eTendering System Government of NCT of Delhi

Tender Details

Date : 25-Jan-2023 02:49 PM

Print

Basic Details

Organisation Chain	Delhi Technological University		
Tender Reference Number	F.DTU/CC/2021-22/136		
Tender ID	2023_DTU_235387_2		
Tender Type	Open Tender	**Form of contract**	Lump-sum
Tender Category	Services	**No. of Covers**	2
General Technical Evaluation Allowed	No	**ItemWise Technical Evaluation Allowed**	No
Payment Mode	Offline	**Is Multi Currency Allowed For BOQ**	No
Is Multi Currency Allowed For Fee	No	**Allow Two Stage Bidding**	No

Payment Instruments

Offline

S.No	Instrument Type
1	FDR
2	Bank Guarantee

Cover Details, No. Of Covers - 2

Cover No	Cover	Document Type	Description
1	Fee/PreQual/Technical	.pdf	UNDERTAKING / Application Form, as per annexure I(ii) of Tender Document, duly signed.
		.pdf	Proof of EMD/ (mention amount with instrument number and date)
		.pdf	undertaking for non-blacklisted by any Govt. Deptt. as per Annexure 1(iii)
		.pdf	GST registration and GST return of fourth quarter for last three FYs (2019-20, 2020-21, 2021-22)
		.pdf	Proof of experience of 2 or more network work order with Govt. Organizations/Institutions
		.pdf	Declaration / Undertaking by the O.E.M on company letter pad/ head, as per annexure 1(v)
		.pdf	Authorization Certificate from Original Equipment Manufacturer (OEM) as per annexure-II
		.pdf	All Annexure duly filled and signature by vendor/ OEM.
2	Finance	.xls	Financial bid

Tender Fee Details, [Total Fee in ₹ * - 0.00]

Tender Fee in ₹	0.00		
Fee Payable To	Nil	**Fee Payable At**	Nil
Tender Fee Exemption Allowed	No		

EMD Fee Details

EMD Amount in ₹	25,000	**EMD through BG/ST or EMD Exemption Allowed**	Yes
EMD Fee Type	fixed	**EMD Percentage**	NA
EMD Payable To	Registrar, DTU	**EMD Payable At**	Delhi

Work /Item(s)

Title	Annual Rate Contract for Network related services				
Work Description	Annual Rate Contract for Network related services				
Pre Qualification Details	Please refer Tender documents.				
Independent External Monitor/Remarks	NA				
Tender Value in ₹	30,00,000	**Product Category**	Repair and Maintenance Services	**Sub category**	Network related services
Contract Type	Rate Contract	**Bid Validity(Days)**	120	**Period Of Work(Days)**	365
Location	Delhi Technological University, Bawana Road, Delhi	**Pincode**	110042	**Pre Bid Meeting Place**	O/o Head (Computer Centre)
Pre Bid Meeting Address	Delhi Technological University, Bawana Road, Delhi-110042	**Pre Bid Meeting Date**	30-Jan-2023 03:00 PM	**Bid Opening Place**	O/o Assistant Registrar (S and P)
Should Allow NDA Tender	No	**Allow Preferential Bidder**	No		

Critical Dates

Publish Date	24-Jan-2023 04:00 PM	**Bid Opening Date**	14-Feb-2023 03:00 PM
Document Download / Sale Start Date	24-Jan-2023 04:00 PM	**Document Download / Sale End Date**	14-Feb-2023 02:30 PM
Clarification Start Date	NA	**Clarification End Date**	NA
Bid Submission Start Date	24-Jan-2023 04:00 PM	**Bid Submission End Date**	14-Feb-2023 02:30 PM

Tender Documents

NIT Document

S.No	Document Name	Description	Document Size (in KB)
1	Tendernotice_1.pdf	NIT	1162.17

Work Item Documents

S.No	Document Type	Document Name	Description	Document Size (in KB)
1	BOQ	BOQ_306269.xls	Please upload financial bid in this enclosure.	329.00
2	Tender Documents	NITrc.pdf	NIT	1145.10

Tender Inviting Authority

Name	Assistant Registrar (S and P)
Address	Delhi Technological University, Bawana Road, Delhi-110042

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E-tender under two bids system (technical bid and financial bid) from manufacturers/authorized dealers only are invited for Annual Rate Contract for Network related services for the one year from the date of award of contract and extendable by up to three years as detailed below and as per terms and conditions are given in the tender document.

Tender Ref. No.	F.DTU/CC/2021-22/136
Date of start and downloading tender	24.01.2023
Last date and submission of tender	14.02.2023 UP TO 14:30 hrs
EMD	Rs. 25,000/-
Date and Time of Opening Bid	14.02.2023 at 15:00 hrs
Designation of the Authorized Officer and Address of Communication	**Asst. Registrar (S&P)** Delhi Technological University Shahbad Daulatpur, Bawana Road, New Delhi - 110042

The bid should be uploaded latest by at 14.02.2023 at 02.30 PM. The tender (opening of Technical bids) will be opened on the same date at 3:00 PM. by the Tender Opening Committee. Interested firms may download the documents from the website of Govt. of NCT Delhi / DTU website. EMD amount of Rs. 25,000/ - in form of the BG/FDR/DD drawn in favor of Registrar, Delhi Technological University, Delhi. EMD may be submitted in the tender box placed in the Office of Asst. Registrar (S&P), Delhi Technological University, Delhi on or before the last date and time of submitting the e-tender. After closing the e-tender no EMD would be accepted.

Note: Technical Bids with incomplete documentation & details and in Manual/hardcopy bids shall be rejected summarily.

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Eligibility Criteria

1. The bid will be accepted only by Manufacturer/authorized distributors/dealers of the respective product solution OEM. Failing which the bid will be summarily rejected. Authorization Certificate to be submitted by the bidder if participating on behalf of OEM.

2. The Bidder must not be blacklisted/suspended or any service-related dispute with any organization/ Govt Organization in India or outside.

3. The Bidder should have work experience of 2 or more network work order with Govt. Organizations/Institutions in the past three years for similar items in following manner:
   i) Single order of at least 80% of the estimated bid value.
   ii) Two orders of at least 50% each of the estimated bid value.
   and
   iii) Three order of at least 40% each of estimated bid value.

   Copies of such rate contracts/POs must be enclosed with the Offer.

4. The Bidder should have an Annual Business turnover of Rupees 10 Lakh or more for the last 3 financial years (2019-20, 2020-21 & 2021-22) and shall enclose the audited balance sheet for proof of the same.

5. Copy of the PAN card / GST of the firm

6. GST Return copy of fourth quarter for last three financial years (2019-20, 2020-21 & 2021-22) from the date of opening of the tender bid.

7. All Annexure duly filled & signature by vendor/ OEM.

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Scope of Work

1. Route Survey & documentation for laying of UTP & Fiber cable along with detailed cable route diagram, rack position, cable length from each node to switch, identification of switch location with labels & route marking as per standard and approved labeling plan etc. on per node basis.
2. Laying of UTP CAT 6 Cable (Per Meter) inside building/premises.
3. Fixing of PVC Conduit (per Meter)
4. Installation of Jack Panel & end-to-end connectivity of UTP CAT 6 cable on Jack panel.
5. Installation of Information outlets points.
6. Testing of laid cables (per node basis)
7. In building laying of fiber in duct/conduit (per meter)
8. Laying of fiber outside building location point to point connectivity (per meter)
9. Excavation and resurfacing of the soil (depth 3 feet) (per feet)
10. Excavation and resurfacing of concrete (per 3 feet)
11. Excavations under road crossing - trenchless
12. Installation/fixing of 1"diameter GI pipe underground and on surface (per meter)
13. Laying & Installation of HDPE pipe (per meter)
14. Splicing of Fiber cable including pigtail (per core)
15. Cable pulling pit made of reinforced concrete and brick walls with removable covers (per meter)
16. Performance testing of laid Fiber Optic Cable for continuity, length & dB loss as per EIA/TIA455-60 document for FO test procedures & Documentation of the results (per link)
17. Penta Scanning (per port)
18. OTDR scanning and report (per connectivity pair)
19. Installation of Rack
20. Fiber Chamber Installation

Details of Work

Provision of Cabling (structured) when new users are added to the existing network or shifting of users to new areas within the building. The DTU's official will call the vendor's office about the LAN requirement. The vendor will accordingly, visit the site to assess the requirement. DTU will place the order to carry out the job. The order may be either through formal purchase order or through e-mail. DTU will confirm for supply / purchase material used like cables, connectors, patch panels, racks, I/O ports etc.
Service charge will be paid on actual work done based on Rate Contract.

When required, the vendor will deploy manpower for providing structured cabling connectivity on different part of the campus by laying Cat 6 cables, connectors, IO ports, patch panels, racks and other passive network components as per the LAN layout plan of the DTU. As part of cable laying, if required, the vendor has to arrange for cutting the floor for laying cables and for patching the floor openings.

During the contract period if vendor is supplying any materials should comply to quality standards as per the specification given herewith (**Annexure-III**) and as submitted in Bill of material (**Annexure-IV**).

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TERMS AND CONDITIONS

1. Bids will be accepted only from manufacturers or they may authorize any reseller/distributor against said tender, who may quote along with authorization valid as on date of submission of bids. Authorized resellers/distributors quoting for the supply should attach authorization from the manufacturers, failing which the quotation will be summarily rejected.
2. The Bidders must submit the details compliance summary of technical specification (Annexure-III) asked in bid.
3. The Bidder shall furnish a non – blacklisting certificate that the firm has not been blacklisted in the past by any government/Private institution. The bidder/supplier has to give an affidavit on non – judicial stamp paper of Rs. 10/- that there is no vigilance/CBI case pending against the firm/supplier and the firm has not been blacklisted in the past by any Govt. or Private Organization.
4. The Bidder should an ISO 9001 certified Company, documentary proof should be enclosed.
5. Rate contract base prices, taxes (including sales tax, service tax, VAT etc., duties and levies excepting octroi, which will be at actuals) thereof against each component viz. Cables, I/O points etc. as per Bill of material.
6. No Price Variations- The rates shall be on a fixed price basis valid for one years. No upward revision in the price would be considered on account of subsequent increases in customs duty, excise tax, sales tax during the offer validity period. However, if there is any reduction on account of government levies, during the offer validity period, the same shall be passed on to the Bank. The rate contract for the passive components and services will be reviewed on yearly basis.
7. Compliance sheet should indicate in details of meeting up of specifications required. The bidder can mention the additional features that exist in quoted products, if any, separately
8. Work Completion should be within specified days as mentioned in Purchase Order.
9. Payment shall be made after delivery, successful installation, commissioning, and submission of installation certificate duly signed and stamped by the authorized representative of the user department/ computer Centre staff.
10. All quoted items may carry brochure/catalogue/Pamphlets/Technical Literature and related documents.
11. The supplier further warrants that the goods shall be free from defects arising from any act or omission of the supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in India.
12. Installation, testing, commissioning of the equipment should have to be carried out by Technical experts of the company/supplier up to the satisfaction of user department
13. In a bid, either the Indian agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same bid.
14. In case of complaint regarding repairing/replacement of equipment/instrument within the warranty period, the supplier will provide repair/replacement immediately. In case of non-compliance or delayed compliance, supplier will be penalized with an amount 0.2% of product value on each week of delay in arrangement.
15. The Vice Chancellor, Delhi Technological University shall be the final Authority for settlement of any dispute and his/her interpretation of any Clause/term/condition(s) of this document shall be final.

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16. In case any goods are found faulty in any lot or develop faults soon after installation, HOD(CC) reserves the right to reject future lots of same material/goods. The payments of the vendor will be released on satisfactory report of installed material.
17. The Rate Contract will be valid for a minimum period of one year. The Prices offered shall be valid for one year from the date of award of the Contract. The companies which cannot provide validity of rates and price list for One Year need not apply.
18. The period of the rate contract will be for one year. The Rate Contract may be further extended for a period up to two years on the same terms and conditions subject to satisfactory performance and mutual agreement for the same. However, in special cases Hon'ble Vice Chancellor reserves the right to extend or curtail the period of Rate Contract.
19. The Bids should be complete in all respects and should be duly signed. Incomplete and unsigned bids will not be considered.
20. There shall be no change in price structure during the currency of contract except the statutory levies which are made applicable by the Govt. through notifications and regulations. However, the Bidder will pass on the advantage in case of downward price movement during the Contract period.
21. Prices charged for the stores supplied under Rate Contract should under no event be higher than the lowest prices at which the party sells the items to any other organization during the period of contract.
22. The rate contract will be guided by the "Fall Clause".
    "if the rate contract holder reduces its price or sells or even offers to sell the rate contracted goods following conditions of sale similar to those of the rate contract, at a price lower than the rate contract price, to any person or organization during the currency of the rate contract, the rate contract price will be automatically reduced with effect from the date for all the subsequent supplies under the rate contract and the rate contract amended accordingly,"
23. If the supplier fails to deliver the material within the delivery period as specified, Delhi Technological University may procure goods or services similar to those undelivered upon such terms and in such manner, as it deems appropriate from any other firm and the supplier will be liable to the purchase for any excess cost. The supplier will be liable to the Delhi Technological University for any excess costs incurred for the procurement of goods or services not delivered in time.
24. The items, so supplied will have to be of high quality and grade and in the inspection/test if these are found to be of inferior quality, the same is to be replaced by the supplier at their cost within the stipulated period, failing which the Rate Contract of the firm may be canceled. Delayed supply/non- compliance of complete order may also lead to cancellation of Contract.
25. LIQUIDATED DAMAGES: The work shall be completed within due date as mentioned in various official orders; otherwise the Delhi Technological University reserves the right not to accept the delivery in part or full. The liquidated damages @0.5% per week subject to a maximum of 5% of the value of the order can be imposed.
26. Warranty – The tenderer shall be fully responsible for the manufacturer warranty in respect of the quality and workmanship of the materials covered in the Rate Contract. In case of any defects found at the time of use, the supplier will provide free replacement or refund the amount charged for that item.
27. Delhi Technological University is entitled to place orders up to the last day of the validity of the rate contract and, though supplies against such purchase orders will be affected beyond

the validity period of the rate contract, all such supplies will be guided by the terms and conditions of the rate contract.

28. Performance Security: Performance Security Deposit of Rs. 1,00,000 (one lakh) which shall be kept for 60 days beyond completion of all the contractual obligations. The security deposit can be forfeited by order of this Institute in the event of any breach or negligence or non–observance of any condition of the contract or for unsatisfactory performance or non–observance of any condition of the contract. Performance Security will be discharged after completion of the supplier's performance obligations under the contract.
29. Rates must be quoted in Indian Rupee only and no revision of rates is allowed after the tenders have been opened.
30. The Firm is required to link Delhi Technological University specifications with catalogs & leaflets/literature for each item. Details features, for compliance of specification, should be provided on specification sheet & appropriate reference i.e. page no. & Para of literature, leaflets wherefrom the relevant information has been checked, should be indicated.
31. EARNEST MONEY: - Each tender must be accompanied by required earnest money of Rs. 25,000 in the form of FDR/ PBG/ DD only. (Duly pledged to REGISTRAR, Delhi Technological University, Delhi} valid for one year of a nationalized bank. This amount shall be refunded in the event of rejection of the tender or adjusted with security deposits. If the tenderer after acceptance of the tender refuses to take up the purchase order, this Earnest Money will be forfeited. Any tender received without/ less Earnest Money deposit shall be summarily rejected. EMD should be attached with the technical bid.
32. Notices: For all notices and any clarification about the technical aspect of the proposal, the following shall be the address of the: Assistant Registrar (Store & Purchase), Delhi Technological University Bawana Road, Shahbad Daulatpur Delhi- 110042.
33. Vice-Chancellor, DTU, Delhi reserves the right to enter into parallel Rate Contract for similar items any time during the period of Rate Contract with one or more parties.
34. The Rate Contract can be terminated at any time by giving one month's notice by either party.
35. Enlistment under Rate Contract with this Institute does not ensure the business of any quantum, whatsoever.
36. Any deviation from the Terms & Conditions mentioned above will imply disqualification for the firm.

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Annexure-I

Technical Bid

1. Name of the company:
2. Address:
3. Mobile /Tele no./Fax No.
4. E-mail:
5. Contact person Name and mobile number
6. The number of years of experience in the Networking Services for educational/research institutions:
7. Total value per year of Business during the last three years:
   (please attach GST for the fourth quarter of the last three years from the date of opening of tender bid)
8. Warranty or Guaranty Period:

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CHECKLIST OF DOCUMENTS TO BE SENT WITH TECHNICAL BID.

Compulsory documents

S. No.	Particulars of documents	No. of pages
1.	Covering letter, as per Annexure 1(i) of Tender Document, duly signed.	
2.	UNDERTAKING / Application Form, as per annexure I(ii) of Tender Document, duly signed.	
3.	Proof of EMD/ (mention amount with instrument number and date)	
4.	Proof of PAN No. (mention no.)	
5.	A printed copy of the current Catalogue.	
6.	The bidders have to submit an undertaking in the firm's letter pad that it has not been blacklisted by any Govt. Deptt./Govt. Autonomous body. As per Annexure 1(iii)	
7.	Proof GST registration & GST return copy of fourth quarter for last three financial years (2019-20, 2020-21 & 2021-22) from the date of opening of the tender bid.	
8.	Proof of Government organization/ department where the bidder has executed similar supplies, as per annexure 1(iv) and eligibility criterion	
9.	Declaration / Undertaking by the O.E.M on company letter pad/ head, as per annexure 1(v)	
10	Authorization Certificate from Original Equipment Manufacturer (OEM) or their Distributor to quote/ sell the product, in case the Bidder is not the OEM. Annexure-II	

Note: All copies of the above documents should be paginated/ duly signed and stamped by the tenderer/bidders before submission.

Signature of tenderer:
Name:
Name of firm:
Telephone No:

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Annexure 1(i)

Covering Letter

To,

The Registrar,
Delhi Technological University
Bawana Road, Delhi-110042.

We, the undersigned (hereinafter called as manufacturer/ authorized dealer) hereby offer to execute supply of items as per specification given against which we have quoted rates and for which this tender may be accepted at the rates stated therein and subject to the terms and conditions set forth for such items as may be ordered by the REGISTRAR, DELHI TECHNOLOGICAL UNIVERSITY or officer acting on his behalf.

Date this_____Day of_____
Signature of bidders_____
Address_____

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Annexure 1(ii)

APPLICATION FORM / UNDERTAKING

{To be submitted along with technical bid}

TENDER NO:- _____

1. File Reference Number:
2. Particulars of the Items
   (As per Scope of work)
3. Name of the OEM
4. Address of OEM
   Telephone Numbers : Office:
   : Resi:
5. Name (s) of the Bidder :
   Telephone
   Address
6. Whether GST
   No. is taken (Please attached copy)
7. PAN of bidder
8. Details of EMD
   (to be deposited in the form of DD/ PBG/ FDR):
   Bank details:

Undertaking by the Bidder:
I/we undertake to abide by the terms and conditions provided with the tender documents.

Signature

( )
NAME IN BLOCK LETTERS
Stamp of the firm

Dated:

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Annexure 1(iii)

Undertaking (on Letter Head)

I/we hereby undertake that my/our firm has not been blacklisted by any Government Department /Government Autonomous body.

Signature of Authorise Signatory
Date_____
Address_____

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Annexure 1(iv)

List of Govt. Organization/ Dept.

List of Government Organizations for whom the Bidder has undertaken such work during last three years (must be supported with work orders)*			
Name of the organization	Particulars of PO / Work Order (Networking Services) *	Name of Contact Person	Contact No.

*Copies of POs /Work orders to be enclosed.

Signature of Bidder

Name:_____
Designation:_____
Organization Name: _____
Contact No.: _____

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Annexure-1(V)

Declaration from OEM Company Letter/Pad

- We hereby declare that all the particulars given in this application are true and complete to the best of our knowledge and belief and we will produce all the relevant documents promptly, if necessary or as and when asked for by DTU, Delhi. We understand that information provided by us will serve as Pre- Qualification Criteria for enlistment on "Annual Rate Contract for Network related services" and in the event of any information being found false or incorrect or ineligibility being detected even after the approval of Rate Contract, our contract may be canceled and all our claims may be forfeited by DTU, Delhi. We have read and understood all the terms and conditions of the "Annual Rate Contract for Network related services" and we fully agree to it.

- We also declare that we will not sell our products at a lesser price to other parties than those given to you and in the event of the happening of such a situation, we will be bound to refund the difference and our enlistment may be canceled at the discretion of DTU, Delhi

- We also undertake that all the terms and such as Product Range, Price, Discount, Delivery/ other charges, Terms of Payment, and also the name/ s of the Dealer/ Distributor will remain unchanged during the period and no alteration will be done without your official approval. However, we will promptly change our distributor/supplier if a request/ complaint is received from your end with regard to this effect due to any reason.

- We also undertake that the price list/ Catalogue supplied to DTU is the only one in circulation.

Date: Place

Signature: Name: Designation:
Seal of the firm

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Annexure II

Authorization letter from OEM to Dealer for bidding

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ANNEXURE III

TECHNICAL SPECIFICATION OF MATERIALS

	Specification
S.No	**Cat 6 UTP LSZH Cable**
1	4 Pair Cable with integral cross -member pair separator for uniform characteristic impedance.
2	Category 6 Unshielded Twisted 4 Pair 100 Ω cable shall be compliant with ANSI/TIA/EIA-568-D-2018 Additional ISO/IEC 11801-1 and ISO/IEC 61156-5
3	Suitable for 10GBase-T applications in acc. with IEEE 802.3an up to 500 MHz and 55 m.
4	Transmission Performance Specification for 4 Pair 100Ω an guaranteed up to 1G
5	Category 6 Cabling
6	Category 6 UTP cables shall extend between the work area location and its associated telecommunications closet and consist of 4 pair, UTP CM cable jacket.
7	Undertake that the support including spares, patches for the quoted products shall be available for two years.
8	OEM should have valid ISO 9001 and ISO 14001 certificate on Design, development and manufacture of SW and HW solutions for communication networks.
9	OEM must provide 25 year Performance warranty
10	All the products must have RoHS Compliance
11	Conductor: Solid Copper
12	Conductor Diameter: 0.555+-0.01mm (23AWG)
13	Insulator HD Polyethylene solid
14	Jacket: LSZH RoHS IEC 60332-1-2 complied, Color- Grey/Blue
15	Outer Diameter: 6.0 ± 0.2mm
16	Max Temperature: -20°C to +70°C
17	Should be ETL certified and 4 Channel ETL Verified as per TIA 568-D-2018
18	Mechanical Test
19	Should have Pulling force of 11.5Kg.

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20	Bend Radius: Installation: <4 X Cable Diameter at –20°C ±1°C, Operation: <4 X Cable Diameter at –20°C ±1°C
21	Electrical Test
22	Conductor Resistance : <9.38Ω /100m
23	Resistance Unbalance 5% Max
24	Mutual Capacitance : < 5.6nF/100m
25	Capacitance Unbalance: 330pF/100m.
26	Propagation Velocity : 69%
27	*ELT certified for 4 Channel should be submitted along with bid submission*
	Patch Cord, U/UTP 4P, Cat.6, length 1/2/3/5/10 m
1	Standardization: Compliant with Cat.6, Class E requirements: ISO/IEC 11801 2nd Edition Compliant with Cat.6 component standards IEC 60603-7-4 and 60603-7-5
2	Cable shield: U/UTP
3	Number of conductors : 8
4	Stranding: 7 x 0.20 mm (24 AWG)
5	OEM must provide declaration on conformity of all the passive components to the following standards: a) TIA/EIA 568-C.2 ; b) TIA/EIA 568-C.3 ; c) ISO/IEC 11801
6	OEM must be have TIA Steering committee member.
7	OEM shall have RCDD certified manpower in India for design support and validation. Certificate is Mandatory
8	Cable jacket characteristics: cable, metal-free
9	Cable overall diameter: 6.5±0.2 mm
10	Tube / Wire type: stranded conductor
11	Insulation: solid polyolefin, 0.97±0.02 mm diameter
12	Plug: Feature cable retention, with enhanced pull strength.
13	Cat 6 patch cord plug to have round cable holder and strain relief boot to avoid bending.
14	Jacket: PVC/LSZH with 8 different color options

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15	*Plug should be featured with color ring options*
16	Plug should have high repeatability cross talk performance
17	*Plug design should be patented with unique feature*
18	*Should be ETL verified; 4 Channel ETL certificate should have part code mentioned*

Sr.No	Passive Items Specification
1	**Indoor / Outdoor F/O Cable, Loose Tube, SM, 6/12 Fibers, Central Steel Wire+Corrugated Steel, PE**
	The fiber should be optimized for operation at 1310 nm and at 1550 nm.
	Should fulfill the requirements of ISO.IEC 11801 - 2nd Edition, type OS2, ITU-T REC G 652D spec IEC 60794-1-2 F5
	Fiber Count : 6
	Loose tube count :1
	Fiber count per tube :6
	Filler count :4
	Filler Material : PP
	Max. Attenuation: At 1310 nm <= 0.36 dB/km, At 1550 nm <=0.22 dB/km
	Fiber/Tube Identification : Single Tube
	Fiber protection (Tubes) : Polybutylene Terephthalate (PBT)
	Armoring : CST
	Thickness : 1.6mm
	Outer Sheath :UV Stabilized Polyethylene (PE)
	Central Strength Member: Steel wire coated with PE
	Water Blocking : Thixotropic Gel (Tube);
	Petroleum Jelly (Interstices)
	Cable Diameter (D) : 9.0 ± 0.5 mm
	Mass (Nominal) : 91 kg/km
	Min. Bending Radius (during Installation) : 20 D;D-Outer Diameter
	Max. Tensile Strength-Short Term : 1500N
	Max. Crush Resistance-Short Term : 2200N/100 mm
	Operating Temperature range : -40°C to +70°C
	All the cable and accessories are from the same OEM
2	**Fiber Optic LIU Rack Mount LIU (12/24 Ports)**

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	Fiber optic patch panel : Fiber optic patch panel FMS Termination Drawer should have sufficient slots to accommodate 3 of 12/16 Port LC Adaptor Plates.
	Should have Slide type drawer structure
	Height: 1 U, 1.75 inches (12 & 24 Ports)
	Material: Cold Rolled Steel in surface coated by electrostatic epoxy powder
	Slots: FMS should have sufficient slots to accommodate adaptor plates
	Empty Slots of FMS should be covered with blank plates.
	Splice Tray : Splice Tray of ABS, Comply with UL 94V2 material should be supplied with LIU.
3	**12/16 Port LC/SC Type Adaptor Plates (Single mode)**
	The adaptor plate should be pre-loaded with LC/SC Type Single mode Duplex Adaptors.
	Port Density :12/16 LC/SC Single mode Ports
	All LC adapters should be duplex type with shutter for protection. Adapters should be snap mount for easy insertion and removal.
	Insertion Loss: <0.2 to <0.1 dB
	Compliance :RoHS Compliant
4	**LC Type 9/125µm OS2 Fiber Optic Simplex Pigtail**
	Type : 9/125 micron fibre performance
	Jacket Material : LSZH complying to IEC 61034-1 & 2,IEC-60332-1, IEC-60754-1 & 2
	Operating Temperature: -40°C to +75°C
	Connector Insertion Loss: 0.30dB(Max)
	Attenuation: 1310/1550 : 0.36/0.22 dB/KM
5	**Patch Cord, LC, Duplex, SM, G657A2, PC, LSZH**
	Cable : LC-LC 9/125µm OS2 Single mode Duplex Patch Cord Length : 3mtrs
	Connectors : The optical fiber patch leads shall comprise of Single mode 9/125µm fiber with 2XLC type fiber connectors terminated at each end of fiber patch cord.
	Insertion loss should be better than 0.35 dB
	Jacket Material : LSZH complying to IEC 61034-1 & 2,IEC-60332-1, IEC-60754-1 & 2
	Attenuation: 1310/1550 : 0.36/0.22 dB/KM
	Connector Loss : 0.30dB(max)
	Operating Temperature : -40°C to +75°C
	OEM must provide declaration on conformity of all the passive components to the following standards:

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	a) TIA/EIA 568-C.2 ; b) TIA/EIA 568-C.3 ; c) ISO/IEC 11801
	OEM must be doing business in India (either directly or via authorized partners) for the offered items for more than 10 years. A declaration on letterhead must be submitted with documentary evidence.
	OEM must be a member in the BICSI organization.
	OEM shall have RCDD certified manpower in India for design support and validation. Certificate is Mandatory
	OEM is currently not blacklisted in any manner whatsoever by any of the State or UT and or Central Government in India on any ground including but not limited to indulgence in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice. A declaration on letterhead must be submitted.
6	**Cat 6 UTP RJ 45 Keystone Jack**
	RJ45 Jack of Category 6, for the establishing of transmission channels of class E with up to 4 plugged connections, complies with Category 6 requirements of the standards ISO/IEC 11801:2nd edition, EN 50173-1, DIN EN 50173-1: 2002 as well as ANSI/TIA/EIA 568-B.2-1, de-embedded tested in acc. with IEC 60603-7 (603-7), interoperable and backwards compatible with Cat.5e and Cat.5.
	Suitable for 10GBase-T applications in acc. with IEEE 802.3an up to 500 MHz and 55 m.
	Compatible with RJ standard plugs (RJ11, RJ12, RJ45), PCB- and tool based connection of installation cables AWG 24 – 22 (0.5 mm – 0.65 mm) and flexible cables AWG 26/7 – AWG 22/7.
	IDC termination should feature nil crossover in acc. with EIA/TIA 568-A/B, gold-plated bronze contacts for >750 mating cycles, >200 insertion cycle
	Material: RoHS complied
	Housing material: Polycarbonate (UL-94-V0)
	Should be available with or without dust protection feature
	Should be 3P certified
	Faceplate
	Should be UK style Keystone-type Faceplates are available in 1, 2 & 4 port configurations
	Should be featured with shutter options, the screws not to be visible
	Should support Work with both Flush and Wall mount box
	Should support Operating Temperature: -10～+60; Storage Temperature: -40～+68; Humidity: 10%~90% RH
	Material: ABS, UL 94V-0; Spring: SUS304; Surface Finish: Polished
	Undertake that the support including spares, patches for the quoted products shall be available for two years.
	OEM should have valid ISO 9001 and ISO 14001 certificate on Design, development and manufacture of SW and HW solutions for communication networks.
7	**19" 1U 24 port unshielded Patch Panel**
	Patch panel should be modular design, populates up to 24 UTP keystone-type jacks in 1U
	Patch panel should be Enhanced with cable strain relief with retention tray; It should be single metal both front panel and rear tray

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	Material: sub-rack made of Aluminum with dimension 44.4 mm : 482.6 mm : 105 mm (h:w:d) tray
	Information Outlet or connection module should comply with the specification mentioned above in 2
	Standard : Conforms to IEC-60603-7 (603-7) for keystone-type, snap-on apertures
	Should be RoHS complied
	All the products must have RoHS Compliance
	All the quoted product should be from single manufacturer & the manufacturer should have their own Patented Products on the structured cabling.
8	**Outdoor F/O Cable, Loose Tube, SM, 48 Fibers, Central Steel Wire+Corrugated Steel, PE**
	The fiber should be optimized for operation at 1310 nm and at 1550 nm.
	Should fulfill the requirements of ISO.IEC 11801 - 2nd Edition, type OS2, ITU-T REC G 652D spec IEC 60794-1-2 F5
	Fiber Count : 48
	Loose tube count :6
	Fiber count per tube :8
	Max. Attenuation: At 1310 nm <= 0.36 dB/km, At 1550 nm <=0.22 dB/km
	Fiber/Tube Identification : Multiple Tube, Jacket - Double Jacket
	Fiber protection (Tubes) : Polybutylene Terephthalate (PBT)
	Armoring : Double Steel Tape
	Thickness : 2 mm or higher
	Outer Sheath :UV Stabilized HDPE
	Inner Sheath : HDPE
	Jacket Thickness OD/ID: 2 mm / 1 mm nominal
	Central Strength Member: Steel wire coated with PE, Thickness : 1.6 mm or higher
	Water Blocking : Thixotropic Gel (Tube);
	Cable Diameter (D) : 14.0 ± 0.5 mm
	Mass (Nominal) : 220 kg/km or higher
	Min. Bending Radius (during Installation) : 20 D;D-Outer Diameter
	Max. Tensile Strength-Short Term : 2670N
	Max. Crush Resistance-Short Term : 4000N
	Operating Temperature range : -40°C to +70°C

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	All the cable and accessories are from the same OEM
9	**48F Joint Enclosure**
	Joint enclosure should have Reusable Mechanical seal which make maintenance and capacity increasing more convenience
	Joint Enclosure should have Straight-through, branching, splitter, splicing and adaptation
	It should Constructed of non-corrosive materials
	Bending radius of fibers should be in any place is greater than 30mm
	It should have Stackable splice tray, easy open and maintenance
	Dimension : D230mm x H435 mm
	Cable diameter Ø10- Ø17.5 mm dia.
	Cable ports : 1 uncut (Straight-through) input cable hole and 4 branching holes, Total 6 Ports
	Impact : The energy is 16Nm, after 3 cycles, the tightness should be ok.
	Voltage resistance strength : After sealing the FOSC according to the stipulated operation procedures, immerse it in clean water of normal temperature in 1.5m depth for 24 hours, there should be no breakdown or arc over between the metallic components of the FOSC, between metallic components and the ground at DC 15KV for 1 minutes
	Product should have IP68 Protection • Rodent Proof • PC Material, Anti-UV, inflaming retarding, rainfall resistant • The bending radius of FOSTs meet the international standard • Earthing deriving devices integrated seal, air tight and water proof
10	**Outdoor F/O Cable, Loose Tube, MM OM4 – 1x6 Fibers, Steel rod with CST, PE**
	The fiber should be optimized for operation at 850 nm and at 1300 nm.
	Should fulfill the requirements of ISO.IEC 11801 - 2nd Edition, type MM OM3, ITU-T REC G 651D spec IEC 60794-1-2 F5
	No of Cores : 6/12
	Max. Attenuation: At 850 nm <= 3.0 dB/km, At 1300 nm <=1.0 dB/km
	Modal Bandwidth: At 850 nm: ≥1500 MHz.km, At 1300 nm: ≥500 MHz.km
	Fiber/Tube Identification : Single Tube
	Fiber protection (Tubes) : Polybutylene Terephthalate (PBT)
	Armoring : CST
	Outer Sheath : HDPE >2.0 mm
	Peripheral Strength Member: 2 nos of Steel rod
	Cable Diameter (D) : 8.8 ± 0.3 mm
	Mass (Nominal) : 82 kg/km
	Min. Bending Radius (during Installation) : 20 D;D-Outer Diameter

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	Max. Tensile Strength-Short Term : 1500N
	Max. Crush Resistance-Short Term : 3000N
	Operating Temperature range : -40°C to +70°C
11	**Indoor-Outdoor Multi Loose Tube, Glass Yarns, Double-Jacketed Cables**
	The fiber should be optimized for operation at 850 nm and at 1300 nm.
	Should fulfill the requirements of ISO.IEC 11801 - 2nd Edition, type OM3, ITU-T REC G 651D spec IEC 60794-1-2 F5
	Should fulfill the basic test of IEC 60794-1-2-E1); IEC 60794-1-2-E3); IEC 60794-1-2 F1); IEC 60794-1-2 F5; IEC 60332-1
	No of Cores : 6/12/24/48
	Max. Attenuation: @850 nm : ≤ 3 dB/km & @ 1300 nm : ≤ 1.0 dB/km Modal Bandwidth: At 850 nm: ≥1500 MHz.km, At 1300 nm: ≥500 MHz.km
	Fiber/Tube Identification : Multi Tube
	Fiber protection (Tubes) : Polybutylene Terephthalate (PBT)
	Inner Sheath :LSZH Black
	Outer Sheath :LSZH Black
	Central Strength Member: Steel wire coated with PE
	Strength member: Glass yarn
	Cable Diameter (D) : 12.8 ± 0.5 mm
	Mass (Nominal) : 182 kg/km
	Min. Bending Radius (during Installation) : 20 D; D-Outer Diameter
	Max. Tensile Strength-Short Term : 1500N
	Max. Crush Resistance-Short Term : 2200N/100mm
	Storage Temperature range : -40°C to +70°C
12	**Outdoor F/O Cable, Loose Tube, MM OM4, 48 Fibers, Central Steel Wire+Corrugated Steel, PE**
	The fiber should be optimized for operation at 850 nm and at 1310 nm.
	Should fulfill the requirements of ISO.IEC 11801 - 2nd Edition
	Fiber Count : 48
	Loose tube count :6
	Fiber count per tube :8
	Max. Attenuation: Attenuation @850nm ≤3.0dB/km Attenuation @1300nm ≤1.0dB/km
	Fiber/Tube Identification : Multiple Tube, Jacket - Double Jacket
	Fiber protection (Tubes) : Polybutylene Terephthalate (PBT)
	Armoring : Double Steel Tape
	Thickness : 2 mm or higher

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	Outer Sheath :UV Stabilized HDPE
	Inner Sheath : HDPE
	Jacket Thickness OD/ID: 2 mm / 1 mm nominal
	Central Strength Member: Steel wire coated with PE, Thickness : 1.6 mm or higher
	Water Blocking : Thixotropic Gel (Tube);
	Cable Diameter (D) : 14.0 ± 0.5 mm
	Mass (Nominal) : 220 kg/km or higher
	Min. Bending Radius (during Installation) : 20 D;D-Outer Diameter
	Max. Tensile Strength-Short Term : 2670N
	Max. Crush Resistance-Short Term : 4000N
	Operating Temperature range : -40°C to +70°C
	All the cable and accessories are from the same OEM
13	**LC Type 50/125µm MM OM4 Bend Insensitive Fiber Optic Simplex Pigtail**
	Type : 50/125 micron fiber performance
	Jacket Material : LSZH complying to IEC 61034-1 & 2,IEC-60332-1, IEC-60754-1 & 2
	Operating Temperature: -40°C to +75°C
	Connector Insertion Loss: 0.30dB(Max)
	Attenuation: 850/1300 : 3/1.0 dB/KM
14	**Patch Cord, LC SC, Duplex, MM OM4, Bend Insensitive G651, PC, LSZH**
	Cable : LC/SC-SC/LC 50/125µm MM OM3 Multimode Duplex Patch Cord Length : 3mtrs
	Connectors : The optical fiber patch leads shall comprise of Multi mode 50/125µm fiber with 2XLC type fiber connectors terminated at one end of fiber patch cord and 2xSC type connector at other end of the fiber patch cord
	Insertion loss should be better than ≤ 0.30 dB
	Jacket Material : LSZH complying to IEC 61034-1 & 2,IEC-60332-1, IEC-60754-1 & 2
	Attenuation: 50/1300 : 3.0/1.0 dB/KM
	Connector Loss : 0.30dB(max)
	Operating Temperature : -40°C to +75°C
15	**Fiber Optic Modular Panel**
	Should supports 1U height up to 48 cores and 2U height up to 96 cores (double LC/SC adapter)
	Should support 3 pieces of adapter plates per U. Unified rack, a variety of optional adapter plates can be chosen, flexible application and expansion
	Should support UL 94, Test for Flammability of Plastic Materials for Parts in Devices and Appliances RoHS Complaint
	Should have Box body made of high quality cold-rolled steel, and the surface coated by Electrostatic epoxy powder and Flame retardant of plastic parts
	Dimension should be 482 (W) x 221 (D) x 42 (H) mm

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	Should support modular type cassette based adapter plate for LC Duplex, SC Simplex; MM and SM
	Should support Operating temperature: -5～+40; Ambient humidity: ≤95%(+40); Atmospheric pressure: 70 kPa～106 kPa
	Working temperature -25°C∽+55°C
	Relative humidity ≤93%（+40 °C）
	Atmospheric pressure 70Kpa～106Kpa
	High voltage protective earthling device: Insulation resistance： ≥1000MΩ/500V（DC） Withstand voltage： ≥3000V（DC）/1 min
	Should be Convenient and reliable latch fixing construction;
	Should support 10G, 40G/100G link Mashup
	A distributed adapter fixed scheme with full consideration for single hand plug/pull
	DLC MM/SM : IL(dB) : ≤0.1
	SC MM/SM : IL(dB) : ≤0.1
	Nominal operating wavelength： 850nm,1310nm,1550nm;
	Insertion loss (dB): ≤0.2 – 0.1dB
	Return loss (dB): PC type≥45dB, UPC type≥50dB, APC type≥60dB;
	Insulation resistance: not less than 2 × 104 M Ω / 500 V (DC);
	Wind stand Voltage: Not less than 3000V (DC) /1min.
	Box body made of high quality cold-rolled steel, and the surface coated by electrostatic epoxy powder;
	Flame retardant of plastic parts
	Storage temperature -30 ℃ ~ +55 ℃, humidity ≤ 90% (+30 ℃);

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ANNEXURE-IV

SN	Description	Unit	Make & Model
A	**Supply of Items**		
1	UTP cable- 305 Mtr	01 Box	
2	24 port Patch Panel	1	
3	Wire Manager/ Patch Chord Minder panel	1	
4	Information outlets (Single SMB)	1	
5	Patch Cord- 1 Meter	1	
6	Patch Cord- 2 Meter	1	
7	Patch Cord- 3 Meter	1	
8	RJ45 connector (Pack of 100)	1	
9	6 Core Fiber Optic outdoor armoured cable-Single Mode	1 Mtr	
10	6 Core Fiber Optic indoor armoured cable-Single Mode	1 Mtr	
11	48 Core Fiber Optic Outdoor armoured Cable-Single Mode	1 Mtr	
12	6 Core Fiber Optics outdoor armoured Cable-Multimode	1 Mtr	
13	6 Core Fiber Optics indoor armoured cable- Multimode	1 Mtr	
14	48 Core Fiber Optic Outdoor armoured Cable-Multi Mode	1 Mtr	
15	Pigtail SC/LC-SM	1	
16	Pigtail SC/LC-MM	1	
17	Optical Fiber Patch Core SM LC-SC- 3 mtr	1	
18	Optical Fiber Patch Core SM LC-LC 2 mtr	1	
19	Optical Fiber Patch Core SM LC-SC- 5 mtr	1	
20	Optical Fiber Patch Core SM LC-LC 5 mtr	1	
21	Optical Fiber Patch Core MM LC-SC- 2 mtr	1	
22	Optical Fiber Patch Core MM LC-LC 2 mtr	1	
23	Optical Fiber Patch Core MM LC-SC- 5 mtr	1	
24	Optical Fiber Patch Core MM LC-LC 5 mtr	1	
25	LIU, 12 fiber, 1 U 19” Rackmount enclosure-SM	1	
26	LIU, 24 fiber, 1 U 19” Rackmount enclosure-SM	1	
27	Fiber Optic Madular Panel	1	
28	48F Joint Enclosure	1	
29	19 “ Rack, Wallmount 530 mm depth, 6U height,Front glass	1	

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	/ venteddoor (lockable) and side panel can open		
30	19 " Rack, Wallmount 530 mm depth, 9U height, Front glass / vented door (lockable), and sidepanel can open	1	
31	19" Rack, Wallmounted, 530 mm depth, 12 U height, Front glass /vented door(lockable)	1	
32	19" Rack,Floor mounted, 19" Sever/ Networking Rack Cabinet (600*800*), 24 U height, Front glass /vented door(lockable)	1	
33	19" Rack,Floor mounted, 19" Sever/ Networking Rack Cabinet (600*800*), 42 U height, Front glass /vented door(lockable)	1	
34	25 MM PVC Conduit/Casing (100 Mtr)	100 mtr	
35	32 MM PVC Conduit/Casing (100 Mtr)	100 mtr	
36	40 MM HDPE Pipe (200 Mtr)	200 mtr	
37	50 MM HDPE Pipe (200 Mtr)	200 mtr	
38	Supply of 1"diameter GI pipe (100 Mtr)	100 mtr	
39	SFP-SM-1G	1	
40	SFP-SM-10G	1	
41	SFP-MM-1G	1	
42	SFP-MM-10G	1	
B	**Details of Service**		
S.No.	**Description**	**Unit**	
1	Route survey & documentation for laying of UTP & fiber cable along with detailed cable route diagram, rack position, cable length from each node to switch, identification of switch location with labels & route marking as per standard and approved labelling plan etc on per node basis	per node	
2	Laying of UTP Cat6 cable inside building/premises	per mtr	
3	Fixing of PVC Conduit	per mtr	
4	Installation of Jack Panel & end-to end connectivity of UTP Cat6 cable on Jack Panel	per unit	
5	Installation of Information Outlet points	per point	
6	Testing of Laid Cable	per node	
7	In building laying of fiber in duct/conduit	per mtr	
8	Laying of fiber outside building location point to point connectivity(per meter)	per mtr	
9	Excavation and resurfacing of soil	per mtr	

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10	Excavation and resurfacing of concrete-	per mtr	
11	Excavation under road crossing-trenchless	per mtr	
12	Installation/Fixing of 1"diameter GI Pipe underground and on surface	per mtr	
13	Laying & Installation of HDPE pipe	per mtr	
14	Splicing of Fiber Cable including pigtail	per core	
15	Cable pulling pit made of reinforced concrete and brickwalls with removable covers	per mtr	
16	Performance testing of laid fiber optic cable for continuity, length &dB loss as per EIA/TIA455-60 document for FO test procedure 7 documentation of the result	per link	
17	Pentascanning	per port	
18	OTDR scanning and report(per connectivity pair)	per core	
19	Installation of Rack- upto 12 U	per unit	
20	Fiber chamber installation	per unit	