

CORRIGENDUM NOTICE

This is with reference to Limited Tender no. IIT (BHU)/IPCell/2016-17/Networking/846 dated 24.10.2016 for Supply, Installation, Integration, Commissioning and Managing of IIT (BHU), Varanasi Campus Wide Local Area Network (Wired and Wi-Fi) which was uploaded on CPPP and Institute Website and sent through e-mail to the qualified bidders.

Subsequently the participating bidders made representations regarding technical and commercial terms and conditions of the ibid tender. Therefore, a pre bid meeting of the qualified bidders was called on 03.11.2016 and the authorized representatives of following bidders attended the meeting :

Sl. No.	Name of Bidders
1.	JIL Information Technology Ltd.
2.	(n)Code Solutions – A division of GNFC Limited
3.	Locuz Enterprise Solution Ltd.
4.	Insight Business Machines Pvt. Ltd.

Besides the above, the representatives of following OEMs also attended the aforesaid meeting:

Sl. No.	Name of OEMs
1.	CISCO (Active Components)
2.	Extreme (Active Components)
3.	Brocade (Active Components)
4.	Molex (Passive Components)
5.	Schneider (Passive Components)
6.	TE (Tyco) (Passive Components)

The representations made by all the qualified bidders were perused by the technical committee. Thereafter, with the consensus of qualified bidders, it was unanimously decided by the committee to issue a revised tender document which takes care of the justified techno commercial concerns raised by the qualified bidders. Accordingly, the revised tender document is being issued to all the qualified bidders through e-mail and is also being uploaded on CPPP & Institute's website.

Date : 07.11.2016

REGISTRAR
IIT (BHU)

REVISED TENDER
(POST PRE-BID MEETING ON NOV.03, 2016)

for

**SUPPLY, INSTALLATION, INTEGRATION, COMMISSIONING
AND MANAGING OF IIT (BHU), VARANASI CAMPUS WIDE
LOCAL AREA NETWORK (WIRED AND WI-FI)**

Tender No. : IIT (BHU)/IPCell/2016-17/Networking/846 dated 24.10.2016

in

Ref. EoINo.:IIT(BHU)/IPCell/2016-17/Networking/EoI/141

dated: 19.05.2016.

Last Date of Submission: Nov. 16, 2016



**Indian Institute of Technology
(Banaras Hindu University)
Varanasi-221005**

E-mail:sjit.ece@iitbhu.ac.in



NOTICE INVITING LIMITED TENDER

On behalf of the Director, IIT (BHU) Varanasi, sealed item rate tenders are invited from following bidders who have qualified consequent upon EoI No. IIT(BHU)/IPCell/2016-17/Networking/EoI/141 dated 19.05.2016:

Sl. No.	Name of Bidder
1.	JIL Information Technology Ltd. 64/4, Site IV, Sahibabad Ind. Area Ghaziabad (UP) – 201010 E-mail : shalabh.saigal@jalindia.co.in
2.	(n)Code Solutions – A division of GNFC Limited 14th Floor GIFT Tower One, GIFT City, Gandhinagar – 382355 E-mail : ankur@ncode.in
3.	AGC Networks Ltd. 5 th Floor, Enkay Tower, Plot No. A, A 1, A 2, VanijyaKunj, UdyogVihar Phase – V, National Highway Gurgaon 122016 (Haryana) India E-mail : raj.kumar1@agcnetworks.com
4.	Locuz Enterprise Solution Ltd. 1217, 12th Floor, DLF Tower B, Jasola, New Delhi – 110025 E-mail : anshul.malhotra@locuz.com
5.	Insight Business Machines Pvt. Ltd. B-210/211, Rajratan Industrial Estate, Ramchandra Lane Extn., Malad (W), Mumbai – 400064. E-mail : bharat.bhushan@insightindia.com

The Tender

Sl. No.	Tender no.	Specifications & quantity of the item	Earnest Money Deposit (EMD)
1.	IIT(BHU)/IPCell/2016-17/Networking/846 dated 24.10.2016 in Ref. to EoI No. IIT(BHU)/IPCell/2016-17/Networking/EoI/141 dated 19.05.2016	<p>Name of the Project: SUPPLY, INSTALLATION, INTEGRATION, COMMISSIONING AND MANAGING OF IIT (BHU), VARANASI CAMPUS WIDE LOCAL AREA NETWORK (WIRED AND WI-FI)</p> <p>Qty.: Complete Project on Turn-key Basis</p> <p>TECHNICAL BID (MUST be submitted in a separate SEALED envelope Super-scribed as TECHNICAL BID)</p> <p>Project Specification</p> <ol style="list-style-type: none"> 1. Technical Specifications for LAN: As per Annexure – A 2. Work Schedule As per Annexure – B 3. Manpower and Helpline Software As per Annexure – C 4. Reference BoQ As per Annexure – D 5. Mandatory Undertaking As per Annexure – E <p>PRICE BID (MUST be submitted in a separate SEALED envelope Super-scribed as PRICE BID)</p> <ol style="list-style-type: none"> 6. Price Bid As per Annexure – F (Also being provided in Excel, for details) 	Rs. 50,00,000/-

The revised Tender Documents for items will be on two-Bid System consisting of Technical Bid and Price Bid. The bid will have to be submitted item-wise in two separate sealed covers clearly mentioning on the envelope the details of items for which bid is being submitted. Bidders MUST bid for all items on turn-key basis against revised Tender Document by clearly marking technical compliance on the Annexures A, B, C, D and E. Please note that non-compliance of Annexure – E, SHALL amount to disqualification. The complete solution MUST be item-wise quoted in two bid cover enclosing single EMD with Technical Bid, for the whole project.

The revised Tender Document (non-transferable) along with detailed specifications, terms and conditions has been provided to each bidder, exclusively and only to those, who have qualified the published EoI No. IIT(BHU)/IPCell/2016-17/Networking/EoI/141 dated 19.05.2016, along with

payment of non-refundable Tender price as mentioned below. The Tender price may be paid in the form of Bank Draft drawn in favour of **Registrar, IIT (BHU)** payable at Varanasi.

a) Price of revised Tender Document (Non-refundable): **Rs. 2,000/-** (Rupees Two thousand only)

b) Last date and time for receipt of Bid: **November 16, 2016 (up to 13:00 Hrs.)**.

The Bid should be addressed to **The Registrar, IIT (BHU), Varanasi**, and should be delivered in person or sent by registered post / courier so as to reach the Institute on / before the last date up-to 13:00 Hrs. No bid shall be accepted after the due date and time.

c) The bids will be opened on **16.11.2016 at 15:30 Hours** in the office of the **Head, Department of Electronics Engineering, IIT (BHU), Varanasi-221005**. All Bids must be accompanied by the Earnest Money Deposit (Refundable) of **Rs. 50,00,000/-**. The Earnest Money Deposit is to be paid in the form of Bank Draft / Fixed Deposit Receipt in favour of the **Registrar, IIT (BHU)** payable at Varanasi and should be enclosed with Technical Bid. The details of Bank Draft / Fixed Deposit Receipt of Earnest Money Deposit must be endorsed on top of envelope containing Technical Bid.

The Institute shall not be responsible for any delay in receiving Bids sent through post/courier.

The Institute reserves the right to accept or reject any bid, without assigning any reason thereof. No correspondence in this regard will be entertained.

Earnest Money shall be forfeited in case it is found at any stage that information/particulars regarding supply of tendered item (s) is false.

Date : 07.11.2016

Registrar

**REVISED TENDER DOCUMENT
FOR
SUPPLY, INSTALLATION, INTEGRATION, COMMISSIONING AND MANAGING OF IIT
(BHU), VARANASI CAMPUS WIDE LOCAL AREA NETWORK (WIRED AND WI-FI)**

BID REFERENCE	IIT(BHU)/IPCell/2016-17/Networking/846 Dated : 24.10.2016
DATE OF COMMENCEMENT OF BIDDING	October 24, 2016
DATE OF ISSUE OF REVISED TENDER DOCUMENT	07.11.2016
LAST DATE AND TIME FOR RECEIPT OF BIDS	16.11.2016 (up to 13:00 Hrs)
ADDRESS FOR COMMUNICATION	The Registrar, Indian Institute of Technology (Banaras Hindu University) Varanasi – 221 005, U.P., INDIA
DATE, TIME & VENUE OF BID OPENING	16.11.2016 at 15:30 Hours Venue: Chamber of the Head, Department of Electronics Engineering, IIT(BHU), Varanasi-221005

**REVISED TENDER DOCUMENT FOR
SUPPLY, INSTALLATION, INTEGRATION, COMMISSIONING AND
MANAGING OF IIT (BHU), VARANASI CAMPUS WIDE LOCAL AREA
NETWORK (WIRED AND WI-FI)**

INVITATION FOR BIDS

1. Sealed bids in two parts (techno commercial un-priced & Priced bids) are invited from eligible bidders for the following

Sl. No.	Tender No	Subject	Earnest Money Deposit (EMD)
1.	IIT(BHU)/IPCell/2016-17/Networking/846 dated 24.10.2016 In Ref. to EoI No. IIT(BHU)/IPCell/2016-17/Networking/EoI/141 dated 19.05.2016	Name of the Project: SUPPLY, INSTALLATION, INTEGRATION, COMMISSIONING AND MANAGING OF IIT (BHU), VARANASI CAMPUS WIDE LOCAL AREA NETWORK (WIRED AND WI-FI) Qty.: Complete Project on Turn-key Basis TECHNICAL BID (MUST be submitted in a separate SEALED envelope Super-scribed as TECHNICAL BID) Specification of work 1. Technical Specifications for LAN: As per Annexure – A 2. Work Schedule As per Annexure – B 3. Manpower and Helpline Software As per Annexure – C 4. Reference BoQ As per Annexure – D 5. Mandatory Undertaking As per Annexure – E PRICE BID (MUST be submitted in a separate SEALED envelope Super-scribed as PRICE BID) 6. Price Bid As per Annexure – F	Rs.50,00,000/-

2. All Bidders who responded in response to EoI No. IIT(BHU)/IPCell/2016-17/Networking/EoI/141 dated 19.05.2016 and were qualified have been provided with a copy of this revised Tender Document.

3. The cost of bidding documents i.e. Tender fees as indicated in NIT should be submitted in the form of a Demand Draft in favour of the Registrar IIT (BHU) payable at Varanasi.
4. All bids must be accompanied by earnest money deposit as specified above and must be delivered to the Registrar, IIT (BHU), Varanasi office up-to 13.00 Hrs of **the last date of receiving the bid as specified.**
5. The Institute reserves the right to accept or reject any or all tenders either in part or in full without assigning any reasons thereof.
6. This revised Tender Document contains the following:
 - A. Instructions to Bidders
 - B. General conditions of contract (GCC)
 - C. Tender form (Techno commercial un-priced Bid)
 - D. Tender form (priced Bid)
 - E. Check-list for Bid/Tender submission
 - F. Bank guarantee form
 - G. Declaration Certificate
 - H. Technical specifications for the complete project

INSTRUCTIONS TO BIDDERS

A. Introduction

1. Qualification criteria/ Eligible Bidders

1.1 This Invitation for Bids is only open to the shortlisted bidders consequent upon the evaluation of received bids in reference to EoI No. IIT(BHU)/IPCell/2016-17/Networking/EoI/141 dated 19.05.2016.

2. Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its bid, and "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

B. The Bidding Documents

3. Cost of Bidding Documents (Tender Fees)

Qualified bidders have been provided the revised tender document vide their email. However, the same may also be downloaded from the Institute website or from Central Public Procurement Portal (CPPP) as indicated in the invitation for bids. The cost of bidding documents should be submitted in the form of Demand Draft for Rs. 2000 drawn in favour of the **Registrar, IIT (BHU)** payable at Varanasi.

4. Content of Bidding Documents

4.1 The goods required, bidding procedures and contract terms are prescribed in the bidding documents. In addition to the Invitation for Bids, the bidding documents include:

- (a) Instruction to Bidders (ITB);
- (b) General Conditions of Contract (GCC);
- (c) Schedule of requirements;
- (d) Tender form (technical bid).
- (e) Tender form (financial bid)

4.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in rejection of its bid.

5. Amendment of Bidding Documents

5.1 At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment.

5.2 All prospective bidders who have received the bidding documents will be notified of the amendment in writing, which will be binding on them.

5.3 In order to allow prospective bidders reasonable time within which to take the amendment into account in preparing their bids, the Purchaser, at its discretion, may extend the deadline for the submission of bids.

C. Preparation of Bids

6. Language of Bid

The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser shall be written in English language.

7. Documents Comprising the Bid

7.1 Techno commercial un-priced bid and priced Bids: The bids are to be submitted in two parts in separate sealed envelopes by mentioning **Techno commercial un-priced bid** and **priced Bid** respectively.

(a) Techno commercial un-priced bid along with Earnest Money Deposit (EMD) as shown in invitation to bids may be submitted in the form of Demand Draft of Nationalised Bank drawn in favour of **Registrar, IIT (BHU)** payable at Varanasi. **If the EMD is not received along with the technical bid, such bid will not be considered.**

(b) Priced bid.

7.2 Techno commercial un-priced bid: The Techno commercial un-priced bid prepared by the bidder shall be provided in the following Model Response format:

Model Response format

(a) Standing of each Bidder Manufacturer/Dealer and past experience in supply of the material (certificates to be enclosed), proof of manufacturing Unit/Dealership letter and general order supplier.

(b) List of other Govt. Departments, Public Sector units and Central Autonomous Bodies for which the bidder is supplying material or having the similar type of contracts and a certificate regarding the satisfactory performance of the contract.

(c) Copy of the audited balance sheet of the vendor for the previous financial year indicating the turnover in supply of the material.

(d) Details of Permanent Account Number and latest income tax clearance certificate.

(e) Details of S.T. No. along with a copy of certificate to be attached.

(f) The make of items proposed to be supplied should be indicated clearly in the techno commercial un-priced bid without indicating the pricing components.

(g) Willingness to execute all orders which are placed to meet emergency requirement on priority basis. The Bidder shall note that standards for workmanship, material and equipment, and references to brand names designated by the Purchaser in the schedule of requirements are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalogue numbers in his bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

7.3 Priced Bid

The priced bid shall comprise the techno commercial bid along with the price component indicating the Unit prices for each and every item indicated in the schedule of requirements.

(a) The prices quoted must be net per unit as shown in the Schedule and must include all charges for delivery at the designated stores.

- (b) The rate must be stated for each item separately both in words and figures. If there is a discrepancy between the price quoted in word and figures the higher price quoted will be treated as final.
- (c) The price quoted by the bidder should be exclusive of Excise Duty/Custom Duty & Sales Tax. However, the Excise Duty/Custom Duty & Sales Tax applicable should be quoted separately in the schedule enclosed. The Institute will provide the relevant exemption certificate wherever applicable.
- (d) Quoted prices should be firm and inclusive of octroi, freight and forwarding charges, handling charges, loading and unloading charges, and insurance charges etc.
- (e) The prices once accepted by the Institute shall remain valid till the successful execution of the order from the date of issuance of the work order. The Institute shall not entertain any increase in the rates during the period. However, in the event there is a reduction or increase in Government levy/duties during the period of execution of the order, the rates shall be suitably adjusted with effect from the date notifying the said reduction or increase in the Government levy/excise duty. The quantity given in the Annexures are approx. project requirement. However, payment will be made on actual basis.

NOTE

- 1. THE TWO BIDS (BOTH TECHNO COMMERCIAL UNPRICED BID) ALONG WITH EARNEST MONEY DEPOSIT (EMD) AND THE PRICED BID SHOULD BE SUBMITTED SEPARATELY FOR FULL PROJECT.**
- 2. CONDITIONAL BIDS WILL NOT BE ACCEPTED**

8. Bid Prices

- 8.1** The Bidder shall indicate on the Schedule of requirements, the unit prices of the goods it proposes to supply under the Contract and enclose it with the priced bid.
- 8.2** Prices indicated on the Price Schedule shall be entered separately in the following manner:
 - (i) The prices quoted must be net per unit as shown in the schedule of requirements and must include all charges for delivery at the designated stores.
 - (ii) Any Indian duties, VAT / Sales and other taxes which will be payable on the goods if this Contract is awarded;
- 8.3** Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account.

9. Bid Currencies

Prices shall be quoted both in Indian Rupees and/or in US Dollars (\$) only. In case of direct import the prices may be indicated in the US Dollars (\$). The Institute may, at its discretion, arrive at approximate Rupee equivalent on the basis of exchange rate on the date of opening of price bid. The Institute shall refer the exchange rate as available on RBI reference rate archive on the date of Financial Bid opening for conversion of foreign currency into INR for comparison purpose.

10. Period of Validity of Bids

- 10.1** Bids shall remain valid for **180 days** after the date of bid opening prescribed by the Purchaser. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.
- 10.2** In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. A Bidder may refuse the request without forfeiting its EMD. A Bidder granting the request will not be required nor permitted to modify the bid.

10.3 Bid evaluation will be based on the bid prices without taking into consideration the above modifications.

D. Submission of Bids

11. Sealing and Marking of Bids

- 11.1** The outer envelope containing Techno commercial un-priced bid along with EMD and priced bid shall be addressed to **The Registrar, Indian Institute of Technology (Banaras Hindu University), Varanasi – 221 005, U.P., INDIA** and shall indicate tender number and due date.
- 11.2** The inner envelope shall indicate the name and address of the bidder, tender number due date and contents i.e. “Techno commercial un-priced bid along with EMD” and “Priced bid”.
- 11.3** If the outer envelope is not sealed and marked as required, the Purchaser will assume no responsibility for the bid's misplacement or premature opening.

12. Deadline for Submission of Bids

- 12.1** Bids must be received by the Purchaser at the address specified not later than the time and date specified in the Invitation for Bids. In the event of the specified date for the submission of Bids being declared a holiday for the Purchaser, the Bids will be received up-to the appointed time on the next working day.
- 12.2** The Purchaser may, at his discretion, extend this deadline for submission of bids by amending the bid documents in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

13. Late/Delayed Bids

Any bid received by the Purchaser after the deadline for submission of bids prescribed by the Purchaser, pursuant to Clause 5 of invitation of bids will be rejected and/or returned unopened to the Bidder.

14. Modifications and Withdrawal of Bids

- 14.1** The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification or withdrawal is received by the Purchaser prior to the deadline prescribed for submission of bids.
- 14.2** The Bidder's modification or withdrawal notice shall be prepared, marked and dispatched in a sealed envelope. A withdrawal notice may also be sent by telex or cable or fax but followed by a signed confirmation copy, post marked not later than the deadline for submission of bids.
- 14.3** No bid may be modified subsequent to the deadline for submission of bids.
- 14.4** No bid may be withdrawn in the interval between the deadline for submission of bids and the expiry of the period of bid validity specified by the Bidder on the bid form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its EMD.

E. Bid Opening and Evaluation of Bids

15. Opening of Techno commercial un-priced Bids

The purchaser will open all techno commercial un-priced bids in the first instance.

16. Clarification of Bids

- 16.1** During evaluation of the bids, the purchaser may, at its discretion, ask the Bidder for clarification of its bid. The request for clarification and the response shall be in writing and no change in price or substance of the bid shall be sought, offered or permitted.
- 16.2** No Bidder shall contact the purchaser on any matter relating to its bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Institute it should be done in writing.
- 16.3** Any effort by a Bidder to influence the purchaser in its decisions on bid evaluation, bid comparison or contract award decisions may result in rejection of the Bidder's bid.

17. Evaluation of Techno commercial un-priced Bid

- 17.1** Prior to the detailed technical evaluation, the purchaser will determine the substantial responsiveness of each bid. A substantially responsive bid is one, which conforms to all the terms and conditions of the Bidding Documents without material deviations.
- 17.2** The purchaser will reject a bid determined as not substantially responsive.
- 17.3** The bidders may be called for discussion and may be allowed to modify their technical bids to suit the organization's requirement. The idea is to arrive at a threshold level of acceptability above which all the bidders shall be treated on par. Those whose technical specifications do not reach the threshold level of acceptability shall be rejected as technically unsuitable. The price bids of the bidders who finally emerge as technically acceptable shall be opened, evaluated and the contract awarded to the lowest evaluated bidder.
- 17.4** The bidders short-listed by the purchaser based on evaluation of their technical bids may be called for detailed discussions with a team selected for the purpose, at a specified date, time and venue, if needed.

18. Opening of Priced Bids

- 18.1** The Purchaser will open the Priced Bids of only those bidders whose techno commercial bids have been found to be substantially responsive.
- 18.2** The priced Bids of the technically qualified bidders shall be opened by the tender committee.

19. Evaluation and Comparison of priced Bids

- 19.1** Arithmetical errors will be rectified on the following basis: If there is a discrepancy between words and figures, whichever is the higher of the two shall be taken as bid price. If the Vendor does not accept the correction of errors, its bid will be rejected
- 19.2** Bidders shall state their bid price for the payment schedule outlined in the Clause 14 of General Conditions of Contract. Bids will be evaluated on the basis of this base price. Bidders are, however, permitted to state an alternative payment schedule and indicate the reduction in bid price they wish to offer for such alternative payment schedule. The purchaser may consider the alternative payment schedule offered by the selected Bidder but it may not be binding on the purchaser.
- 19.3** The purchaser, at its option may ask some more bidders to match the rates of the lowest bidder for creating parallel suppliers.

20. Purchasers right to accept any bid and to reject any bid or all bids

The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Purchaser's action.

21 Award Criteria

Subject to Clause 19, the purchaser will award the Contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined as the best evaluated bid provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

22. Notification of Award

Prior to the expiration of the period validity, the purchaser will notify the successful Bidder in writing by letter or by fax, to be confirmed in writing by speed post or hand delivered letter, that its bid has been accepted.

23. Factors Affecting the Award of Supply

- 23.1** The bidder should have its own Contract support facilities. The support facilities should be fully owned and managed by the bidder.
- 23.2** Conformity with the Request for Bid/Tender required and conditions.
- 23.3** The assessment based on the response to Model Response Outline.
- 23.4** The assessment of the capability of the bidder to meet the terms and conditions.
- 23.5** The bidders must have executed similar orders, for which the bidder is quoting, as indicated in clause 1 for Govt./Semi-Govt./Autonomous Organizations.
- 23.6** The cost and the discount offered, if any.

24. Fall clause

- 24.1** The price quoted by the supplier should not be higher than the maximum retail price, if any, for the stores and the same shall not be higher than the price usually charged by the supplier for stores of the same nature, class or description to any other purchaser.
- 24.2** The price charged for the stores supplied under the contract by the supplier shall in no event exceed the lowest price at which the supplier sells the stores of identical description to any other person during the period till performance of all supply orders placed during the currency of the contract is completed. If at any time during the period the supplier reduces the sale price of such stores or sells such stores to any other person including his dealers at a price lower than the price chargeable under the contract, he shall forthwith notify such reduction or sale to the purchaser and the price payable under the contract for these items of stores supplied after the date of coming into force of such reduction or sale shall stand correspondingly reduced.
- 24.3** If it is discovered that the supplier has contravened the above conditions, then without prejudice to any other action which might be taken against him, it shall be lawful for the purchaser to (a) revise the price at any stage so as to bring it in conformity with sub-clause(i) above, or (b) to terminate the contract and purchase the items of stores at the risk and cost of the supplier and in that event the provisions of Clause 28 of General Conditions of Contract shall, as far as possible, be applicable or recover the loss.

GENERAL CONDITIONS OF CONTRACT (GCC)

1. Definitions

In this Contract, the following terms shall be interpreted as indicated:

- (a) "The order" means the agreement entered into between the Purchaser and the Supplier including all the attachments and appendices and all documents incorporated as per notification of award.
- (b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations;
- (c) "The Goods" means all the items, which the Supplier is required to supply to the Purchaser under the Contract;
- (d) "Services" means services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services training and other obligations of the Supplier covered under the Contract;
- (e) "GCC" means the General Conditions of Contract contained in this section.
- (f) "The Purchaser" means the organization purchasing the Goods i.e. IIT (BHU), VARANASI.
- (g) "The Purchaser's country" is India.
- (h) "The Supplier" means the individual or firm supplying the Goods and Services under this Contract.
- (i) "Day" means calendar day.

2. Application

These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.

3. Standards

The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin and such standards shall be the latest issued by the concerned Institution.

4. Use of Contract Documents and Information

- 4.1** The Supplier shall not, without the Purchaser's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.
- 4.2** The Supplier shall not, without the Purchaser's prior written consent, make use of any document or information except for purposes of performing the Contract.
- 4.3** Any document, other than the Contract itself, shall remain the property of the Purchaser and shall be returned (in all copies) to the Purchaser on completion of the Supplier's performance under the Contract if so required by the Purchaser.

5. Patent Rights

The Supplier shall indemnify the Purchaser against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of the Goods or any part thereof in India.

6. Submission of the bids

6.1 All bids complete in all respect must reach the purchaser within the last date and time of receipt of bid. No extension shall be allowed for any reason what so ever. Late tenders/delayed bids and tenders received without earnest money etc. shall be rejected.

7. Inspections and Tests

7.1 The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Purchaser.

7.2 The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery and/or at the Goods final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data shall be furnished to the inspectors at no charge to the Purchaser.

7.3 Should any inspected or tested Goods fail to conform to the specifications, the Purchaser may reject the goods and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Purchaser.

7.4 The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival at Project Site shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Purchaser or its representative prior to the Goods shipment.

7.5 Nothing in GCC Clause 7 shall in any way release the Supplier from any warranty or other obligations under this Contract.

8. Consequences of rejection

If in the event the stores are rejected by the purchaser at the destination and the supplier fails to make satisfactory supplies within the stipulated period of delivery, the purchaser will be at liberty to:

- (a) Allow the supplier to resubmit the stores in replacement of those rejected, within a specified time without any extra cost to the purchaser or
- (b) Reject the material, which shall be final and binding on the contractor.
- (c) Procure the rejected materials of comparable quality from the open market/Govt. stores and the supplier shall be liable to pay the difference in price over the RC prices or get the amount adjusted from the outstanding bills of the supplier, if any or EMD.

9. Packing

9.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

9.2 The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract including additional requirements, in any subsequent instructions ordered by the Purchaser.

10. Delivery and Documents

10.1 The Supplier shall make delivery of the Goods as per work schedule days from the placement of purchase order in pursuance of the notification of award. The purchase order

would be placed after assessing the requirements on quarterly basis. However, the supplier shall also arrange to execute all orders on priority basis which would be placed to meet any emergent requirements.

10.2 In case the purchaser decides to conclude parallel rate contracts, then the requirements would be split on different firms on equitable basis as per the discretion of the purchaser.

10.3 The delivery of Stores shall be affected at the premises of the Institute free of all delivery charges and within the stipulated time and as may be elucidated in the confirmed order, accompanied by a delivery challan. No extension of time for delivery of Stores shall normally be accorded.

Time and date of delivery – the essence of the contract: The time for and the date of delivery of the stores stipulated shall be deemed to be of the essence of the contract and delivery must be completed NOT later than the date(s) specified in Work Schedule (Annexure B).

11. Insurance

The Goods supplied under the Contract shall be fully insured in Indian Rupees against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery. The insurance shall be obtained by the suppliers in an amount equal to 110% of the value of the goods from “warehouse to warehouse” (final destinations) on “all risks” basis including war risks and strikes.

12. Transportation

Where the Supplier is required under the Contract to transport the Goods within India defined as Project site, transport to such place of destination in India including insurance, as shall be specified in the Contract, shall be arranged by the Supplier, and the related cost shall be included in the contract Price.

13. Warranty

13.1 The Supplier warrants that the Goods supplied under this Contract are new, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect arising from design, materials or workmanship or from any act or omission of the Supplier that may develop under normal use of the supplied Goods in the conditions prevailing in India.

13.2 This warranty shall remain valid for at least 36 months (or as specified) after the Goods or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the Contract, unless specified otherwise.

13.3 The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty.

13.4 Upon receipt of such notice, the Supplier shall with all reasonable speed, repair or replace the defective Goods or parts thereof, without any extra cost to the Purchaser.

13.5 If the Supplier, having been notified, fails to remedy the defect(s) within a reasonable period, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

14. Payment

14.1 The Purchaser will release all due payments to the supplier as per the following terms:

- a) 70% of Contract price including duties and taxes against **actual/ complete supply** within 30 days.
- b) Next 10% of contract price shall be released after satisfactory installation and at the start of **Work Schedule # 9 - Pre Go-live and User Testing Phase**

- c) Final 20% of payment shall be released ONLY after compliance of **Work Schedule # 12 - Acceptance of LAN implementation** and submission of Performance Bank Guarantee (PBG) equivalent to 10% of contract price in the specified format.

14.2 The Supplier's request(s) for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and the Services performed, and by documents, submitted pursuant to GCC Clause 10, and upon fulfilment of other obligations stipulated in the contract.

15. Prices

The prices charged by the bidder should be inclusive of freight charges, taxes and duties, insurance upto IIT (BHU) for supplies of equipment and materials. However, the price break up should be clearly specified. The price of the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in his bid.

The applicable road permit (way bill) any other permit/form/exemption certificate shall be provided by Purchaser as and when required.

The purchaser shall make all payments in Indian Rupees (INR), unless otherwise agreed between the supplier and purchaser.

16. Change Orders

16.1 The Purchaser may at any time, by written order given to the Supplier, make changes within the general scope of the Contract in any one or more of the following:

- (a) Drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) The method of shipping or packing;
- (c) The place of delivery; and/or
- (d) The services to be provided by the Supplier.

16.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Purchaser's change order.

17. Contract Amendments

Subject to GCC Clause 16, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

18. Assignment

The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent.

19. Subcontracts

The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in his original bid or later, shall not relieve the Supplier from any liability or obligation under the Contract.

20. Delays in the Supplier's Performance

20.1 Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser as per GCC clause 10.

20.2 If at any time during performance of the Contract, the Supplier or its sub-contractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the

delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may, at its discretion, extend the Supplier's time for performance with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of the Contract.

20.3 Except as provided under GCC Clause 23, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of penalty pursuant to GCC Clause 21, unless an extension of time is agreed upon pursuant to GCC Clause 20.2 without the application of liquidated damages.

21. Penalty

Subject to GCC Clause 23, if the Supplier fails to deliver any or all of the Goods or fails to perform the Services within the period(s) specified in the Contract, the Purchaser shall without prejudice to its other remedies under the Contract, deduct from the Contract Price, as penalty, a sum equivalent to 1% of contract price per week or part thereof subject to a maximum of 10% of the contract price. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause 22.

22. Termination for Default

22.1 The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part:

- (a) If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the purchase order, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 20; or
- (b) If the Supplier fails to perform any other obligation(s) under the Contract.
- (c) If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

‘For the purpose of this Clause:

“Corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

“Fraudulent practice: a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition;”

22.2 In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 22.1, the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar Goods or Services. However, the Supplier shall continue the performance of the Contract to the extent not terminated.

23. Force Majeure

23.1 Notwithstanding the provisions of GCC Clauses 20 & 21, the Supplier shall not be liable for imposition of liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

23.2 For purposes of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

23.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

24. Termination for Insolvency

The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the Purchaser.

25. Termination for Convenience

25.1 The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

25.2 The Goods that are complete and ready for shipment within 30 days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices.

26. Resolution of Disputes

26.1 The Purchaser and the supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

26.2 If, after thirty (30) days from the commencement of such informal negotiations, the Purchaser and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms as specified below. These mechanisms may include, but are not limited to, conciliation mediated by a third party, adjudication in an agreed national or international forum, and national or international arbitration.

26.3 In case of Dispute or difference arising between the Purchaser and a supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996.

27. Governing Language

The contract shall be written in English language. Subject to GCC Clause 28, English language version of the Contract shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

28. Applicable Law

28.1 The contract shall be governed by the Law of Contract for the time being in force.

28.2 Irrespective of the place of delivery, the place of performance or place of payment under the contract, the contract shall be deemed to have been made at the place from which the acceptance of tender has been issued.

28.3 Jurisdiction of Courts: The courts of the place from where the acceptance of tender has been issued shall alone have jurisdiction to decide any dispute arising out of or in respect of this contract.

28.4 One month notice will be given by either party for termination of Contract during the tenure of Contract for breach of Clause or otherwise.

29. Taxes and Duties

Suppliers shall be entirely responsible for all taxes, duties, license fees, octroi, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser.

30. Performance Security:

- (i) Successful bidder have to furnish **10%** of the order value as a performance security in the shape of Bank Draft/ Fixed Deposit Receipt / Bank Guarantee drawn in favour of the **Registrar, Indian Institute of Technology (BHU)** valid for a period of 60 days beyond the end of all warranty period / obligations. The Bank Draft / Fixed Deposit Receipt / Bank Guarantee should be issued from a nationalised bank in India.
- (ii) Earnest Money Deposit will be refunded to the successful bidder after **Work Schedule # 12 - Acceptance of LAN implementation** and receipt of Performance Security.

12. The Institute Reserves The Right To:

- i. Increase or decrease the quantity of the item(s) as per requirement.
- ii. Reject the quotation in absence of not furnishing the documentary evidence in respect of Trade Tax Registration (C.S.T./U.P.T.T/VAT.), Income Tax and Trade Tax clearance certificates together with the performance of supplies in various branches/institutions.
- iii. Reject the quotation in the event of non-furnishing the authentic documentary evidence in respect of Testing reports / Performance report of the concerned Govt. Organization / Institutions about the products being manufactured and marketed. The performance test of the product can be conducted at Institute level also for which charge will have to be borne by the suppliers.
- iv. Reject the supplies already made, if not found up to the mark. Thorough checking may be adopted to test the correctness of the supply. In such an event further action may call to conform or discard the supply.
- v. To reject any addition/alteration in respect of local dealerships intimated by the Principals after consideration of the case by the committee appointed by the Institute for the purpose.
- vi. The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part:
 - (a) If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the purchase order, or within any extension thereof granted by the Purchaser.
 - (b) If the Supplier fails to perform any other obligation(s) under the Contract.
 - (c) If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

‘For the purpose of this Clause:

 - “Corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.
 - “Fraudulent practice: a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition;”
 - To reject any or all the offers without assigning any reasons thereof.
 - All disputes are subject to “*Varanasi Jurisdiction*” only.

- The decisions of the Institute in all respect shall be final and binding on all. Kindly note that we attach great significance to the list of the organizations of repute where a firm is on rate contract, therefore please enclose certified photocopies of the rate contract.
- Please ensure that your offer is complete in all respect as no further clarifications shall be sought from you and reaches us within the last date mentioned above. **The Institute shall not be responsible for any postal delay / loss in transit etc.**
- Please mention our reference number and due date on the sealed envelope, otherwise your quotation may not be entertained.
- A checklist (list documents to be attached) with proper signature, seal and date should be enclosed with bid document for verification; otherwise the proposal will not be entertained.

.....
*Indian Institute of Technology,
(Banaras Hindu University)*

NOTE: While arranging the Bid Documents, check list should be placed on TOP.

TENDER FORM
(Techno commercial un-priced Bid)
(On the letter head of the firm submitting the bid)

Tender No.....
To
The _____

Dear Sir,

1. I/We hereby offer to supply the items as listed in the schedule to this tender hereto/portion thereof as you may specify in the acceptance of Tender at the price given in the said Schedule and agree to hold this offer open for a period of 180 days from the date of opening of the tender. I/we shall be bound by a communication of acceptance issued by you.

2. I/We have understood the Instruction to bidders and Conditions of Contract in the form as enclosed with the invitation to the tender and have thoroughly examined the specifications quoted in the Schedule hereto and am/are fully aware of the nature of the goods required and my/our offer is to supply the goods strictly in accordance with the specifications and requirements.

3. A crossed Bank Draft in favour of the **Registrar, IIT (BHU)** for Rs.
(Rupees.....only) as Earnest Money is enclosed. The Draft is drawn on
.....Bank payable at Varanasi

4. The following have been added to form part of this tender.

(a) Schedule of requirements, quoting the make only duly signed and stamped.(without indicating price)

(b) Income Tax clearance certificate.

(c) Copy of last audited balance sheet.

(d) Copy of Valid Central/State sales tax registration certificate.

(e) Proof of manufacturing Unit, dealership certificate/general order suppliers.

(f) Statement of deviations from financial terms & conditions, if any.

(g) Any other enclosure. (Please give details)

5. We undertake to execute all orders which have been placed to meet emergent requirements on priority basis.

6. Certified that the bidder is: A sole proprietorship firm and the person signing the bid document is the sole proprietor/constituted attorney of the sole proprietor,

Or

A partnership firm, and the person signing the bid document is a partner of the firm and he has authority to refer to arbitration disputes concerning the business of the partnership by virtue of the partnership agreement/by virtue of general power of attorney.

Or

A company and the person signing the document is the constituted attorney.

(NOTE: Delete whatever is not applicable. All corrections/deletions should invariably be duly attested by the person authorized to sign the bid document).

7. We do hereby undertake that, until a formal notification of award, this bid, together with your written acceptance thereof shall constitute a binding contract between us.

Yours faithfully,
(Signature of bidder)

Dated this day of _____

Address:.....
.....

Telephone:_____

FAX_____

E-mail_____

Company seal

Tender Form

(Priced Bid)

(On the letter head of the firm submitting the bid document)

To _____
The _____

Ref: Tender No Dated :

Sir,

Having examined the bidding documents and having submitted the techno commercial un-priced bid for the same, we, the undersigned, hereby submit the priced bid for supply of goods and services as per the schedule of requirements and in conformity with the said bidding documents.

We hereby offer to supply the Goods/Services at the prices and rates mentioned in the enclosed schedule of requirement.

We do hereby undertake that, in the event of acceptance of our bid, the supply of Goods/Services shall be made as stipulated in the schedule of requirement and that we shall perform all the incidental services.

The prices quoted are inclusive of all charges F.O.R IIT (BHU), Varanasi. We enclose herewith the complete Financial Bid as required by you. This includes:

Price Schedule as per schedule of requirement.

Statement of deviations from financial terms and conditions.

We agree to abide by our offer for a period of 180 days from the date fixed for opening of the bid documents and that we shall remain bound by a communication of acceptance within that time.

We have carefully read and understood the terms and conditions of the bid document and we do hereby undertake to supply as per these terms and conditions. The Financial Deviations are only those mentioned in the statement of deviations from financial terms and conditions.

Certified that the bidder is:

A sole proprietorship firm and the person signing the bid document is the sole proprietor/constituted attorney of sole proprietor,

Or

A partnership firm, and the person signing the bid document is a partner of the firm and he has authority to refer to arbitration disputes concerning the business of the partnership by virtue of the partnership agreement/by virtue of general power of attorney,

Or

A company and the person signing the bid document is the constituted attorney.

(NOTE: Delete whatever is not applicable. All corrections/deletions should invariably be duly attested by the person authorised to sign the bid document.)

We do hereby undertake that, until a formal notification of award, this bid, together with your written acceptance thereof, shall constitute a binding contract between us.

Dated this day of _____

Signature of Bidder

Details of enclosures

Full Address:

Telephone No.:

Fax No.

E-mail:

COMPANY SEAL

CHECKLIST FOR BID/TENDER SUBMISSION

The following check-list must be filled in and submitted with the bid document:

Pre-qualification Bid

- | | |
|--|-----------------|
| 1. Was the bid document issued to you? | Yes/No |
| 2. Have you attached the techno commercial un-priced bid form duly filled in appropriately? | Yes/No |
| 3. Have you attached a copy of a compliance list against the technical Specification (for each point)? | Yes/No |
| 3. Have you attached a copy of the last audited balance sheet of your firm | Yes/No |
| 4. Have you attached the details of the income tax clearance certificate, proof of manufacturing unit/ dealership letter/general order suppliers and copy of Central/State sales tax registration certificate. | Yes / No |
| 5. Have you attached the copies of relevant work orders from Govt. Deptt. /PSUs and Central Autonomous Bodies. | Yes / No |
| 6. EMD: Have you submitted EMD asked for- | Yes/No |
| 7. Have you submitted samples of all items indicated in the respective schedule of requirements. | Yes/No |
| 8. Have you enclosed the schedule of requirement indicating the make offered without indicating the pricing components along with the techno commercial un-priced bid. | Yes/No |
| 9. Have you submitted the bids both techno commercial un-priced and priced bid separately for each tender? | Yes/No |
| 10. Have you enclosed the statement of deviations from financial terms and conditions, if any? | Yes/No |
| 11. Have you enclosed compliance statement form? | Yes / No |
| 12. Have you enclosed duly signed Annexure – E Mandatory Undertaking? | Yes / No |

Priced Bid:

- | | |
|---|--------|
| 1. Have you signed and attached the priced bid form. | Yes/No |
| 2. Have you attached the schedule of requirements duly priced | Yes/No |
| 3. Have you attached the Declaration / integrity pact (as applicable) | Yes/No |

FORMAT OF BANK GUARANTEE

1. This guarantee should be furnished by a Nationalized Bank / scheduled Bank, authorized by RBI to issue a Bank Guarantee.
2. This bank guarantee should be furnished on stamp paper of Rs. 100/-
3. The stamp paper should have been purchased in the Name of the Bank executing the Guarantee.
- 4. In the case of foreign bidder the B.G may be furnished by an international reputed bank acceptable to the PURCHASER countersigned by any Nationalized / Scheduled Bank in India authorized by Reserve Bank of India.**

DATE

BANK GUARANTEE NO:

Ref :

To
Indian Institute of Technology
(BanarasHinduUniversity)
Varanasi-221005

Dear Sirs,

In accordance with your 'Invitation to Bid" under your Tender No: M/s: herein after called the Contractor/supplier, with the following Directors on their Board of Directors / partners of the firm.

- | | |
|--------|--------|
| 1..... | 2..... |
| 3..... | 4..... |

Agrees for the contract/supplies:

As an irrevocable Bank Guarantee for an amount of Rs.....(in words and figures) valid for days from is required to be submitted by the Contractor/Supplier which amount is liable to be forfeited by the purchaser in the event of 1) the withdrawal or revision of the offer by the Bidder as a condition within the validity period. (2) non-acceptance of the Letter of Intent / purchase order by the bidder when issued within the validity period. (3) failure to furnish the valid contract performance guarantee by the bidder within one month from the receipt of the purchase order and (4) on the happening of any contingencies mentioned in the bid documents such as

We, the Bank at..... having our Head office at (Local address) Guarantee and undertake to pay immediately on first demand by IIT (BHU) the amount of..... (in figure and words) without any reservation., protest, demur and recourse. Any such demand made by the Purchaser shall be conclusive and binding on the Bank irrespective of any dispute or difference raised by the purchaser.

The guarantee shall be irrevocable and shall remain valid up to
..... (This date should be 6 months after execution of the
order). If any further extension of this guarantee is required the same shall be extended to such
required period (not exceeding one year) on receiving instruction from
M/s.....on whose behalf this guarantee is
issued.

In witness whereof the Bank, through its authorized officer has set its hand and stamp on this
..... day of at witness
..... (Signature)

WITNESS

(Signature).....

Name in (Block letters)

Designation

(Staff Code No.)

(Bank's common Seal)

Official address:

Attorney as per power of Attorney No.

Date:

DECLARATION

1. I, ----- Son /Daughter of Shri -----
----- Proprietor/Partner/CEO/MD/Director/ Authorized

Signatory of M/s. ----- am competent to sign this declaration and execute this bid.

- 2. I have carefully read and understood all the terms and conditions of the tender and hereby convey my acceptance of the same.
- 3. The information / documents furnished along with the above application are true and authentic to the best of my knowledge and belief.
- 4. 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.
- 5. Each page of the bid and papers submitted by my Company is authenticated, sealed and signed, and I take full responsibility for the entire documents submitted.

----- Signature of the Authorized Person

Date: -----

Place: -----

Full Name: -----

Company Seal: -----

SCHEDULE OF REQUIREMENTS

1. Technical Specifications for LAN:
As per Annexure – A
2. Work Schedule
As per Annexure – B
3. Manpower and Helpline Software
As per Annexure – C
4. Reference BoQ
As per Annexure – D
5. Mandatory Undertaking
As per Annexure – E

PRICE BID

(MUST be submitted in a separate SEALED envelope Super-scribed as PRICE BID)

6. Price Bid
As per Annexure – F

TENDER FOR

TECHNICAL COMPLIANCE STATEMENT

(To be submitted by bidder duly filled on Annexure A, B, C, D and E)

S.No.	Main Item	Specification	Whether the instrument complies with the required specification (Yes / No / Better)	If no or better specification, then provide your comment accordingly
1.		<i>Technical Specifications for LAN (Annexure – A)</i>		
2.		<i>Work Schedule (Annexure – B)</i>		
3.		<i>Manpower and Helpline Software (Annexure – C)</i>		
4.		<i>Reference BoQ (Annexure – D)</i>		
5.		<i>Mandatory Undertaking (Annexure – E)</i>		
6.	Services	<i>As per Work Schedule (Annexure B)</i>		
7.	Warranty	<i>As per Note 7 and 8 of Price Bid (Annexure F)</i>		
8.	A.M.C.	<i>After completion of warranty period</i>		
9.	Miscellaneous, if any			

The above compliance statement form is only indicative and can be modified according to requirements of the indenter.

Date :

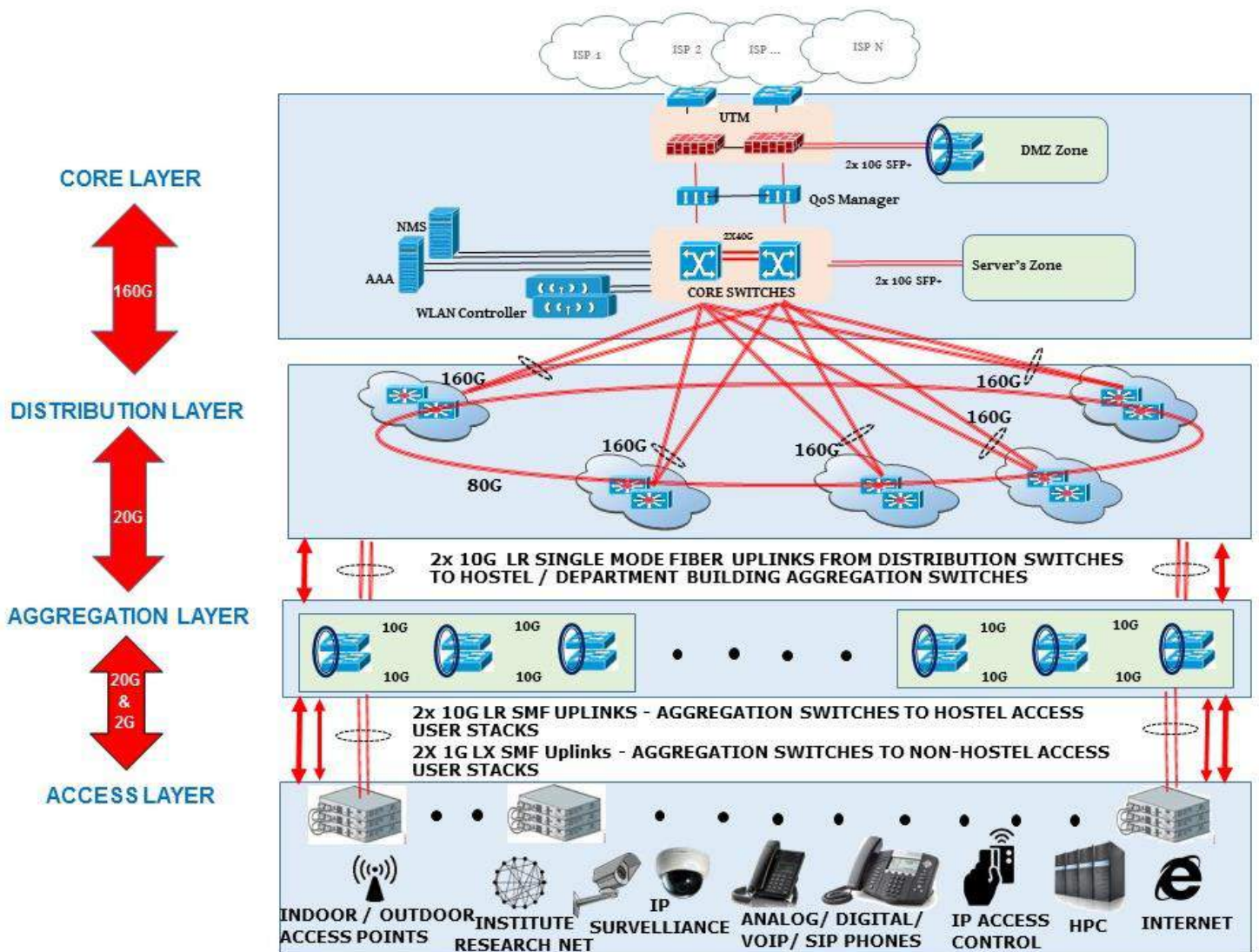
Signature of the Authorised Official with Seal

TECHNICAL SPECIFICATIONS FOR LAN

This document consists of the Tender’s Technical Specifications and Mandatory Compliance Standards, as have been desired as minimum, in the IIT (BHU) Local Area Network, under EoI: IIT(BHU)/IPCell/2016-17/Networking/EoI/141 dated: 19.05.2016.

By all means and scope, this is binding on the bidders, to exactly follow the design. Further, bidders may suggest optional components as add-on features along with quoting respective costs, as an additional offer, which, however shall not be the mandatory part of this tender.

Network Schematic:



Mandatory General Compliance

Complete network including Active Devices **MUST** be able to run in full capacity under normal ambient temperature, humidity, restarts due to power failures and with non-artificial cooling, as may prevail within IIT (BHU) Campus. An explicit undertaking and statement **MUST** be incorporated in solution

Broad Guidelines for Network Implementation

1. Complete network has to be implemented in star topology using exclusive rings for each active device in fail-safe, high-availability configuration.
2. For all rings, 96 Core 8-tube OFC should to be used as per specifications for Core to Distribution, Distribution to Aggregation.
3. For the Distribution to Distribution ring, 24 Core 4-tube OFC in Ring Topology should be used.
4. For Aggregation to Access stacks, 24 Core 4-tube Armoured/ Unarmoured OFCs should be used.
5. There will be 01 physical LAN, implemented as per specifications under this EoI, exclusively dedicatedly for High Speed Internet Access on IIT (BHU) Campus LAN. By using remaining redundant fibre strands in respective tubes, redundant physical LANs will be configured on fibre system, between Core to all Access Switches for exclusive use for (i) Analog and IP Telephony (ii) Biometrics and Access Control (iii) Video/ IP Surveillance (iv) HPC (v) Institute Research Net (IoT/ Fog/ Mist etc.) and one, reserved for future use.
6. Bidder **MUST** quote detailed bill of material along with **OEM part-codes** for each products in the technical bid.
7. Financial bid shall be opened only for successful bidders post technical bid evaluation.
8. The bidder **MUST** submit step-by-step schedule of work with complete details, in the technical bid.
9. During on-site implementation, the bidder **MUST** seek formal technical approval of the step-by-step implementation plan, from the Chairman, Institute Networking Committee, before actual execution of the work.
10. The bidder shall also provide progress report of the execution of work, as permitted under item # 9 (as above), with full details, through the designated Project Coordinator.
11. Preparation of the documentation and its informal, day-to-day verification by the Chairman, Institute Networking Committee shall be a continuous process throughout the tenure of work implementation.
12. The solution should eventually deliver all specifications and features as desired, as and where deliverable, without any non-compliance
13. All quoted products must be available with the OEM, on the date of bidding with publicly referenceable links from their website.

Unified Threat Management (UTM)

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	The UTM solution should be Hardware based, Reliable, purpose-built security appliance with hardened operating system that eliminates the security risks associated with general-purpose operating systems. The delivered network security should be hack-proof, intrusion-free, cyber-crime detectable CERT-IN and Institute's Computer Assets and Information Technology (CAIT) Policy compliant.	
2	Should have minimum 6 x 10G supporting SFP+ interfaces & 8 x 1G BaseT RJ45 ports to cater to connectivity from multiple service providers and load balance them.	
3	The Firewall should have ultra-low latency (~ < 5 micro seconds).	
4	The Firewall should support IPSEC & SSL VPN, inbound and outbound both. The IPSEC VPN should deliver at least 20 Gbps throughput to ensure connectivity with Multiple colleges / University catering to Data / Voice traffic over IPSEC tunnel.	
5	The Firewall should be able to handle very high concurrent sessions like 20 Million or above and at least 400,000 of new sessions per second.	
6	The solution should support Virtualization with 10 Virtual contexts scalable to 250 to help University use the logical Firewalls for internal / student projects run isolated with each other.	
7	The proposed solution should have integrated IPS module with at least 10Gbps of throughput for deep pack inspection of traffic and also should be able to inspect encrypted SSL traffic.	
8	The solution should have at least 5 Gbps of Threat Protection throughput and the so that the entire traffic is scanned before reaching the end user. The antivirus engine should be able to inspect the encrypted traffic like HTTPS, SMTPS, POP3s , IMAPs, FTPs etc.	
9	The proposed system should have integrated Web Content Filtering solution which can be used to block any unwanted sites / category of sites to adhere to University IT guidelines.	
10	The Firewall & IPSEC VPN module shall belong to product family which minimally attain Internet Computer Security Association (ICSA) Certification or equivalent	
11	The proposed system should have modules/Licenses for integrated Web Content Filtering along with IPS, Application Control, Antivirus / Malware Protection & Antispam.	
12	Proposed solution should be an Appliance/Virtual Machine based solution. In case of Virtual Machine based, required server must be quoted by bidder.	
13	Should have direct OEM TAC support and hardware replacement warranty for 3 Years.	

Quality of Service (QoS) Manager

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Should be able to control the bandwidth on both in-bound and out-bound sides of the connection.	
2	The equipment must provide at least TWO 1Gbps Ports and One dedicated Management port. The equipment must support expansion module up to at least 2 separate network segment and should be scalable to support 10Gb Bandwidth shaping in future.	
3	The reporting and graphing function must be integrated in the equipment, without any add-on or external device. The precision must be down to minute level and at least 2 month of traffic data must be stored on the device itself.	
4	Should support TCP Rate Control	
5	Should support Per Flow Limits and peak reporting	
6	Proposed solution should be an Appliance/Virtual Machine based solution. In case of Virtual Machine based, required server must be quoted by bidder.	
7	Should support 'fail-close' in the event of power outage, software or hardware failure.	
8	Should Support centralized management and reporting	
9	Should have direct OEM TAC support and hardware replacement warranty for 3 Years.	

WLAN Controller

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Must be compliant with IEEE CAPWAP for controller-based WLANs or equivalent feature and it should be appliance based.	
2	WLC should support IPv4 and IPv6 including IEEE 802.11a, 802.11b, 802.11g, 802.11d, WMM/802.11e, 802.11n, 802.11ac standards.	
3	WLC must have minimum 2 x 10G SFP+ of uplink interfaces.	
4	WLC should support up to 1000 Access points and up to 20000 Devices in a single chassis. It should be scalable to 2000 AP's through single appliance or through cluster with single interface management of all WLC's. It should also support AP license migration from one WLC to another, in case of future upgradation.	
5	WLC Must provide Active: Active with 1+1 and N+1 redundancy. The controllers shall be implemented in HA mode.	
6	WLC should provide air-time fairness between these different speed clients – slower clients should not be starved by the faster clients and faster clients should not adversely affected by slower clients.	
7	WLC Must support an ability to dynamically adjust channel, power settings and airtime, based on the RF environment.	
8	WLC should support L2/L3 discovery for AP's.	
9	Should support adhere to the strictest level of security standards, including 802.11i Wi-Fi Protected Access 2 (WPA2), WPA, 802.1X with multiple Extensible Authentication Protocol (EAP) and 802.1x Authentication.	
10	Controller should support WIDS/WIPS includes rogue AP detection, classification and automatic containment feature and prevention for DOS attacks.	
11	WLC should support L2/L3/L4 Access Control and L2 Client Isolation so User cannot access each other's devices. Isolation should have option to apply on AP or SSID's	
12	Controller should support Access Control based on Identity/Role/ Device/Time or Application.	
13	Must support client roaming in L2/L3 networks and also across controllers.	
14	Controller should support integrated or External AAA servers including Microsoft AD and Linux based open source AAA.	
15	The Controller should support OS/Device finger printing and device type based policies i.e allow or deny, Bandwidth rate limit, VLAN mapping	
16	The controller/System should be able to raise critical alarms by sending an email and/ or SMS.	
17	Per SSID or dynamic Per user bandwidth Rate Limiting	

18	Support advanced multicast features and WMM support to provide best performance on Video applications and should have	
19	Controller should have BYOD features and should support integrated and external captive portal integration.	
20	System should provide a web-based application that allows non-technical staff to create Guest accounts with validity for fixed duration like hours or days and restricted to number of devices. Password to guest should be shared over Email and SMS (SMS gateway services shall be provided by Campus.	
21	Proposed solution should be an Appliance/Virtual Machine based solution. In case of Virtual Machine based, required server must be quoted by bidder.	
22	Should have direct OEM TAC support and hardware replacement warranty for 3 Years.	

Authentication, Authorization, and Accounting (AAA)

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Proposed AAA solution should be an Appliance/Virtual Machine based solution. In case of Virtual Machine based, required server must be quoted by bidder.	
2	Proposed solution must support integration and security for both wired and wireless infrastructure. It should be ready to handle 2000 users and 4000 Devices from day1 and scalable for up to 5000 users and 10000 Devices.	
3	AAA should support BYOD with Self-service authorization and device provisioning via open network.	
4	It must allow for Machine Authentication (or an appropriate alternative) by AD-joined Windows laptops/tablets allowing wireless connection before user logon.	
5	AAA must issue certificates to mobile devices like Tabs/iPads - to allow machine authentication for non-AD joined devices.	
6	The proposed solution should have Built-in user database with per device/user credential management and should also provide Seamless backend integration with RADIUS, AD, LDAP, and social logins.	
7	It should provide a unique certificate based solution for all type of users (preferable for guests also). Certificates should be per-device and avoid common issues with passwords—leaks, sharing, change management	
8	<p>Proposed solution should address (but not limited to) the below requirements:</p> <p>a) Intuitive user/device management</p> <p>b) Self-service 802.1X and guest access. Should also have option for MAC authentication for selective devices and Social Login.</p> <p>c) Integrated AAA server with key policy definitions. Should also support integration with external AAA server and CA server.</p> <p>d) Unified device visibility and reporting</p>	
9	AAA should be able to integrate with existing user databases/Certificate Authority	
10	It should be able to enforce device-specific settings for antivirus, firewall, passcodes, NAC, proxies	
11	It should be able to enforce custom user and device privileges	
12	It should have direct OEM TAC support and hardware replacement warranty for 3 Years.	

Network Management System (NMS)

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	NMS shall be able to monitor and configure 500 devices (should be proposed against the proposed devices) and should have scalability to manage up to 1000 devices in future	
2	Should provide a customizable at-a-glance summary of all discovered devices and existing network switches to proactively identify problem areas and help prevent network downtime. The network has to be manageable at Network Operations Center (NOC) and through secured browser.	
3	Should be able to discover, configure, monitor, manage, and deploy configurations to dynamically update groups of devices. The solution should be capable of packet inspection in real time. The solution should be able to provide seamless services to all the users over their laptop, desktop, Tabs, Mobiles etc. with all types of popular operating systems	
4	Should allow flexible definitions of administrator roles and responsibilities with RBAC (Role based Access Control) for different teams.	
5	Should enable performance management by providing customizable dashboards and historical data visibility	
6	Should be able to generate reports designed to summarize utilization of and traffic patterns on network interfaces.	
7	<p>Should allow administrators to track device configuration changes, enabling viewing, retrieval, and restoration of configuration files, and monitoring of configuration drift for troubleshooting purposes.</p> <p>The system design should provide access to only authorized users, through MAC address binding and by using Secure Digital Certificates to completely trace back an individual user, in case of Cyber Crime or any other cyber investigation, as per the Computer Assets and Information Technology (CAIT) Policy of IIT (BHU).</p>	
8	Should have direct OEM 24x7x365 TAC support and hardware replacement warranty for 3 Years.	

CORE SWITCH

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	The proposed Switch should be a chassis based and have minimum 8 interface slots.	
2	Switch should have 48x 1/10G SFP+ Ports plus 48x 1/10G BaseT RJ45 Ports plus 12x 40G QSFP+ Ports.	
3	Switch should have minimum 2.56 Tbps per interface slot throughput.	
4	The proposed line-cards must have non-blocking and wire-speed performance for all packet sizes for IPv4 & IPv6 traffic and should have distributed forwarding architecture.	
5	Should have redundant Supervisor / CPU, Management Modules, Power Supply and Fans to provide full redundancy and high availability. The performance of the switch should not degrade in case of any failure.	
6	Chassis should support 100G interface line-cards for future connectivity requirement without any replacement in hardware configuration.	
7	Switch should have IPv4 & IPv6 static routes, OSPF, OSPFv3, PBR, PIM-SM / DM, BGP, PBR and VRF.	
8	Should support Layer 2 protocols 802.1d, 802.1s, 802.1w and 802.3ad.	
9	Switch should support minimum 8 hardware queues per port for applying various traffic prioritization through QoS.	
10	Switch should support minimum 8K ACL's, 2K Multicast and 16K Unicast Routes for IPv4 and IPv6.	
11	Should support Port Security and RADIUS / TACACS integration.	
12	Should have OpenFlow or equivalent functionality, to support SDN (Software Defined Networking).	
13	Should have NetFlow to support 512K entries, / sFlow functionality for traffic monitoring.	
14	The proposed switch should be IPv6 logo certified. Desirable: EAL2 or NDPP certification.	
15	Should have direct OEM 24x7x365 TAC support and hardware replacement warranty for 3 Years.	

DISTRIBUTION SWITCH

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Should have minimum 48x 1/10G SFP+ Ports plus 6x 40G QSFP+ Ports	
2	The proposed interfaces must have non-blocking and wire-speed performance for all packet sizes for IPv4 & IPv6 traffic and should have distributed forwarding architecture.	
3	Should have redundant internal Power Supply and Fans.	
4	Switch should have IPv4 & IPv6 static routes, OSPF, OSPFv3, PBR and PIM-SM / DM.	
5	Should support Layer 2 protocols 802.1d, 802.1s, 802.1w and 802.3ad.	
6	Switch should support minimum 8 hardware queues per port for applying various traffic prioritization through QoS.	
7	Switch should have minimum 2K ACL's, 2K Multicast Routes, 4K unicast routes for IPv4 and IPv6.	
8	Should support Port Security and RADIUS / TACACS integration.	
9	Should have OpenFlow or equivalent functionality, to support SDN (Software Defined Networking).	
10	Switch should support port security, DHCP snooping, Dynamic ARP inspection, IP Source guard, BPDU Guard, Spanning tree root guard.	
11	Should have NetFlow to support 24K entries, / sFlow functionality for traffic monitoring.	
12	The proposed switch should be IPv6 logo certified. Desirable: EAL2 or NDPP certification.	
13	Should have direct OEM 24x7x365 TAC support and hardware replacement warranty for 3 Years.	

AGGREGATION SWITCH

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Should have minimum 12x 10G SFP+ Ports.	
2	The proposed interfaces must have non-blocking and wire-speed performance for all packet sizes for IPv4 & IPv6 traffic and should have distributed forwarding architecture.	
3	Should have redundant internal Power Supply and Fans.	
4	Switch should have IPv4 & IPv6 static routes, OSPF, OSPFv3, PBR and PIM-SM / DM.	
5	Should support Layer 2 protocols 802.1d, 802.1s, 802.1w and 802.3ad.	
6	Switch should support minimum 8 hardware queues per port for applying various traffic prioritization through QoS.	
7	Switch should have minimum 2K ACL's, 4K Multicast routes, 4K Unicast Routes for IPv4 and IPv6.	
8	Should support Port Security and RADIUS / TACACS integration.	
9	Should have OpenFlow or equivalent functionality, to support SDN (Software Defined Networking).	
10	Switch should support port security, DHCP snooping, Dynamic ARP inspection, IP Source guard, BPDU Guard, Spanning tree root guard and IPv6 First Hop Security.	
11	Should have NetFlow to support 24K entries, / sFlow functionality for traffic monitoring.	
13	The proposed switch should be IPv6 logo certified. Desirable: EAL2 or NDPP certification.	
14	Should have direct OEM 24x7x365 TAC support and hardware replacement warranty for 3 Years.	

48 PORTS LAYER 3 ACCESS SWITCH

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Should have minimum 48x 10/100/1000 BaseT POE+ RJ45 Ports (minimum 740W) plus 2x 1/10G BaseX SFP+ Ports.	
2	Should have dedicated 80 Gbps of stacking bandwidth (excluding uplink ports) proposed with stacking cable.	
3	The proposed interfaces must have non-blocking and wire-speed performance for all packet sizes for IPv4 & IPv6 traffic and should have distributed forwarding architecture.	
4	Switch should have inter-vlan routing and IPv4 & IPv6 static routes.	
5	Switch should support full -fledged OSPF and PIM- SM, DM & SSM (with no limitation), MVR/ IGMP Snooping as and when required without switch replacement.	
6	Should support Layer 2 protocols IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z, 802.3az, 802.3af, 802.3at.	
7	Switch should have minimum 1K ACL's and 1K IPv4 and IPv6 multicast groups.	
8	Switch should support minimum 8 hardware queues per port for applying various traffic prioritization through QoS.	
9	Should support 802.1x authentication, Port Security and RADIUS / TACACS integration.	
10	Should have OpenFlow or equivalent functionality, to support SDN (Software Defined Networking).	
11	Should have NetFlowto support 12K entries, / sFlow functionality for traffic monitoring.	
12	Switch should support port security, DHCP snooping, Dynamic ARP inspection, IP Source guard, BPDU Guard, Spanning tree root guard and IPv6 First Hop Security.	
13	The proposed switch should be IPv6 logo certified. Desirable: EAL2 or NDPP certification.	
14	Should have direct OEM 24x7x365 TAC support and hardware replacement warranty for 3 Years.	

48 PORTS LAYER 2 ACCESS SWITCH

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Should have minimum 48x 10/100/1000 BaseT POE+ RJ45 Ports (minimum 740W) plus 2x 1/10G BaseX SFP+ Ports.	
2	Should have dedicated 80 Gbps of stacking bandwidth (excluding uplink ports) proposed with stacking cable.	
3	The proposed interfaces must have non-blocking and wire-speed performance for all packet sizes for IPv4 & IPv6 traffic and should have distributed forwarding architecture.	
4	Should support Layer 2 protocols IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z, 802.3az, 802.3af, 802.3at.	
5	Switch should have minimum 1K ACL's and 1K IPv4 and IPv6 multicast groups.	
6	Switch should support minimum 8 hardware queues per port for applying various traffic prioritization through QoS.	
7	Should support 802.1x authentication, Port Security and RADIUS / TACACS integration.	
8	Should have OpenFlow or equivalent functionality, to support SDN (Software Defined Networking).	
9	Should have NetFlow to support 12K entries, / sFlow functionality for traffic monitoring.	
10	Switch should support port security, DHCP snooping, Dynamic ARP inspection, IP Source guard, BPDU Guard, Spanning tree root guard and IPv6 First Hop Security.	
11	The proposed switch should be IPv6 logo certified. Desirable: EAL2 or NDPP certification.	
12	Should have direct OEM 24x7x365 TAC support and hardware replacement warranty for 3 Years.	

24 PORTS LAYER 3 ACCESS SWITCH

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Should have minimum 24x 10/100/1000 BaseT POE+ RJ45 Ports (minimum 370W) plus 2x 1/10G BaseX SFP+ Ports.	
2	Should have dedicated 80 Gbps of stacking bandwidth (excluding uplink ports) proposed with stacking cable.	
3	The proposed interfaces must have non-blocking and wire-speed performance for all packet sizes for IPv4 & IPv6 traffic and should have distributed forwarding architecture.	
4	Switch should have inter-vlan routing and IPv4 & IPv6 static routes.	
5	Switch should support full-fledged OSPF and PIM- SM, DM & SSM (with no limitation), MVR/ IGMP Snooping as and when required without switch replacement.	
6	Should support Layer 2 protocols IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z, 802.3az, 802.3af, 802.3at.	
7	Switch should have minimum 1K ACL's and 1K IPv4 and IPv6 multicast groups.	
8	Switch should support minimum 8 hardware queues per port for applying various traffic prioritization through QoS.	
9	Should support 802.1x authentication, Port Security and RADIUS / TACACS integration.	
10	Should have OpenFlow or equivalent functionality, to support SDN (Software Defined Networking).	
11	Should have NetFlow to support 12K entries, / sFlow functionality for traffic monitoring.	
12	Switch should support port security, DHCP snooping, Dynamic ARP inspection, IP Source guard, BPDU Guard, Spanning tree root guard and IPv6 First Hop Security.	
13	The proposed switch should be IPv6 logo certified. Desirable: EAL2 or NDPP certification.	
14	Should have direct OEM 24x7x365 TAC support and hardware replacement warranty for 3 Years.	

24 PORTS LAYER 2 ACCESS SWITCH

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Should have minimum 24x 10/100/1000 BaseT POE+ RJ45 Ports (minimum 370W) plus 2x 1/10G BaseX SFP+ Ports.	
2	Should have dedicated 80 Gbps of stacking bandwidth (excluding uplink ports) proposed with stacking cable.	
3	The proposed interfaces must have non-blocking and wire-speed performance for all packet sizes for IPv4 & IPv6 traffic and should have distributed forwarding architecture.	
4	Should support Layer 2 protocols IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z, 802.3az, 802.3af, 802.3at.	
5	Switch should have minimum 1K ACL's and 1K IPv4 and IPv6 multicast groups.	
6	Switch should support minimum 8 hardware queues per port for applying various traffic prioritization through QoS.	
7	Should support 802.1x authentication, Port Security and RADIUS / TACACS integration.	
8	Should have OpenFlow or equivalent functionality, to support SDN (Software Defined Networking).	
9	Should have NetFlow to support 12K entries, / sFlow functionality for traffic monitoring.	
10	Switch should support port security, DHCP snooping, Dynamic ARP inspection, IP Source guard, BPDU Guard, Spanning tree root guard and IPv6 First Hop Security.	
11	The proposed switch should be IPv6 logo certified. Desirable: EAL2 or NDPP certification.	
12	Should have direct OEM 24x7x365 TAC support and hardware replacement warranty for 3 Years.	

INDOOR ACCESS POINTS

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Wall/Ceiling mounted Wi-Fi access-point suitable for indoor use with at least 2 10/100/1000Mbps Ethernet ports supporting standard 802.3af/at POE+.	
2	Wave 2 AP should operate in 2.4 GHz (180 Mbps or more) and 5 GHz simultaneously and capable of minimum 1.3 Gbps on 5 Ghz for 802.11ac clients supporting 3x3 or 4x4 MIMO with 3 spatial streams. It must support minimum 3 concurrent MU-MIMO users.	
3	Should support minimum 16x BSSID per AP.	
4	The access point should be capable of performing security scanning and serving clients on the same radio. It should be also capable of performing RF analysis and security scanning using same radio.	
5	Must support minimum 22dbm of transmit power in both 2.4Ghz and 5Ghz radios and minimum 3dB antenna gain. AP should support 20MHz, 40MHz, 80MHz and 160MHz channel size.	
6	AP should support band steering and load balance across bands and AP's.	
7	Security mechanisms should be in place to protect the communication between the Access Point controller and the Access Points.	
8	The access point should support WPA2 enterprise authentication and AES/CCMP encryption. AP should support Authentication via 802.1X and Active Directory.	
9	AP should support 802.11k for Radios Resource management and 802.11r for fast roaming.	
10	Implement Wi-Fi alliance standards WMM, 802.11d, 802.11h and 802.11e and should support VoWLAN	
11	AP must support Mesh communication over 5Ghz.	
12	AP should support Minimum -96dB Receiving sensitivity.	
13	802.11 a/b/g/n/ac functionality certified by the Wi-Fi alliance, Should be plenum rated (UL2043), and RF transmission power should be approved by WPC.	
14	Should have direct OEM TAC support and hardware replacement warranty for 3 Years.	

OUTDOOR ACCESS POINTS

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Wall/Ceiling/Poll mounted Wi-fi access-point suitable for indoor use with at least 1 10/100/1000Mbps Ethernet ports supporting standard 802.3af/at POE+.	
2	Wave 2 AP should operate in 2.4 GHz (180 Mbps or more) and 5 GHz simultaneously and capable of minimum 1.3 Gbps on 5 Ghz for 802.11ac clients supporting 3x3 or 4x4 MIMO with 3 spatial stream. It must support minimum 3 concurrent MU-MIMO users.	
3	Should support minimum 16x BSSID per AP.	
4	The access point should be capable of performing security scanning and serving clients on the same radio. It should be also capable of performing RF analysis and security scanning using same radio.	
5	Must support minimum 22dbm of transmit power in both 2.4Ghz and 5Ghz radios and minimum 3dB antenna gain. AP should support 20MHz, 40MHz, 80MHz and/ or 160MHz channel size.	
6	AP should support band steering and load balance across bands and AP's.	
7	Security mechanisms should be in place to protect the communication between the Access Point controller and the Access Points.	
8	The access point should support WPA2 enterprise authentication and AES/CCMP encryption. AP should support Authentication via 802.1X and Active Directory.	
9	AP should support 802.11k for Radios Resource management and 802.11r for fast roaming.	
10	Implement Wi-Fi alliance standards WMM, 802.11d, 802.11h and 802.11e and should support VoWLAN	
11	AP must support Mesh communication over 5Ghz.	
12	802.11 a/b/g/n/ac functionality certified by the Wi-Fi alliance and RF transmission power should be approved by WPC.	
13	The Access point shall be IP66/67 certified and shall be rated for operation over an ambient temperature range of -10C to +60 C	
15	Should have direct OEM TAC support and hardware replacement warranty for 3 Years.	

Broad Guidelines for OFC Laying in Outdoor

All Optical Fibre etc. in Outdoor and Indoor must be freshly laid, in PLB HDPE (50mm outer diameter) pipes at a minimum depth of 250 cm, leaving 30 meter coil in Core, every distribution point and aggregation point, for Optical Fibre Cable using Horizontal Directional Drilling (HDD - also called as the trench less technology or micro-tunnelling) and laying of Optical Fibre Cable using the cable blowing method. No previous cabling work should be utilized. In case of road crossing, the Optical fibre cable shall be laid at a depth of 1.5 m through HDPE pipe encased in RCC pipes which shall extend three meters on either side of the end road to take care of any future expansion. Route and Joint indicators should be used to indicate underground OFC using a small brass/steel plate (15 X 15 cm) with all the offset/route details embedded on it. In the rodent prone areas Optical Fibre cable joint closures should be applied with BHC 10% dust (Benzene Hydro chloride 10%) to prevent rodent & termite damage. The method suggested is “BHC” 10% dust of 1 kg is to be mixed in an approximate 2 kg of sand and applied around the optical fibre cable joint enclosures.

In case of further details on the laying, digging etc., it should be done as per latest BSNL National Tender Standards.

Passive OEM Compliance

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	ANSI/TIA/EIA 568-B Commercial Building Telecommunications Cabling Standard – March 2001	
2	ANSI/EIA/TIA-569-A Commercial Building Standard for Telecommunications Pathways and Spaces - February, 1998	
3	ANSI/EIA/TIA-606 Administration Standard for the Telecommunications Infrastructure of Commercial Buildings - February, 1993	
4	ANSI/TIA/EIA-607 Commercial Building Grounding and Bonding Requirements for Telecommunications - August, 1994	
5	Warranty - 25 Years Performance Warranty	
6	Service Labor Cost to be included in warranty Certificate (Warranty Certificate sample copy to be attached)	
7	All Passive Copper &Fibre cable with Components should be from same OEM only	
8	Passive OEM should present in India for more than 15 Years	
9	Need to Attach all Passive Item Datasheets for ensuring 100% Compliance	
10	Need to submit Single Passive OEM MAF only	

Cat 6 UTP Copper Cable LSZH (Low Smoke Zero Halogen)

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Construction: U/UTP, 4 twisted pairs 305 Mtr. Reel	
2	Conductor: Solid Copper / Annealed bare copper	
3	Primary Insulation : Solid Polyethylene / HDPE	
4	Filler – Cross / Bisector	
5	Sheath : LSZH 332.1 (Low Smoke Zero Halogen)	
6	Nominal O.D.: 1.045 + 0.02mm	
7	Nominal O.D: 6.1mm	
8	Minimal Wall: 0.55mm	
9	NVP: 67%	
10	D.C. Resistance : 9.38 ohm/100m	
11	Tested up to 250MHz or above	

Cat 6 Patch Panel 24 Port

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Material - Cold Rolled Steel (CRS) / Phosphor bronze with nickel plating Connector	
2	Graphite Grey Powdercoat / Powdercoated metal framework	
3	24 port configurations. Each jack should have spring loaded shutter inside the jack for 100% dust free environment.	
4	Allow for a minimum of 750 plug mating cycles or more	
5	Should individually replaceable I/Os	
6	Have port identification numbers on the front of the panel.	
7	Should have self-adhesive, clear label holders (transparent plastic window type) and white designation labels with the panel, with optional color labels / icons.	
8	Should have integrated rear cable management shelf (Cable support Bar) / Removable rear cable management tray	
9	Standards: TIA/EIA-568-C.2 Component Compliant	

Cat 6 UTP Copper Patch Cord 1/2/3/5 Mtr.

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Category 6 Equipment cords	
2	The work area equipment cords shall, at a minimum comply with proposed ANSI/TIA/EIA-568-C.2 Commercial Building Cabling Standards Transmission Performance Specifications for 4 pair 100Ω Category 6 Cabling.	
3	Should be UL / CSA Certified/ listed	
4	Conductor size: 24 AWG stranded bare copper	
5	Nominal outer diameter: 5.9mm or better	
6	Jacket: LSOH / LSZH	
7	Temperature range: - 20°C to + 60°C	
8	Operating life: Minimum 750 insertion cycles	
9	Contact material: Copper alloy	
10	Contact plating: 50μ” Gold/100μ”Nickel	
11	ISO/IEC 60603-7-4 and FCC 47 Part 68/ EIA-TIA 568C.2	
12	Fire Propagation tests: LSOH Sheath	
13	Max voltage: 150 VAC (max)	
14	Max. Current : 1.5A @ 25°C	
15	Operating temperature: -20°C to +60°C	

Cat 6 Jack Information Outlet

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Category 6, EIA/TIA 568-C.2 – 250MHz	
2	All information outlets for 100 Ω, 22-24 AWG copper cable shall: Use insulation displacement connectors (IDC)	
3	Allow for a minimum of 200 re-terminations without signal degradation below standards compliance limits.	
4	Be constructed of high impact, flame-retardant thermoplastic with color and icon options for better visual identification.	
5	Should have spring loaded integrated shutter / Dust Cover	
6	Should have Terminator cap	
7	ETL / UL Certified / Listed	
8	Datagate / Keytone Jack / Jack	

Faceplate / Wall Plate

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Single, Dual & Square plate, 86mmx86mm	
2	Write on labels in transparent plastic window – supplied with plate	
3	Screw hole covers – to be supplied with plate	
4	Plug in Icons – Icon tree – to be supplied with plate	
5	With or Without dustcover	
6	Should be able to support variety of jacks – UTP, STP, Fiber, Coax etc.	

96 Core, Outdoor Loose Tube Armoured, 9/125µm, OS2 Type Fibre Cable

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Number of Tubes: 8	
2	Central Strength Member: Fibre Reinforced Plastic (FRP)	
3	Fibre Protection (Tubes): Polybutylene Terephthalate (PBT)	
4	Water Blocking: Thixotropic Gel (Tubes), Petroleum Jelly (Interstices)	
5	Core Wrapping: Polyethylene Terephthalate Tape/ Polyester	
6	Double HDPE Sheathed : Inner Sheath: HDPE Outer Sheath HDPE (UV Stabilized)	
7	Armoring: Corrugated Steel Tape Armour Tape	
8	Max. Bending Radius-Full load: 20D or More	
9	Max. Crush Resistance-Short Term: 4000 N/10cm or More	
10	Max. Tensile Strength-Short Term: 3500N or More	
11	Operating Temperature Range: Storage Temperature Range: -20°C - +70°C, -20°C - +70°C	
12	Physical Characteristics Mode Field Diameter @ 1310 nm : 9.2±0.4µm; Cladding Diameter: 125±1.0µm	
13	ISO.IEC 11801 - 2nd Edition, type OS2; AS/ACIF S008;/ AS/NZS 3080/ ITU-T REC G 652D spec for Zero / Low Water Peak fibre; supports 10G+ data applications IEC 60793/60794-1 / Telcordia (BELLCORE) GR 20 STDS, TIA/EIA 568-C.3 / EIA 455, ROHS	

24 Core / 12 Core, Outdoor Single Sheathed, Armoured, 9/125µm, OS2 Type Fibre Cable

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Number of Tubes: 4 (min) for 24 Core, Uni tube for 12 Core	
2	Central Strength Member: Fibre Reinforced Plastic(FRP) / Ribbon central tube	
3	Fibre Protection (Tubes): Polybutylene Terephthalate (PBT)/ PBTP	
4	Water Blocking: Thixotropic Gel (Tubes), Petroleum Jelly (Interstices)	
5	Core Wrapping: Polyethylene Terephthalate Tape	
6	Peripheral Strength Member: Two Steel wires / FRP Rods/ Steel Strength Rods	
7	Armouring: Corrugated Steel Tape Armour Tape (Thickness > 0.15mm)	
8	Sheath : UV Stabilized Polyethylene (HDPE)	
9	Max. Crush Resistance-Short Term : 2000N/10 cm or More	
10	Max. Tensile Strength-Short Term : 1500N or More	
11	Operating Temperature range : -20°C -+70°C	
12	Mode Field Diameter @ 1310nm : 9.2 + 0.4 µm, Cladding Diameter : 125 + 1.0 µm	
13	Max. Attenuation; At 1310 nm: 0.35 dB/km; At 1550 nm: 0.22 dB/km	
14	Bandwidth : > 1GHz-Km at 1310nm	
15	<p>Specifications</p> <p>ISO.IEC 11801 - 2nd Edition, type OS2; AS/ACIF S008; /ITU-T REC G 652D spec for Zero/ Low Water Peak fibre</p> <p>AS/NZS 3080, /EIA/TIA 568-C.3 IEC 60793/60794, /TIA 568, /EIA 455 / ANSI/ICEA S-87-640</p>	

144-288 Port 4U – 19” Rack Mount Specification Grade Fiber Enclosure

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Base & Drawer Unit: 16 Gauge Cold Rolled Steel / CRCA Top: 16 Gauge Power Coated Aluminum	
2	Thickness: 1.5mm (.06”)	
3	Finish: Black Powder Paint	
4	Cable Spools: Thermoplastic UL94V-O	
5	Should accommodate 24 Fibre Pak/Adapter Plates/ fully loaded, which allow multiple fibre connector options, with all essential accessories	
6	Accommodates up to 12 Universal Splice Trays, each with a 12 or 24 splice capacity/ included with LIU	
7	Externally mounted cable strain relief bracket mounts to accommodate cable routing from above or below the enclosures. Strain relief is done outside the enclosure to assist in termination/ Cable Glands	
9	Hook and Loop style features incorporated in top and bottom of rear of the enclosure to assist in cable strain relief and slack management	
10	Two sets of cable spools included for fibre slack storage	
11	Lightweight, lockable, and removable aluminum hinged front and rear doors provide security and allow for easy entry to the enclosure for authorized personnel	
12	Labelling field incorporated on hinged, drop-down metal front door for easy access and fibre Identification.	

FIBER PATCH PANELS – RACK MOUNT 12 / 24 /48 / 96 PORTS

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Material - Powder Coated Cold Rolled Steel CRS/ Aluminium/ CRCA	
2	Have sufficient slots accommodate Quad LC adapters individually/ Fully loaded	
3	Should have fiber management provision inside	
4	Have earthing lugs and other accessories.	
5	Provide self-adhesive, clear label holders (transparent plastic window type) and white designation labels with the panel, for front panel labeling.	
6	Management rings within the system to accommodate excess fibre cordage behind the through adapters and maintain fibre bend radius/ Cable Glands	
7	Fiber panel should be Rack mountable or Wall mountable (as required)	
8	Rugged steel construction in graphite finish	

LC Quad/ Duplex ADAPTORS

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	All LC adaptors should be Quad type SM	
2	Adaptors should be snap/ screw mount for easy insertion and removal.	
3	Should have integrated shutter/ dust cover for protection against dust	

OPTICAL FIBER EQUIPMENT CORDS (MINIMUM 3 METER) LC LC SM

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Jacket should be LSZH sheath	
2	Connector: Zirconia ceramic ferrule	
3	Cable: 9/125, MM OS2	
4	Strength member: aramid yarn	
5	900µm tight buffer diameter	
6	As per EIA / TIA	

OPTICAL FIBER PIGTAILS, 1.5 MTR LC SM 9/125 µm

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Factory polished, tested and serialized	
2	Cable: 900um Buffered	
3	LC type Single	
4	Sheath :LSZH	

12 Core fibre Indoor 9/125µm SM OS2 Type Optical Cable

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Cable should be made of 900µm tight buffered optical fibres	
2	Fibre Identification: Colour Coded	
3	Fibre Insulation: Coloured Nylon	
4	Reinforcing: Aramid Yarns	
5	Sheath – LSZH	
6	Diameter (Nominal): 6 Core 5.6mm	
7	Mass (Nominal): 6 Core 38 kg/km or more	
8	Max. Tensile Strength-Short Term: 0.6kN	
9	Operating Temp. Range: -10°C to +60°C	
10	Crush Resistance-Short Term: 1.0 kN/100mm	
11	Core Diameter: 9.2±0.4µm; Cladding Diameter: 125±2.0µm	
12	ISO/IEC 11801:2002 - 2nd Edition, Type OS2; AS/ACIF S008; AS/NZS 3080:2003, IEC 60332-1; OS2 -STD ITU-T-652D	

42U Racks

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	Dimension: The maximum dimension of the rack should be 800W X 42U X 1000D (mm)	
2	Basic Structure: Frame Of sturdy 1.5mm frame section construction, consisting of sixteen folded rolled hollow frame section punched in 25mm DIN pitch pattern. All profile edges are radiused. The corners are stiffened with welded zinc die-cast corner connectors, gland plates in 3 parts, which are removable and interchangeable	
3	Doors: 1.5mm sheet steel Glass Door, with foamed seal polyurethane gasket, square section tubular frame with punching in DIN pitch pattern, rod-type 4 point lock system and Key inserts to DIN 43668 (with single door: hinge fitting r/h or l/h freely selectable on site). Hinges with captive hinge pins, door opening angle 130° to VDI, can be retrofitted for 180°. Enclosure fitted with 2 sets of 19" angles, pairs of depth rails (73 X 23mm rails) fitted with swivel spring load lock handles.	
4	Rear Door: 1.5mm sheet steel perforated door, with foamed-on seal, with 3 point locking mechanism ergo - form handle system.	
6	Roof panel: with foamed-on seal, removable. Vented roof plate with option of having cable entry provision from top.	
7	Load Carrying Capacity: 1000KG Static Load, Seismic Rated Zone-4 Certified	
8	Surface finish: Sheets cleaned, degreased, phosphate, electro- Dip coat primed and electro statically powder coated with textured Polyester paint RAL 7035..	
9	Supply Include: Floor Standing Rack, Front and rear perforated doors, screw fixed side panels, top and bottom covers with cable entry, castor wheels, 4 fan with fan tray and thermostat, , PDU 6 Point, 5A Universal- 2No., 1 Fix Tray, Keyboard Tray, earthing kit and 5 Nos of 1U open MS Cable manager with PVC Loops. Swivel handles on front and rear doors.	
10	Approvals: The product should be approved by the following approved organizations: UL, Underwriters Laboratories /USA	

12U Racks

S. N.	TECHNICAL SPECIFICATION	COMPLIED (YES / NO)
1	The rack and its accessories should be made of CRCA Sheet of gauge minimum 1.5mm steel frame folded from one piece and welded, rear panel with Countersunk holes for wall mounting brackets. With 2 pair of 19” Mounting angles Mounted in the front and rear.	
2	The depth of the rack should be 600D and fitted with front door. The front door should be fitted with good quality transparent glass	
3	Doors, 2 mm sheet steel, surface mounted, with foamed-in seal, Perforated vertical mounting rails on both sides, screw fixed hinges Which can be changed for left-hand or right-hand door hanging (for Single door enclosures), 130ø opening angle which can be retrofitted For 180ø in accordance with VDI, cam Lock with double-bit insert in accordance with DIN 43668.	
4	Painting: Nano Ceramic Coated, electro-dipcoat primed to 20 microns and powder coated with Textured polyester RAL 7035 to 80 to 120 microns	
6	The rack should be equipped with one-shelf panels of size 400mm to house data Communication equipment's. And the racks should have proper cable / Power Management systems	
7	The housing should be equipped with two cooling Axial fan Self-starting: shaded pole motor operating at 230V AC Controlled via thermostat. The fan Air throughput, unimpeded air flow: 55/66 m3/h, Noise level: 46/49 dB (A) with 6-Way PDU (5A Universal - 2No.), LED-Light Bar and fully Uniquely Lockable and glass front door, Mounting hardware (Set of bolts and nuts -20 pcs)	
8	The Rack should conform to all IS standards DIN 41491, DIN 41494 and IEC 297 and UL Listed.	
9	Two cable managers of 1U size should be supplied along with 12U Racks.	
10	Protection category: IP to IEC 60 529	

WORK SCHEDULE

S.N.	Scope of Work (Campus wide LAN)	Time Line* (Week wise)	Compliance (Yes/ No)	Remarks (if any)
1	Supply of Items: Materials other than Active Devices	0 – 16		
2	Supply of Items: Active Devices			
3	Laying of Outdoor OFC cables etc.			
4	Laying of Indoor OFC and cables etc.			
5	Installation & configuration of Active Devices etc.	17 - 22		
6	Installation & configuration of Indoor and Outdoor Passive components			
7	Installation & configuration of software components and hardware integration			
8	Complete network configuration, testing and opening of Help-line Portal			
9	Informal Go-live and User Testing Phase	23 - 27		
10	Documentation verification			
11	Formal Go-live of LAN	28		
12	Acceptance of LAN implementation	36		

* The counting of Week starts from the day of issue of Work Order.

CAMPUS LAN INSTALLATION AND OPERATIONS STAFF & HELPLINE SOFTWARE

Team Member	Qualification	Qty.	Type	Deployment from	Deployment till
Project Manager	B.E./B.C.A./M.C.A. with minimum 10 years of relevant experience and with CCIE or CCNP equivalent certification	1	Onsite	Within 20 days of release of WO	End of Contract Period
Project Implementation and Coordination Team	B.E./B.C.A./M.C.A. with minimum 04 years of relevant experience and with CCNP or CCNA or equivalent certification	05	Onsite	Within 20 days of release of WO	Till Go-live
Network team members – HELPDESK	B.E./B.C.A./M.C.A. with minimum 04 years of relevant experience and with CCNP or CCNA or equivalent certification	05	Onsite	From the date of Informal Go-live and User Testing Phase	End of Contract Period
Helpdesk Coordinator	Graduate with min. 3 Yrs. of relevant experience in handling end user complaint calls, Call logging and mobilization of Helpdesk resources	02	Onsite	From date of Go-live	End of Contract Period

Note:

1. Sitting infrastructure for the Helpline Office for the Networking team will be provided by the Institute.

Helpline software

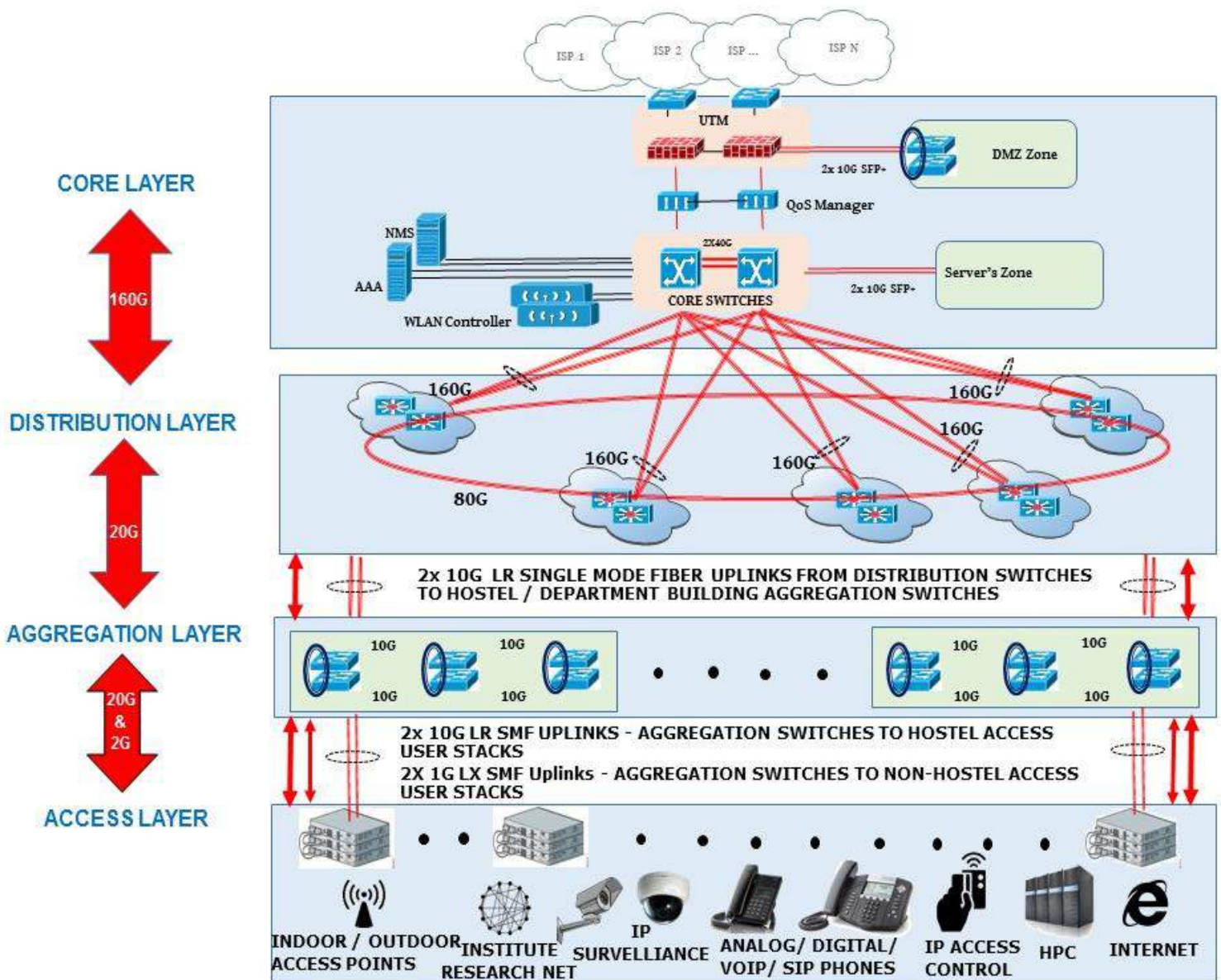
The bidder has to provide relevant software for Helpline Desk, for totally automated registration, progress monitoring, redressal and escalation of User and Administrative complaints and troubleshooting of the entire campus LAN. This software deployment should be under administrative control of the Institute and database has to be secured and ensured for its integrity.

REFERENCE BILL OF QUANTITY (BOQ)

This document consists of the Bill of Quantity, as a reference for the Project Work under EoI: IIT(BHU)/IPCell/2016-17/Networking/EoI/141 dated: 19.05.2016. The network schematic is also shown below. The BoQ includes any and every item, as required under this project work. Further, the scope of the work will be from the ISP end to the User End (hereafter called ‘End-to-End’) to ensure the completeness of the project. All items should comply Annexure – A.

Further, any item if sought necessary by an individual bidder, SHOULD BE proposed as Additional Items under Miscellaneous Category, along with its Price Quote. This ‘Additional Items’, however, shall not be a part of the Price Bid Evaluation.

Network Schematic:



<u>BOQ FOR ACTIVE COMPONENTNETS</u>				
S.No.	Part Code	Product Description	Unit	Qty.
1		UTM with required optics	No.	2
2		Quality of Service (QoS) Manager with required optics	No.	2
3		Core Switch with required optics	No.	2
4		Distribution Switch with required optics	No.	10
5		Aggregation Switch with required optics	No.	50
6		24 Ports POE+ Layer 2 Access Switch with required optics	No.	86
6A		24 Ports POE+ Layer 3 Access Switch with required optics	No.	86
7		48 Ports POE+ Layer 2 Access Switch with required optics	No.	140
7A		48 Ports POE+ Layer 3 Access Switch with required optics	No.	140
8		AAA	No.	2
9		NMS	No.	2
10		WLAN Controller	No.	2
11		Indoor Access Point (With strong coverage of inside the each Hostel rooms & Departments)	No.	650
12		Outdoor Access Point (With coverage in open area in the Hostels, Grounds and Departments)	No.	50
13		2.0 T Air Conditioner (For Core Switch)	No.	02
14		UPS (For Core, Distribution, Aggregation and Access Switches with SNMP monitoring, SMF Batteries and with 60 min. backup at Full Load) a) 02 x 10 kVA On-line UPS for Core Switch b) 05 x 2 kVA Off-line UPS for Distribution Switch c) 25 x 2 kVA Off-line UPS for Aggregation Switch d) 150 x 1 kVA Off-line UPS for Access Switch	No.	Per Unit Cost against specified quantity and specifications
15		Miscellaneous (if any) (Submit details and justifications)		

<u>BOQ FOR PASSIVE COMPONENTS</u>				
S.No.	Part Code	Product Description	Unit	Qty.
SUPPLY FOR PASSIVE COMPONENTS				
1		CAT6 UTP LSZH Cable Box (305 Mtrs roll) average 55 Mtrs.per Node	Box	1200
2		Single port Cat 6UTP Datagate Jack Shuttered with British style Face plate	Nos.	9000
3		Surface mount box	Nos.	9000
4		24 Port, Cat 6 UTP Jack Panel (Unloaded) Cold Rolled Steel	Nos.	400
5		Single port Cat 6 UTP datagate jack Shuttered for Patch Panel side	Nos	9000
6		1U Horizontal cable manger	Nos.	200
7		1 Meter Dual Ended Mounting UTP Cat6patch Cord LSZH	Nos.	9000
8		2 Meter Dual Ended Mounting UTP Cat6patch Cord LSZH	Nos.	5000
9		3 Meter Dual Ended Mounting UTP Cat6 Patch Cord LSZH	Nos.	4000
SUPPLY FOR OPTICAL FIBER COMPONENTS				
10		96 core Outdoor armored cable - SM (OS2) Double HDPE Sheath	Mtrs	40,000
12		24Core Outdoor armored cable -SM (OS2)	Mtrs	15,000
13		12 Core Outdoor armored cable -SM (OS2)	Mtrs	15,000
14		12 Core Indoor armored cable -SM (OS2)	Mtrs	15,000
15		96 Port Rack Mount FMS loaded with splice Tray and cable spool	Nos	10
16		48 Port Rack Mount LIU loaded with Splice Tray and Cable spool	Nos.	5
17		24 Port Rack Mount LIU loaded with Splice Tray and Cable spool	Nos.	10
18		12 Port Rack Mount LIU loaded with Splice Tray and Cable spool	Nos	10
19		Pigtail LC SM (OS2) Simplex-1.5 Mtr	Nos.	1500
20		144-288 Port Joint Enclosure Used in Aggregation Building for OFC maintenance Pit	Nos	5

21		LC duplex Adaptors/ Couplers	Nos	300
22		LC to LC Fiber Duplex patch cord (OS2),3 Mtrs	Nos.	1500
25		12 Port Rack Mount LIU loaded with Splice Tray and Cable spool	Nos.	10
26		Pigtail LC MM SM Simplex-1.5 Mtr	Nos.	100
28		LC duplex Adaptors/ Couplers	Nos.	30
29		LC to LC Fiber Duplex patch Cord (OM3), 3Mtrs	Nos.	100

SUPPLY FOR OTHER COMPONENTS & Rack				
30		1" PVC Conduit Medium with necessary fixtures	Mtrs	40000
31		1.5" PVC Conduit Medium with necessary fixtures	Mtrs.	25000
32		25mm Casing Capping	Nos.	7500
33		32mm Casing Capping	Nos.	6000
34		19" 42 U Floor Mount rack with necessary accessories	Nos.	10
35		19" 12 U Wall Mount rack with necessary accessories	Nos.	200
36		Rack mounting hardware/kit for mounting active and passive component in rack (Pack of 10)	Nos.	50
37		OFC route marker concrete	Nos.	1500
38		ISI mark Class-B 50MM GI Pipe	Mtrs	4000
39		ISI mark HDPE pipe (1.5 inch)	Mtrs	4000
40		ISI mark Class-B 75MM GI Pipe	Mtrs	4000
41		Velcro Tie 15 Mtr Roll	Nos.	50
42		Cable Tie 100 mm size (Pkt of 100)	Nos.	50

BOQ FOR SERVICES AND SUPPLY OF MATERIALS			
SL NO	DESCRIPTION	UOM	Qty CURRENT
1	50mm PLB Duct for Laying OFC	Mtr	12000
2	40mm PLB Duct for Laying OFC	Mtr	10000
3	Couplers for 50MM PLB Duct	Nos.	500
4	50mm GI Pipe for Crossing Roads and Bridges (Lump sum)	Mtr	1000
5	Coupler/Bend for 50MM GI Pipe (Lump sum)	Nos.	200
6	Casing Capping 25MM	Nos.	64309
7	25mm PVC Conduit with Accessories	Mtr	5000
8	32mm PV Conduit with Accessories	Mtr	5000
9	50mm PVC Conduit with Accessories	Mtr	2000
10	25mm Reinforced PVC Flexible with Accessories (Lump sum)	Mtr	500
11	25mm GI Flexible with Accessories (Lump sum)	Mtr	500
12	Soft Soil Digging, Laying of 50mm GI Pipe and Refilling (Lump sum)	Mtrs	1000
13	Hard Soil Digging, Laying of 50mm GI Pipe and Refilling (Lump sum)	Mtrs	2000
14	Road Cutting, Laying of GI Pipe and Repairing (Lump sum)	Mtrs.	1000
15	Trenchless Digging and Laying 1-2 Nos. 50mm PLB Duct	Mtrs.	20000
16	Cable Chamber	Nos.	200

MANDATORY UNDERTAKING

To,
The Chairman,
Institute’s Networking Committee,
IIT (BHU),
Varanasi (U.P.) – 221 005

Ref.: EoI No. IIT(BHU)/IPCELL/2016-17/NETWORKING/EOI/141 DATED: 19.05.2016

Sub: **UNDERTAKING BY THE BIDDER**

Dear Sir,

We, M/s.....

..... hereby confirm that we have carefully examined the existing computer network of IIT (BHU)’s 09 Hostels, which have been recently upgraded on Cisco Wired and Wireless Devices.

We clearly understand that if we receive the work order as solicited under the above referred EoI, we will be fully capable of implementing all the policies and features to be provided under this work order for all over the IIT (BHU) Campus LAN including these recently upgraded 09 hostels. In case of any performance related issue or feature discrepancy observed in these 09 Hostels which is not at par with the newly proposed IIT (BHU) Campus LAN, we undertake to modify, if necessary, the existing LAN of 09 Hostels at our own cost to bring these 09 Hostels at par with the Institute LAN, both in terms of architecture, feature and policy implementation under information and approval of the Chairman, Networking Committee. Further, the decisions taken and recommendations made by the Institute Networking Committee in this connection SHALL BE fully binding and acceptable to us.

We also ensure that the technical and spare part support for the quoted items shall be provided for a period of 10 years from the date of successful installation.

We look forward to ensure our absolute competency and capability to implement a successful IIT (BHU) Campus LAN, as solicited.

Thanking you,

Yours Sincerely,

Place:..... (Name and signature of the Authorized Signatory)
Date: M/s.....
.....
.....
.....

PRICE BID

(To be submitted in a Separate Sealed Envelope)

(by using the Excel Sheet provided separately in soft copy and in duly signed hard copy, both)
(Super-scribed as Price Bid on a separate envelope)**Quote for Price Bid Evaluation:****(To be opened only after Technical Bid Evaluation and Qualification)**

S. N.	Item	Qty	Rate	Price
1	UTM with required optics	2		
2	Quality of Service (QoS) Manager with required optics	2		
3	Core Switch with required optics	2		
4	Distribution Switch with required optics	10		
5	Aggregation Switch with required optics	50		
6	24 Ports POE+ Layer 2 Access Switch with required optics	86		
6A	24 Ports POE+ Layer 3 Access Switch with required optics	86		
7	48 Ports POE+ Layer 2 Access Switch with required optics	140		
7A	48 Ports POE+ Layer 3 Access Switch with required optics	140		
8	AAA	2		
9	NMS	2		
10	WLAN Controller	2		
11	Indoor Access Point (With strong coverage of inside the each Hostel rooms & Departments)	650		
12	Outdoor Access Point (With coverage in open area in the Hostels, Grounds and Departments)	50		
13	Passive Components including laying	As per Annexure A & Annexure D		
14	2.0 T Air Conditioner(For Core Switch)	02		
15	UPS (For Core, Distribution, Aggregation and Access Switches with SNMP monitoring, SMF Batteries and with 60 min. backup at Full Load) 02 x 10 kVA On-line UPS for Core Switch 05 x 2 kVA Off-line UPS for Distribution Switch 25 x 2 kVA Off-line UPS for Aggregation Switch 150 x 1 kVA Off-line UPS for Access Switch	Per Unit Cost against specified quantity and specifications		
16	Supply, installation, configurations (and reconfigurations, updates and modifications), integration, commissioning and operations starting from go-live and till the end of contract period	Complete network		
17	Campus LAN Installation and Operations Staff & Helpline software	As per Annex. C		

18	Complete Network Documentation and Configuration back-up (both in hard and soft copy)	As per BoQ		
19	Complete Network Management Training for Institute Networking Staff (Three 6-day live with documented learning material with recorded videos)	As per BoQ		
20	OFC Laying, digging etc. : Outdoor, Indoor (As per Annexure A & D)	As per BoQ		
21	Extended Services as per Note # 8 (as below) for 4 th year (Payable in 4thYear)	Complete network		
22	Extended Services as per Note # 8 (as below) for 5 th year (Payable in 5thYear)	Complete network		
23	Miscellaneous (if any) (Submit details and justifications)			
	TOTAL PRICE (INR) (by taking L2 Switches at 6 & 7 and by leaving 6A & 7A)			
	TOTAL PRICE (INR) (by taking L3 Switches at 6A & 7A and by leaving 6 & 7)			

NOTE:

1. The bidder needs to ensure smooth integration with existing recently upgraded 9 hostels with centralized user policy enforcement and management for both wired and wireless users across the campus. If any additional device or existing device replacement is required then the bidder needs to bear the cost on his own to ensure seamless operation.
2. Existing upgraded hostels (9) switches and Access Points quantity not included in the above BOQ. Aggregation Switches with optics may be purchased later by IIT BHU if required for smooth integration.
3. Bidder needs to provision necessary Spares for each category to meet the uptime SLA.
4. All Optical Fibre etc. in Outdoor and Indoor must be freshly laid, in PLB HDPE, as specified in Annexure A.
5. Bidder shall ensure the availability of Network grade electrical wiring (Earthing etc.). Further, if needed, the bidder shall implement such wiring in consultation with the Networking Committee, at a cost which may be considered by the Institute as additional to this EoI.
6. Bidder needs to provision minimum Campus LAN Installation and Operations Staff in the Campus for managing day to day call activities / troubleshooting, as per Annexure - D.
7. All active devices and hardware items MUST be quoted with 3 Years comprehensive warranty and direct OEM 24x7 Technical Assistance Call (TAC) support (NBD).
8. Extended Services for 4th and 5th year at par with Note # 7 (as above), payable in respective years. Further, this price SHALL BE valid till expiry of respective years.
9. All the building switches (Core, Distribution, Aggregation and Access) MUST have redundant fibre connectivity to provide high availability.
10. Minimum fibre uplink back bone should be as follows:
 - Core to distribution uplinks – 4 x 40G QSFP+
 - Distribution to Distribution Ring – 2 x 40G QSFP+
 - Distribution to Aggregation Uplinks – 2 x 10G SFP+
 - Aggregation to Hostel Building Access Switches Uplinks - 2 x 10G SFP+
 - Aggregation to Non - Hostel Building Access Switches Uplinks - 2 x 1G SFP

END OF DOCUMENT

