIST OF DOCUMENTS
TO BE SUBMITTED ALONG WITH THE TECHNICAL BID and FINANCIAL BID

DOCUMENTS REQUIRED TO BE SUBMITTED WITH TECHNICAL BID:-

1. The Cost of Tender Document enclosed in the form of Demand Draft of Rupees 1,050/- (One Thousand Fifty only) (Non-Refundable) from any Nationalized Bank in favour of “Director, AIIMS Bhopal” payable at Bhopal and must accompanied with Technical Bid if the tender document downloaded from the website.

2. EMD of Rupees 20,000/- (Twenty Thousand Only) in the form of Banker’s Cheque/Demand Draft/FRD from any Nationalized Bank in favour of “Director, AIIMS Bhopal”, payable at Bhopal and must accompanied with Technical bid.

3. Detailed Technical Specification along with supporting Product Catalogue/Broacher of each of the Item, quoted by the Bidder.


5. Un-priced duly signed stamped List of Network Equipment/Accessories including all required Installation, Testing & Commissioning with its Technical Specifications for those bidder interested to participated under this tender must be accompanied with Technical Bid without indicating price) is must be kept in Technical Bid envelope.

6. The on-site replacement warranty shall remain valid for a period of 36 Months inclusive of all spares and labours etc from the date of recording of acceptance of goods at AIIMS Bhopal.

7. Tender document each page duly Signed, Stamped and page numbering done.


10. Attested Copy of PAN, TAN, TIN VAT, Service Tax Registration Number etc.;

11. Self-attested copies of the IT returns for last 3 Year’s;

12. Audited Certified copies of Accounts and Letter of CA/CS for last 3 Financial Years;

13. The rates for quoted items shall have quoted in the Format given in Financial Bid (Chapter7) and sealed, signed Financial Bid kept in Financial Bid Envelope separately.

14. Attested copy of Three years’ experience certificate obtained from Govt. Deptt./PSU and Work Orders executed ( 1 Work Order of the cost of Rupees 8 Lakh or 2 Work Orders of the Cost of Rupees 6 Lakh each or 3 Work Orders of the cost of Rupees 4 Lakh each) must accompanied.

15. An Affidavit duly Notarized on Stamp Paper worth of Rupees 50/- in clear and un-ambiguous language that the Tenderer has never been black listed/no criminal case pending by any of the organisation with whom, it had dealing for executing the similar nature job during last three years nor has been penalized for inferior or poor quality in supply, installation, testing and commissioning of Networking, must be accompanied with Technical Bid Envelope.

DOCUMENTS REQUIRED TO BE SUBMITTED WITH FINANCIAL BID:-

16. The tendering Firm/Agency/Company may quote their rates for any of the items or all the items mentioned in the list and specification laid down in Financial Bid (Chapter-7), failing which their bids shall be out rightly rejected. Financial Bid must be kept in separate sealed super-scribed envelope “Financial Bid for supply, Installation, Testing and Commissioning of Network Equipment and Networking at the Girls Hostel and Boys Hostel of the AIIMS Bhopal”.

The tender should be submitted under Two bid system. The Interested firms/agencies are advised to submit two separate envelopes super-scribing “Technical Bid for supply, Installation, Testing and Commissioning of Network Equipment and Networking at the Girls Hostel and Boys Hostel of the AIIMS Bhopal” and “Financial Bid for supply, Installation, Testing and Commissioning of Network Equipment and Networking at the Girls Hostel and...
Both sealed envelopes should be kept in a third bigger sealed envelope super-scribed with the words “Tender for supply, Installation, Testing and Commissioning of Network Equipment and Networking at the Girls Hostel and Boys Hostel of the AIIMS Bhopal”.
Chapter - 6

Format of Performance Bank Guarantee

(To be made on Rs. 100.00 Non Judicial Stamp/E Stamp Paper)

To,

The “Director”,
All India Institute of Medical Sciences (AIIMS) Bhopal
Saket Nagar, Bhopal- 462 024 (MP) INDIA

WHEREAS ____________________________________ (Name and address of the Agency/Firm) (Hereinafter called “the Agency/Firm”) has undertaken, in pursuance of contract no ____________________________________ dated _____________ to supply (description of goods and services) (herein after called “the Agency/Firm”).

AND WHEREAS it has been stipulated by you in the said contract that the Agency/Firm shall furnish you with a bank guarantee by a scheduled commercial bank recognised by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the Agency/Firm such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the Agency/Firm, up to a total of. ______________________ (Amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the Agency/Firm to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Agency/Firm before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the Agency/Firm shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid up to 39 (Thirty Nine) months from the date of issue (indicate date) …………………….. valid up to ……………………………

........................................................................................................
(Signature with date of the authorised officer of the Bank)
........................................................................................................
Name and designation of the officer
........................................................................................................
Seal, name & address of the Bank and address of the Branch
## Financial Bid

Tender No. : AIIMS Bhopal/Store/Networking/2013-2014/01

The price bid should be kept in separate sealed envelope superscripting “Financial Bid for Supply, Installation, Testing and Commissioning of Network Equipment and Networking at the Girls Hostel and Boys Hostel of the AIIMS Bhopal” and submitted to the Tender box kept at the Office of Store Officer, 1st Floor, E-Wing, Medical College Building, AIIMS Bhopal, Saket Nagar, Bhopal-462 024 on stipulated date.

*AIIMS Bhopal authorities reserve the full rights to increase/decrease the quantity of items/services in the time of award of tender as per its actual requirement. The quantities mentioned below in this tender against each item are only indicative/tentative nature.*

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Amount Quoted for supply of Item to FOR Location</th>
<th>Amount Quoted for Installation of Network Equipment and make Network functional</th>
<th>Total Amount Quoted (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Unit rate as per unit in column 'e' (Rs)</td>
<td>Unit rate as per unit in column 'e' of Installation (Rs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>All applicable Taxes per unit (Rs)</td>
<td>All applicable Taxes and 3 years on site Warranty per unit (Rs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sub Total (Rs) for Required Qty. given in Column &quot;e&quot;</td>
<td>Sub Total (Rs) for Required Qty. given in Column &quot;d&quot;</td>
<td></td>
</tr>
</tbody>
</table>

\[
\begin{align*}
1 & \quad \text{Optical to Ethernet Convertor 10/100/1000 GB} \\
 & \quad 4 \ \text{Nos.} \\
2 & \quad \text{Fiber Patch Cord} \\
 & \quad 8 \ \text{Nos.}
\end{align*}
\]
<table>
<thead>
<tr>
<th>Sl. No.</th>
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<td>Unit rate as per unit in column 'e' (Rs)</td>
<td>Sub Total (Rs) for Required Qty. given in Column &quot;c&quot;</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>All applicable Taxes per unit (Rs)</td>
<td>Unit rate as per unit in column 'e') of Installation (Rs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sub Total (Rs)</td>
<td>All applicable Taxes and 3 years on site Warranty per unit (Rs)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sub Total (Rs) for Required Qty. given in Column &quot;d&quot;</td>
<td>Total Amount Quoted (Rs)</td>
</tr>
</tbody>
</table>

a = [e + f] x c

H = [h + i] x c

j = [(h + i) x c] + k = (g + j)

3 Switch 24 Port with 2-Combo SFP's, Support 10/100/1000 GB, Managed

4 Switch 48 Port with 2-Combo SFP's, Support 10/100/1000 GB, Managed

5 Router Support Gigabit network

6 Cable Terminator Box (Rack) Size Height: 9U, Width 600 mm x Depth 800 mm

7 Cable Managing System

8 24 Ports Patch/Jack Panel

9 48 Ports Patch/Jack Panel
<table>
<thead>
<tr>
<th>Sl. No.</th>
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<th>Unit</th>
<th>Amount Quoted for supply of Item to FOR Location</th>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Sub Total (Rs) for Required Qty. given in Column &quot;c&quot;</td>
<td>Sub Total (Rs) for Required Qty. given in Column &quot;d&quot;</td>
</tr>
<tr>
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<tr>
<td>a</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>10</td>
<td>Patch Cord (1 Meter.)</td>
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<td>Nos.</td>
<td></td>
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<tr>
<td>11</td>
<td>Patch Cord (3 Meter.)</td>
<td>427</td>
<td>Nos.</td>
<td></td>
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<tr>
<td>12</td>
<td>CAT 6 - UTP Cable (305 Meter. in 1 Box)</td>
<td>6</td>
<td>Box</td>
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<td></td>
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<tr>
<td>13</td>
<td>Wireless Access Points</td>
<td>18</td>
<td>Nos.</td>
<td></td>
<td></td>
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<tr>
<td>14</td>
<td>UPS 1.5 KV</td>
<td>18</td>
<td>Nos.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
g = [(e+f) \times c] \\
H = [h \times c] \\
i = [(i) \times c] \\
k = (g+j)
\]

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* * * * *