

**National Forensic Sciences University,
Sector-9, Gandhinagar-382007, Gujarat**

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

Table of Contents

| Sr. No. | Title | Page No. |
|---------|---|----------|
| 1 | Notice Inviting Tender | 03 |
| 2 | Time events of various Tender related activities | 06 |
| 3 | Technical Specifications-Annexure I | 07 |
| 4 | General Terms and Conditions-Annexure II | 10 |
| 5 | Instructions & Special conditions -Annexure III | 14 |
| 6 | Minimum Eligibility Criteria / Pre-qualification Criteria-Annexure IV | 17 |
| 7 | Technical Bid-Annexure V | 19 |
| 8 | Technical Compliance Statement-Annexure VI | 21 |
| 9 | Financial Information-Annexure VII | 49 |
| 11 | Declaration-Annexure VIII | 50 |
| 12 | Undertaking regarding Blacklisting / Non- Debarment-Annexure IX | 51 |
| 13 | Certificate on compliance under Rule 144 (xi) of GFRs 2017 - Annexure X | 52,53 |
| 14 | Declaration of Local content-Annexure XI | 54 |
| 16 | Price Bid Format-Annexure XII | 55 |
| 18 | Scope of work-Annexure XIII | 61 |
| 19 | Model bank guarantee format for furnishing EMD Annexure XIV | 65 |
| 20 | Checklist | 66 |

NOTICE INVITING TENDER

National Forensic Sciences University (An Institution Of National Importance), the erstwhile Gujarat Forensic Sciences University is the brain child of Govt of Gujarat. It was established by the Hon'ble Prime Minister of India Shri. Narendra Modi, then Chief Minister of Gujarat in 2009 with a sole objective of creating professional experts in the field of Forensic sciences. At a juncture of spiking the number of crimes involving sophisticated technologies and much evolved modus operandi, there was a need for scientists and technocrats. Thereby the resolution of such heinous crimes were more diligently possible. This has been prudently considered by the Govt of Gujarat and the university came into existence as a unique and first of its kind academic institution dedicated to Forensic Sciences across the globe.

Details of existing IT infrastructure

For any Campus IT infrastructure being deployed plays a very important role since digitization and online modalities for operational efficiency is becoming the way of life. Considering the above NFSU has selected technologies which can support their future requirements and fight technology obsolesces. The details of the Infrastructure are mentioned below:

The data centre is hosted on the Ground Floor of the administration building and it consists of Rittal racks supported with in-Row cooling which leads to lesser power consumption and reduction in carbon foot prints which is a step further to the go- green initiative.

The Racks are loaded with the Cisco 9500 series loaded with 10G.

All floor stacks which are built using HP/Aruba's 2920/ 2930 and Cisco 9200 switches in different buildings are directly connected to the Core in the Star modes and each stack has an uplink of 10G.

Each building is connected to the Admin Building using Fibre cables which terminate in the ground floor rack room of that building and redundancy is built using multiple paths which interconnect the building to the DC in the admin building. Of the four tubes each of 6 cores which are available the first tube is used to connect the ground floor and the second and third tube is used to connect the racks rooms located at the first and second floor of each building. The fourth tube is spare and can be used for expansion. The fibre which was used is the OS2 grade 24 core fibre from Tyco which is now Commscope.

For interconnecting the first and the second floor OS2 grade 6 from Tyco which is now Commscope was used. The 6-core fibres are terminated on the ground floor rack room and through fibre patching they connect to the DC over using the 2nd and 3rd tube of the 24-core fibre.

Considering high multimedia and video traffic which is expected to flow over the network in the future NFSU selected the highest category cable which was CAT7A at that point in time. This cable is ready to support Class FA transmission speeds in future whenever the edge switches are upgraded without any change in the cabling.

This decision of NFSU has ensured investment protection for the edge cabling components for at least 25 years. CAT7A cable and accessories which are currently deployed are from Tyco which is now Tyco/CommScope.

All operational data points for Computers, CCTV, AV(Audio-Video) and Wi-Fi are on the same Infrastructure and thus it is ready to host 4K-8K Video traffic using Software-defined Video over Ethernet (SDVoE) without any change or upgradation in the passive components.

Wi-Fi is a prime requirement of educational campuses as they need to support the mobility requirements of the students and staff. Considering this NFSU had planned to deploy mobility solutions to meet the above requirements and Wi-Fi solutions using Aruba's Wi-Fi controllers (7210), Cisco Wi-Fi Controller Catalyst 9800-L and Aruba 302 & Cisco AP 18521-D Access Points are functional in the NFSU Campus.

The firewall is from Fortinet and it is FG-500E-BDL(Active-Active), Forti Analyzer 800G and Forti Authenticator VM.

National Forensic Sciences University Gandhinagar, invites online bids **from reputed Manufacturers or their authorized vendors, having registered offices in India** who can fulfil the criteria mentioned in the Tender document and have an adequate credential, for the revamping/Upgradation of **Active and Passive networking infrastructure at selected Computer Labs @ IFS building, NFSU Gandhinagar.**

Interested parties may submit their sealed bids under a Two-Bid system as per **Technical Specifications** given in **Annexure I** and **General Terms & Conditions** and other formats given in **Annexure II to XIV.**

Two covers (Primary bid and Technical Bid) are to be sealed and placed in one large Cover super scribed with tender reference number (Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/01) and submitted to "Campus Director, National Forensic Sciences University, Gandhinagar, PIN: 382007 on or before _____ at 17.00 Hrs.

(1) The primary bid will be for Tender fees & EMD and (2) the technical bid will be for all technical documents. After verification of the Primary bid, the technical bid will be opened for evaluation of who is qualified in the primary bid. Online price bids will be opened in

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

respect of those OEMs/Vendors, who are found technically qualified after the evaluation of Technical bids.

Kindly refer to the NFSU website www.nfsu.ac.in for complete tender details. The same is also available in the CPP Portal. [<https://eprocure.gov.in/epublish/app>]. If there is any corrigendum/addendum, it shall only be published on the NFSU Website and Central Public Procurement Portal.

**Campus Director,
NFSU, Gandhinagar**

To

1. NFSU Website
2. CPP Portal

TENDER DOCUMENT (2nd Attempt)

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Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

TIME EVENTS OF VARIOUS TENDER-RELATED ACTIVITIES

| | |
|--|--|
| Tender No. & Date | Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024 |
| Brief Description of Tender | Revamping of Networking for three computer labs at the IFS building at NFSU, Gandhinagar |
| Tender fee (Non-refundable) | ₹ 1,500/- (one thousand and five hundred rupees only by way of Demand draft from any Nationalized Bank / Commercial Bank and paid in favour of "Campus Director, National Forensic Sciences University", payable at Gandhinagar) |
| EMD | ₹ 1,08,000/- (One Lakh and Eight Thousand rupees only) |
| Last date & time for online bid submission on CPPP | 14/05/2024 at 4.00 PM |
| Last date & time for Bid submission of technical bid, Tender Fee and EMD <u>in sealed covers</u> | 16/05/2024 at 4.00 PM |
| Technical Bid opening Date & Time | 17/05/2024 at 4.00 PM |
| Two Bid System | Two bids-(i) Primary bid Technical and, in two separate envelopes- placed & sealed in one envelope (ii) Price bid is online only |
| Bid validity | 180 days from the opening of Price Bid |
| Submission of bids (by speed post) at | Campus Director, National Forensic Sciences University, Gandhinagar-382007, Gujarat (State) |
| Bid opening place | As Above |
| Any clarification | Telephone No: +91-79- 23977113, email: itmanager_gnr@nfsu.ac.in |
| Last date for submission of pre-bid queries | 25/04/2024 |

Note:-

1. If the day falls on any Holiday, the date of any of the events mentioned above shall be on the next working day.
2. It is the responsibility of the Bidder to ensure that their bids whether sent by post or by courier or dropped by person should reach within the stipulated date & time.
3. The bid received after the last date and prescribed time would summarily be rejected. Bids having incomplete information are also liable to be rejected.
4. The Campus Director, NFSU Gandhinagar reserves the right to reject any or all the bids in full or part without assigning any reason thereof and without giving any compensation. The decision of the NFSU in this regard shall be final and binding to all.
5. The addendum/ corrigendum if any shall only be published on NFSU's website and CPP Portal.

TECHNICAL SPECIFICATIONS**(Bill of Quantity)****Table 1: List of Items and Services**

| Sr | Name | Brief | Unit | Total | Deduction for existing Lab due to re Utilisation of Existing Material | Final Requirement after deduction of OLD material | Quoted product with make, model and part number |
|----|------------------------------|--|------|-------|---|---|---|
| 1 | Cat7 Cable | Cable, Copper, Category 7A, 1000 MHz E10, 4 Pair, Solid, S/FTP, LSOH-1, Violet, Reel, 500 Meter | Mtr | 7595 | -4725 | 3000 | |
| 2 | Switch Side Patch Cord 1 Mtr | Copper, Patch Cord, Tera 4-Pair, RJ45, Category 6A, S/FTP, T568B, Stranded, CM/LSOH-1, Ivory Cable, White Boot, 1 Meter. | Nos | 217 | -135 | 82 | |
| 3 | User Side Patch Cord 2 Mtr | Copper, Patch Cord, Tera 4-Pair, RJ45, Category 6A, S/FTP, T568B, Stranded, CM/LSOH-1, Ivory Cable, White Boot, 2 Meter | Nos | 217 | -135 | 82 | |
| 4 | Patch Panel for Rack | Copper, Patch Panel, Tera / MAX, Empty, Shielded, 24 Openings, Flat, 1U, Black, Fixed Wire Manager | Nos | 11 | -7 | 4 | |
| 5 | Network IO User Side | Copper, Outlet, TERA, Shielded, Category 7A/8, TERA, Flat, Black, Tool-Less, | Nos | 217 | -135 | 82 | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr | Name | Brief | Unit | Total | Deduction for existing Lab due to re Utilisation of Existing Material | Final Requirement after deduction of OLD material | Quoted product with make, model and part number |
|----|---|--|------|-------|---|---|---|
| | | T568A/B, with Door, 22-23 AWG - User Side | | | | | |
| 6 | Network IO Rack Side | Copper, Outlet, TERA, Shielded, Category 7A/8, TERA, Flat, Black, Tool-Less, T568A/B, with Door, 22-23 AWG- Panel Side | Nos | 217 | -135 | 82 | |
| 7 | Face Plat User Side | Faceplate, 10G, British, Single Gang, 2 Openings, MX, White | Nos | 217 | -135 | 82 | |
| 8 | Fibre Cable Single Mode | Cable, 6 Fibre, XGLO, Single mode, OS1/OS2, 8.3/125, Outside Plant, Loose Tube, Armored, MDPE, Black, 1 Kilometer, International | Mtr | 75 | | 75 | |
| 9 | Fibre LIU for Fibre termination on both sides | 12 port Fibre, Enclosure, Light Verse Core, Rack Mount, 1U, Fixed Access, 4 Openings, Black - Fully Loaded - (With Required Accessories GLO® Jumper & Pigtails-192 Quick-Pack® RIC Splice Cassette (RSC) - 192LC Blade Patch Fibre Jumpers-8 Fibre, Adapter Plate, Light | Nos | 2 | | 2 | |

TENDER DOCUMENT (2nd Attempt)

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Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr | Name | Brief | Unit | Total | Deduction for existing Lab due to re Utilisation of Existing Material | Final Requirement after deduction of OLD material | Quoted product with make, model and part number |
|----|--------------------|--|------|-------|---|---|---|
| | | Verse, Flat, Black Housing, Blank - 24Splice Cassette and Trays-8 | | | | | |
| 10 | Fibre Patch Cord | Fibre, Jumper, Duplex, XGLO, Single mode, LC UPC, LC UPC, OS1/OS2, 8.3/125, Yellow, LSOH-3C, 03 Meter | Nos | 4 | | 4 | |
| 11 | 24 Port PoE Switch | OS6360-P24X fixed 1RU chassis 24 PoE 1G BaseT, 2 fixed RJ45/SFP+ combo (1G/10G), 2 fixed 1G/10G SFP+ uplink/VFL ports. Internal AC PSU (380 budget), includes country-specific power cord, guides and 19" rack mount kit. 3 Yr premium onsite Support for OS (including replacement in NBD when Required). Includes 24x7 phone support, problem diagnosis, access to support portal, software updates and upgrades. 1 meter long 10Gbs SFP+ direct | Nos | 1 | | 1 | |

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|----|--------------------|---|------|-------|---|---|---|
| | | stacking cable for OS6360 24 and 48 port models. | | | | | |
| 12 | 48 Port PoE Switch | OS6360-P48X fixed 1RU chassis 48 PoE 1G BaseT, 2 fixed RJ45/SFP+ combo (1G/10G), 2 fixed 1G/10G SFP+ uplink/VFL ports. Internal AC PSU (760W budget), includes country-specific power cord, guides and 19" rack mount kit.3-Yr Partner Support Plus for OS(including replacement in NBD when Required). Includes 24x7 phone support, problem diagnosis, access to support portal, software updates and upgrades. 1 meter long 10Gbs SFP+ direct stacking cable for OS6360 24 and 48 port models | Nos | 5 | -3 | 2 | |
| 13 | Transceiver | 10 Gigabit optical transceiver SFP+). Supports mono mode fibre over 1310nm | Nos | 6 | -2 | 4 | |

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|----|------------|---|------|-------|---|---|---|
| | | wavelength nominal) with an LC connector. Typical reach of 10Km | | | | | |
| 14 | Rack | Wall mounted enclosure of dimension 600W X15UX600D with front sheet steel glass door, top and bottom cover with cable entry provision, integrated side walls, 1 pair of 19" angles with wall mounting provision, captive hardware(pack of 20). Color RAL 7035 230V AC Fan, 90 cfm with 1 mts long cable.19" mountable socket strips with 6 nos of 5A universal sockets with 2 mts long power chord.1U 19" Horizontal Cable Manager (Zinc blue plated) Wall Bracket Kit 10mm (pk of 4) | Nos | 3 | -2 | 1 | |
| 15 | Cable Tray | SIZE: 300MM X 50MM X 16SWG WITH ALL ACCESSORIES LIKE 8MM G.I.FULL THREADED ROD,8MM FASTNER, 8MM NUT | Mtr | 150 | | 150 | |

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|----|-----------|--|------|-------|---|---|---|
| | | AND WASHER, G.I.PERFORATED " C" CHANNEL SIZE: 35MM X 15MM X 18SWG | | | | | |
| 16 | HDPE Pipe | 40mm 6kg ISI Make HDPE Pipe for Fibre Laying | Mtr | 50 | | 50 | |
| | | Labour | | | | | |
| 17 | | Laying of HDPE Pipe for Fibre | Mtr | 50 | | 50 | |
| 18 | | Laying of UTP Cable along with all accessories which includes 32 mm conduits with accessories, Trunking and casing capping as per the requirement (Bidder to select the accessory material as per the specifications defined in section 6) (<u>Actual meter reading generated during the cable testing will be considered for payment</u>) | Mtr | 7595 | | 7595 | |
| 19 | | Laying of Fibre Cable in Pre-Laid Conduits and TRUNKS | Mtr | 75 | | 75 | |
| 20 | | Fixing of Rack upto 18 U Size with Dressing | Nos | 3 | | 3 | |

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|----|------|---|------|-------|---|---|---|
| 21 | | Fixing of Patch Panel in the Rack along with Termination of Cable | Nos | 11 | | 11 | |
| 22 | | Termination of CAT7A IO on the user side | Nos | 217 | | 217 | |
| 23 | | Termination of CAT7A IO on the jack Panel Side | Nos | 217 | | 217 | |
| 24 | | Fixing of LIU in The Rack | Nos | 3 | | 3 | |
| 25 | | Fibre Splicing per core | Nos | 36 | | 36 | |
| 26 | | Labelling and Feruling Charges | Nos | 217 | | 217 | |
| 27 | | Fibre and Copper Certification Charges (Third Party). Copper Certification to be done using CAT7A Tester Old Cables are not Included. | Job | 3 | -2 | 1 | |
| 28 | | Concealed Conduiting charges Labor only including wall cutting and resurfacing | Mtr | 150 | | 150 | |
| 29 | | Rework Charges A - Remove Ios from the Rack Side and User Side. B. Remove All Cables till rack with minimum Damage. C. Remove Patch Panesl from Rack Side. | Job | 3 | | 3 | |

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|--|------|---------------------------------------|------|-------|---|---|---|
| | | D. Remove Fibre cable & LIU from Rack | | | | | |
| <ul style="list-style-type: none"> • Payment will be made on the basis of actual work done. After completion of work, the NFSU committee will verify the actual work and certify it. Vendor may visit the site location, before bidding. in case of an increase in quantity during the ongoing execution of work, the successful bidder has to take approval of NFSU. • Civil work is not part of this i.e. Ceiling cutting, Core cutting, tile cutting, furniture cutting etc. • The vendor needs to remove all I/O, Cables carefully to reuse. However, for the I/O, Cables are not in condition to use then it is required to use new material and accordingly, the proposed quantity may be increased. • No expenditure over the Administrative Approval & Expenditure Sanction is permissible without the approval of NFSU. In budgetary works of NFSU excess, up to 10 % of Administrative Approval & Expenditure Sanction is allowed. | | | | | | | |

ANNEXURE-II**GENERAL TERMS AND CONDITIONS**

1. **Tender Fee:** An amount of ₹ 1500/- (one thousand and five hundred only) By way of demand draft from any Nationalized Bank /Commercial Bank and paid in favour of "National Forensic Sciences University, Gandhinagar", payable at Gandhinagar).

NFSU will give exemption for submission of tender fees who are registered with MSME, NSIC or start-ups as recognised by DIPP. However proper and valid documents in this regard must be submitted by the bidders in support of their claim. The tender fee should be kept in separate covers and placed in the technical bid cover.

2. **Earnest Money Deposit (EMD):** An amount of ₹ 1,08,000/- (One Lakh and Eight Thousand rupees only) in the form of Demand Draft/Bank Guarantee (as per the format in Annexure-XIV) to be enclosed along with the technical bid. The E.M.D. will be drawn in favour of "National Forensic Sciences University, Gandhinagar", payable at "Gandhinagar". The validity of the EMD should be 6 (six) months from the date of issue. Any bid without EMD will not be considered. EMD will be refunded to the unsuccessful bidder after the finalization of the tender process. The EMD of the bidder awarded with the contract will be treated as part of the security deposit towards the Performance Guarantee. No interest is payable on the security deposit. A security deposit shall be forfeited if the selected bidder after the award of the contract fails to execute the same.

NOTE: NFSU Gandhinagar will give exemption for submission of tender fee and EMD who are registered with MSME or Central Purchase Organization or start-ups as recognized by DIPP as per revised rule 170 of GFR -2017 only or as per amendment till date. However proper and valid documents in this regard must be submitted by the bidders in support of their claim.

3. **Payment Terms & Performance Bank Guarantee (PBG):** 90% (value of the delivered items of the purchase order) payment will be made after the successful delivery, verification and certification by the NFSU committee. A balance of 10% of the payment will be made after the completion of the entire work.
4. After receiving of LoI, the successful bidder needs to submit a Performance Bank Guarantee of 5% of the total purchase value valid for a period of 42 Months. No advance/mobilization support is payable against the supply of stores.
5. **Liquidated Damages:** In the event of failure to deliver the stores beyond the specified date, liquidated damages @ 0.5% per week or part thereof in respect of the value of stores will be deducted, subject to a maximum of 10%; alternately the order will be cancelled and the undelivered stores purchased from elsewhere at the risk and expense of the vendor.
6. **Warranty/Guarantee & On-site skill support:** Three years onsite comprehensive OEM warranty for Active Components will start from the date of successful completion of work and be certified by the NFSU committee. The firm has to guarantee the supply of spares for an additional period of two years beyond the warranty period.

7. **Supply of spares and accessories:** Interested vendors must be able to supply adequate spares and consumables during three years of a comprehensive warranty. A vendor should also ensure trouble-free service and performance for another two years beyond the three Warranty Period with adequate spares and accessories.
8. **Delivery of Stores:** The store items are to be supplied and install within **90 days** from the date of receipt of the Purchase Order. Delivery may be made in multiple phases but limited to a maximum of three phases. For passive materials like Conduit, Pipe, Cable tray etc to be supplied as per actual site requirement in consultation and approval of NFSU Committee. Accessories included in the labour part of BoQ may be supplied as requirements arise.
9. **Price:**
 - a. The Price should be quoted in INR only.
 - b. The price should be quoted "FOR NFSU Gandhinagar" basis. The price should be all-inclusive.
 - c. The unit prices should be for the same unit as indicated in the Schedule to tender enquiry and not for any other unit.
 - d. Discounts, if any, should be indicated separately/prominently.
 - e. Offers should normally be on a fixed and firm price basis. Any clause making price variation will not be acceptable.
10. **Bid:** Primary Bid and Technical Bid should be submitted in two separate sealed envelopes quoting the reference number on the top of the envelope. **The tender Fee and EMD are part of the Primary bid and should be in one sealed envelope and the Technical Bid documents in a separate sealed envelope, stapled with the packet containing Technical Bid documents.**
11. **Award of the Contract:** The order shall be placed to a successful L1 bidder.
12. **Acceptance of Tender:** The Authority of NFSU Gandhinagar does not bind itself to accept the lowest priced bid and reserves the right to reject any or the entire tender bids received without assigning any reason thereof.
13. The addendum/corrigendum if any shall be published on NFSU's **Website i.e. www.nfsu.ac.in and CPP Portal.**
14. **Extra Features:** If the bidder provides any other extra features on the Hardware or Software which are not mentioned in the tender product specifications, then that shall be highlighted in clear terms, with documentary evidence/literature.
15. **Compliance List:** The proposal should be properly indexed and a compliance list against the technical specifications should be provided.
16. **Service:** In response to ensure the quality of services, the deputed Engineer from the OEM/Vendor shall have qualifications and experience as mentioned in the scope of work of the tender.
17. **Installation and Commissioning:** The supplier must ensure the timely delivery and installation of all the items as per **Annexure-I within 90 days** from the date of receipt of the Purchase Order. If any of the location/buildings is not ready for installation, then Bidder has to install the supplied items at any time whenever it will be ready (in less than

5 working days after intimated by NFSU) within the warranty period of 3 years without any additional charges.

18. **Site preparation:** The supplier shall inform to the NFSU about the site preparation, if any, needed for the installation of equipment, immediately after the receipt of the purchase order. The supplier must provide complete details regarding space and all the other infrastructural requirements needed for the equipment, which the NFSU should arrange before the arrival of the equipment to ensure its timely installation and smooth operation thereafter. The supplier shall visit the NFSU and see the site where the equipment is to be installed and may offer his advice and render assistance to the NFSU in the preparation of the site and other pre-installation requirements.
19. The benefit of any downward price revision (revision on account of budget/financial policy, tax revision, EPZ etc.) is to be given to NFSU Gandhinagar by the selected OEM/vendor.
20. Past Performance of the Vendors will be judged at the time of Technical Evaluation.
21. The NFSU does not bind itself to offer any explanation to those bidders whose technical bids have not been found acceptable by the Technical Evaluation Committee of the NFSU.
22. Bidders should enclose the following documents:
 - a. Purchase order to be placed on: Should be mentioned in the quotation with full address, email address, phone number.
 - b. Performa Price Bid (without mentioning the price rate) may be attached with technical bids.
23. All tenders are to be handed over in sealed covers to the office of Campus Director, NFSU, Gandhinagar-382007. The bids (Primary bid and technical bid) once submitted shall be the property of the NFSU and shall not be returned to the vendor in future. For speed post, the Postal Address is as under:

National Forensic Sciences University
Sector-9, Gandhinagar-382007, Gujarat-India.

24. **Opening of Price Bids:** The Price Bid(s) of only those vendor(s) who are found technically qualified will be opened and the same will be opened before the technically qualified vendor(s).
25. The tenderer or his/her authorized representative (with a proper authorization letter for attending the opening of technical bids and also for the opening of price bids) may choose to be present at the time of the opening of Technical Bids/Price Bids if invited by NFSU.
26. **Disqualification of Tender:** The tenders are liable for rejection in the following circumstances:
 - a) If they are not in line with the terms and conditions of this tender notice
 - b) Conditional quotations
 - c) Incomplete tenders
 - d) Tenders without Tender Fee and EMD
 - e) Tenders submitted through Fax or e-mail
 - f) If Two Bid System is not followed

- g) Bid received simultaneously from Indian agent on behalf of Principal/OEM and Principal/OEM itself for same item/product/services in the same tender
- h) The Firm need to quote all the charges /prices as per the tender requirement, if any firm quotes nil charges/consideration, the bid shall be treated as an Unresponsive bid and will not be considered.

IMPORTANT

- I. NFSU may accept or reject any or all the bids in part or in full without assigning any reason and does not bind itself to accept the lowest bid. The NFSU at its discretion may change the quantity/upgrade the criteria/drop any item or part thereof at any time before placing the Purchase Order.
- II. A bid submitted with false information will not only be rejected but also the OEM/vendor will be debarred from participation in future tendering process.
- III. In case of any dispute, the decision of the NFSU shall be final and binding on the bidders.
- IV. In case the due date for opening the tender happens to be a holiday, the same will be opened on the next working day. The timings will however remain unchanged. Please Note that the NFSU remains closed on Saturday & Sunday.
- V. The Bidders are requested to submit the bids after the issue of clarifications only considering the changes made if any. Bidders are fully responsible for incorporating/complying with the changes/amendments issued if any, in their bid.

INSTRUCTIONS & SPECIAL CONDITIONS

1. **General:** Only reputed Manufacturers/Service provider or their authorized vendors, having registered office in India are invited to quote.

A. Compliance under Rule 144 (xi) of the General Financial Rules (GFRs) 2017

I. **As per Ministry of Finance, Department of Expenditure, Public Procurement Division Order (Public Procurement No.1) issued from file No.6/18/2019-PPD dated 23rd July, 2020 & the Order issued from time to time regarding Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs) 2017, it is directed that any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority i.e. the Department for Promotion of Industry and Internal Trade (DPIIT).**

II. **"Bidder"** (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency, branch or office controlled by such person, participated in a procurement process.

III. **"Bidders from a country which shares a land border with India"** for the purpose of this Order means:

- a) An entity incorporated, established or registered in such a country; or
- b) A subsidiary of an entity incorporated, established or registered in such a country; or
- c) An entity substantially controlled through entities incorporated, established or registered in such a country; or
- d) An entity whose beneficial owner is situated in such a country; or
- e) An Indian (or other) agent of such an entity; or
- f) A natural person who is the citizen of such a country; or
- g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

IV. The beneficial owner for the purpose of above will be as under: -

- 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercise control through other means.

Explanation-

- a) "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of share or capital or profit of the company;

- b) "Control" shall include the right to appoint majority of the directors or to control the management of policy decisions including by virtue of their shareholding or management rights or share holders agreements or voting agreements;
2. In case of a partnership firm, the beneficial owner is the natural person (s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
 3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership
- V. An agent is a person employed to do any act for another or to represent another in dealings with a third person.
- VI. For Works contracts, including Turnkey contracts, the successful bidder shall not be allowed to subcontract works to any contractor from a country, which shares a land border with India unless such contractor is registered with the Competent Authority.

A certificate (duly filled & signed) shall be submitted by bidders in the tender documents regarding their compliance with the said order as per **Annexure X**. If the certificate submitted by a bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law.

B. Compliance under Rule 153 (iii) of the General Financial Rules (GFRs) 2017

It is mandatory for bidders to quote items having 20% or more local content. Refer revised Public Procurement (Preference to Make in India), Order 2017 P-45021/2/2017-B.E-II dated 16.09.2020 and the order issued from time to time by the Department for Promotion of Industry & Internal Trade (DPNFSU), Ministry of Commerce and Industry, Government of India. (Submit duly filled **Annexure XI** for the same).

Also, as per DPIIT, Ministry of Commerce and Industry OM vide no: P-45021/102/2019BE-II-Part(1) (E-50310) dated 04.03.2021, bidders can't claim themselves as Class-I local supplier / Class-II local supplier by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition.

2. **Deviation from Specifications:** It is in the interest of the tenderer to study the specifications in the tender schedule thoroughly before quoting so that, if the tenderer makes any deviations,

the same are prominently brought out in the body of the tender. If you need to add any optional items to your system in order to meet our specifications, you are requested to quote for the total including the option required to suit our requirements. Otherwise, your tender will not be considered at all.

3. TENDERERS SHALL SUBMIT ALONG WITH THEIR TENDER: (i) Complete address and tele links for contact persons of manufacturers/service providers/authorized vendor's offices dealing with this purchase. (ii) Name and full address of the manufacturers/service providers/authorized vendors (iii) **Country of origin** is to be provided for each item. (iv) Purchase order to be placed on: Should be mentioned in the quotation with full address.
4. **Performance Bank Guarantee:** The bidders to provide Performance Bank Guarantee of the amount equivalent to the 5% of the cost of contract value from any Nationalized Bank. The Performance Bank Guarantee is required for the entire period of Warranty. Performance Bank Guarantee must remain valid for a period 42 Months.
5. **Guarantee:** The tenderer has to declare that the goods sold to the buyer under this contract shall be of the best quality and workmanship and shall be strictly in accordance with the specifications.
6. **Patent Rights:** The Supplier shall indemnify NFSU Gandhinagar against all third-party claims of infringement of patent, trademark or industrial design rights, copy rights arising from use of the Goods or any part thereof in India.
7. **Indemnity:** The vendor shall indemnify, protect and save NFSU Gandhinagar against all claims, losses, costs, damages, expenses, action suits and other proceedings, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc. or such other statutory infringements in respect of all the equipment(s) supplied by him.
8. **Jurisdiction:** All questions, disputes, or differences arising under, out of or in connection with the contract, if concluded, shall be subject to the exclusive jurisdiction at the place from which the acceptance of Tender is issued i.e. Jurisdiction of Gujarat High Court. Acceptance to this effect is also necessary at the time of opening of the Technical Bid.

MINIMUM ELIGIBILITY CRITERIA / PRE-QUALIFICATION CRITERIA

1. **Registration Certificate(s):** Certificate of incorporation, PAN, GST, Trade License and so on shall be provided with the bid document.
2. **Past Experience of the Bidder:**
 - a. The bidder should have a minimum 05 years of working experience in India in the domain of network infrastructure, with a sales and support office in Gujarat. Documentary proof must be submitted.
 - b. **Experience in terms of execution of orders.**

Similar Experience: Completed or substantially completed similar works during last 7 years should be either of the following: -

 - i Three similar completed works each costing not less than the amount equal to 40(forty) percent of the estimated cost; or
 - ii Two similar completed works each costing not less than the amount equal to 50 (fifty) percent of the estimated cost; or
 - iii One similar completed work costing not less than the amount equal to 80 (eighty) percent of the estimated cost;
 - iv [similar work mean = Deployment of Networking components for building-Campus LAN including active passive Data center and Wi-Fi components On SITC (Supply, Installation, Testing and Commissioning) basis in India within the last 07 years.) having a cable capacity to handle Class FA Traffic
 - v Note: Work experience certificate from the public sector or from a public listed company/private company/Trusts having an annual turnover of Rs 500 crore and above subject to the same being issued from their Head office by a person of the company duly enclosing his authorisation by the Management for issuing such credentials. Certificates from the private individual shall not be accepted.
3. **ISO Certification, if any:** The bidder should have valid ISO 9001 Certification. A valid certificate must be produced along with the bid.
4. **Annual Average Turnover for the last three Financial Years:** The bidder should have a minimum average turnover of Rs. 144 Lakh during the last three financial years. Bidder shall enclose CA Certificate/Audited statement.
5. **Income Tax Return (ITR) for the last three Financial Years:** Bidder shall enclose ITR certificates.
6. **Non-blacklisting certificate:** The bidder should not have been suspended or blacklisted by any Govt. Organization. (An undertaking to this effect must be submitted by the bidder that the firm has not been suspended or blacklisted by any Govt. Organization in the past or as on the date of bidding).
7. **OEM Qualifications:**
 - a. OEM of active components should have registered office and spare depot in India.

Documentary proof from OEM must be submitted

- b. OEM of active components should have Industry presence in India for more than 10 years. Declaration from OEM must be submitted.
- c. OEM of active components should have 24 x7 toll-free call centres for providing technical assistance. Documentary proof from OEM must be submitted.
- d. **All active networking components (Switch, Transceiver, Stacking Module) must be from a single OEM make.**
- e. **All passive networking components (except Network Rack and cable tray) components must be from a single OEM make.**
- f. The OEM of all networking components should be ISO certified organization. Documentary proof needs to be submitted.
- g. All components shall be ROHS compliant. Declaration of ROHS shall be available in product datasheets.

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

ANNEXURE-V**TECHNICAL BID**

| Sr. No | Description | Submitted (Yes/No) (If Yes- Page No.) |
|---------------|--|--|
| 1 | Certificate of Incorporation / Registration Certificate | |
| 2 | Trade License, PAN and GST Certificates | |
| 3 | Status of the Tenderer (Attach documents, if registered company/ partnership /propriety ship) | |
| 4 | Manufacturer (OEM certificate) or Service Provider /Dealer (Authorization and OEM certificate from Manufactures) | |
| 5 | Details of key top official/authorized official with e -mail id and contact number | |
| 6 | Experience certificate (Previous Work Orders/Purchase Orders, list of satisfactory clients with address and contact number, completion certificates, etc.) | |
| 7 | Technical Compliance Statement, as per Annexure - VI | |
| 8 | ISO Certificate, if any | |
| 9 | Average turnover of company in last three financial years, if any. Bidder shall enclose CA Certificate/Audited statement as per Annexure - VII | |
| 10 | Income Tax Returns of last three financial years | |
| 11 | Technical BOQ as per Annexure-I | |
| 12 | Declaration as per Annexure - VIII | |
| 13 | Undertaking / Self-Certification of non-blacklisting as per Annexure - IX | |
| 14 | Certification on compliance under Rule 144 (xi) of the General Financial Rules (GFRs) 2017 as per Annexure-X | |
| 15 | Certification on Compliance under Rule 153 (iii) of the General Financial Rules (GFRs) 2017 / Declaration for Local content as per Annexure - XI | |
| 16 | All other documents as per Annexure-IV and XIV | |
| 17 | Other documents like literature, catalogues etc.,(if any) | |

NOTE:

- 1 Attach all relevant documents in the same serial order as above, properly indexed, and duly signed.**
- 2 This is to be submitted in a separate sealed envelope super scribing "TECHNICAL BID", Notice inviting Tender Reference no. and name of the bidder.**
- 3 Price bid of that company/firm only will be opened which do technically qualify, for further consideration. Attach all relevant documents in the same serial order as above, properly indexed, duly signed and sealed.**

Signature and seal of the Bidder

TECHNICAL COMPLIANCE STATEMENT

The bidder needs to provide complete technical details of the offered components. Only mentioning Yes / No in compliance is not acceptable. Cross references to proper technical datasheets/spec sheets/website links need to be provided against each parameter.

| Sr. | Name | Brief |
|-----|---|--|
| 1 | Cat7 Cable | Cable, Copper, Category 7A, 1000 MHz E10, 4 Pair, Solid, S/FTP, LSOH-1, Violet, Reel, 500 Meter |
| 2 | Switch Side Patch Cord 1 Mtr | Copper, Patch Cord, Tera 4-Pair, RJ45, Category 6A, S/FTP, T568B, Stranded, CM/LSOH-1, Ivory Cable, White Boot, 1 Meter. |
| 3 | User Side Patch Cord 2 Mtr | Copper, Patch Cord, Tera 4-Pair, RJ45, Category 6A, S/FTP, T568B, Stranded, CM/LSOH-1, Ivory Cable, White Boot, 2 Meter |
| 4 | Patch Panel for Rack | Copper, Patch Panel, Tera / MAX, Empty, Shielded, 24 Openings, Flat, 1U, Black, Fixed Wire Manager |
| 5 | Network IO User Side | Copper, Outlet, TERA, Shielded, Category 7A/8, TERA, Flat, Black, Tool-Less, T568A/B, with Door, 22-23 AWG - User Side |
| 6 | Network IO Rack Side | Copper, Outlet, TERA, Shielded, Category 7A/8, TERA, Flat, Black, Tool-Less, T568A/B, with Door, 22-23 AWG- Panel Side |
| 7 | Face Plat User Side | Faceplate, 10G, British, Single Gang, 2 Openings, MX, White |
| 8 | Fibre Cable Single Mode | Cable, 6 Fibre, XGLO, Single mode, OS1/OS2, 8.3/125, Outside Plant, Loose Tube, Armored, MDPE, Black, 1 Kilometer, International |
| 9 | Fibre LIU for Fibre termination on both sides | 12 port Fibre, Enclosure, LightVerse Core, Rack Mount, 1U, Fixed Access, 4 Openings, Black - Fully Loaded - (With Required Accessories GLO® Jumper & Pigtails-192 Quick-Pack® RIC Splice Cassette (RSC) - 192LC Blade Patch Fibre Jumpers-8 Fibre, Adapter Plate, Light Verse, Flat, Black Housing, Blank - 24Splice Cassette and Trays-8 |
| 10 | Fibre Patch Cord | Fibre, Jumper, Duplex, XGLO, Single mode, LC UPC, LC UPC, OS1/OS2, 8.3/125, Yellow, LSOH-3C, 03 Meter |
| 11 | 24 Port PoE Switch | OS6360-P24X fixed 1RU chassis 24 PoE 1G BaseT, 2 fixed RJ45/SFP+ combo (1G/10G), 2 fixed 1G/10G SFP+ uplink/VFL ports. Internal AC PSU (380 budget), includes country-specific power cord, guides and 19" rack mount kit. 3 Yr premium onsite Support for OS(including replacement in NBD when Required). Includes 24x7 phone support, problem diagnosis, access to support portal, software updates and upgrades. 1 meter long 10Gbs SFP+ direct stacking cable for OS6360 24 and 48 port models. |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. | Name | Brief |
|-----|--------------------|---|
| 12 | 48 Port PoE Switch | OS6360-P48X fixed 1RU chassis 48 PoE 1G BaseT, 2 fixed RJ45/SFP+ combo (1G/10G), 2 fixed 1G/10G SFP+ uplink/VFL ports. Internal AC PSU (760W budget), includes country specific power cord, guides and 19" rack mount kit.3 Yr Partner Support Plus for OS(including replacement in NBD when Required). Includes 24x7 phone support, problem diagnosis, access to support portal, software updates and upgrades. 1 meter long 10Gbs SFP+ direct stacking cable for OS6360 24 and 48 port models |
| 13 | Transceiver | 10 Gigabit optical transceiver SFP+). Supports monomode fibre over 1310nm wavelength nominal) with an LC connector. Typical reach of 10Km |
| 14 | Rack | Wall mounted enclosure of dimension 600W X15UX600D with front sheet steel glass door, top and bottom cover with cable entry provision, integrated side walls, 1 pair of 19" angles with wall mounting provision, captive hardware(pack of 20).Color RAL 7035 230V AC Fan, 90 cfm with 1 mts long cable.19" mountable socket strips with 6 nos of 5A universal sockets with 2 mts long power chord.1U 19" Horizontal Cable Manager (Zinc blue plated) Wall Bracket Kit 10mm (pk of 4) |
| 15 | Cable Tray | SIZE: 300MM X 50MM X 16SWG WITH ALL ACCESSORIES LIKE 8MM G.I.FULL THREADED ROD,8MM FASTNER, 8MM NUT AND WASHER, G.I.PERFORATED " C" CHANNEL SIZE: 35MM X 15MM X 18SWG |
| 16 | | 40mm 6kg ISI Make HDPE Pipe for Fibre Laying |
| | | Labour |
| 17 | | Laying of HDPE Pipe for Fibre |
| 18 | | Laying of UTP Cable along with all accessories which includes 32 mm conduits with accessories, Trunking and casing capping as per the requirement(Bidder to select the accessory material as per the specifications defined in section 6) (Actual meter reading generated during the cable testing will be considered for payment) |
| 19 | | Laying of Fibre Cable in Pre Laid Conduits and TRUNKS |
| 20 | | Fixing of Rack upto 18 U Size with Dressing |
| 21 | | Fixing of Patch Panel in the Rack along with Termination of Cable |
| 22 | | Termination of CAT7A IO on the user side |
| 23 | | Termination of CAT7A IO on the jack Panel Side |
| 24 | | Fixing of LIU in The Rack |
| 25 | | Fibre Splicing Per core |
| 26 | | Labelling and Ferruling Charges |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. | Name | Brief |
|-----|------|---|
| 27 | | Fibre and Copper Certification Charges (Third Party). Copper Certification to be done using CAT7A Tester Old Cables are not Include. |
| 28 | | Concealed Conduiting charges Labor only including wall cutting and resurfacing |
| 29 | | Rework Charges A - Remove Ios from Rack Side and User Side. B. Remove All Cables till rack with minimum Damage. C. Remove Patch Panesl from Rack Side. D. Remove Fibre cable & LIU from Rack.*Civil work is not part of this i.e. Ceiling cutting,Core Cut etc. |

Line Item No : 1 Cat7 Cable

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|----------|-----------|---|---------------------|-----------|--------------|
| A | | Eligibility Criteria for OEM supplying Passive Components (UTP) | | | |
| 1 | | OEM should have direct presence in India more than at-least 10 years (Supporting documents required) | | | |
| 2 | | All passive network components quoted by the bidder should be from a single OEM (Copper). | | | |
| 3 | | Material should have been manufactured in OEM" s own manufacturing facilities, not outsourced. | | | |
| 4 | | Partner shall be certified by the OEM and shall have valid certifications for the same. | | | |
| 5 | | OEM shall provide 25 years of application performance warranty certificate (from OEM via certified installer) after successful testing done by certified installer and material purchase from original source of OEM. | | | |
| 6 | | OEM should be a member of Telecommunications Industry | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|----------|-----------|--|---------------------|-----------|--------------|
| | | Association (TIA) Information and Communications Technology (ICT) Companies ICT Green Initiative to support energy efficient environment | | | |
| 7 | | OEM should have members participating in International Standard Bodies like EIA-TIA, ISO-IEC (Supporting documents required) | | | |
| 8 | | OEM should have supplied the CAT7A Components (Cable+ Accessories) in 02 projects of at least 500 nodes in any large institute. | | | |
| B | | Standards & Regulations | | | |
| 1 | | This Section provides a description for a generic structured cabling system based on the latest edition of the applicable standards: | | | |
| | | ISO-IEC 11801:2002-A1:2008 and A2:2010 and subsequent addendums and revisions | | | |
| | | EN 50173-1 to -3:2009 and subsequent addendums and revisions | | | |
| | | EIA-TIA 568-C2 and subsequent addendums and revisions | | | |
| 2 | | The objective of the Section is to define the structured cabling independently of the applications, which it can support. | | | |
| 3 | | Furthermore, to allow for future demands, the cabling system must be easy to expand and maintain. | | | |
| 4 | | The successful bidder shall meet or exceed all requirements for the cabling system described in this document. | | | |
| 5 | | The Cabling system installation shall be realized in accordance with the recommendations made in the relevant | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|-----------|--|---------------------|-----------|--------------|
| | | standards, manufacturer's recommendations and-or best industry practices | | | |
| 6 | | This Tender document covers the design, supply, installation, testing and commissioning of a Category 7A cabling system | | | |
| 7 | | Tenderers shall propose and submit a Category 7A universal cabling system which will function for voice, data and LAN communications, for video applications etc. | | | |
| 8 | | The cabling system is also open to new applications which require a Class FA - Cat 7A cabling system as defined in the latest editions of the standards: ISO-IEC 11801:2002-A1:2008 | | | |
| 9 | | The terminology and references in this document as well as the Link-Channel Performance figures for Class FA are based on ISO-IEC 11801:2002-A1:2008 and A2:2010 | | | |
| 10 | | The data sheets and warranty modules showing the features and the guaranteed values compliant to the requirements of this will be attached by the successful bidder to his tender documents. | | | |
| 11 | | All proposed components including the patch cords have to be produced by the same manufacturer. This issue will ensure that a « Class FA Channel Warranty » can be obtained from the manufacturer. | | | |
| 12 | | Manufacturer should demonstrate guaranteed minimum worst case performance to be compliant with class EA and class FA channel | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|----------|-----------|---|---------------------|-----------|--------------|
| | | performance according to the ISO-IEC 11801:2002-A1:2008 and A2:2010 standard | | | |
| 13 | | Components used must be compliant with both the Category 6 and Category 7A standard mentioned above. | | | |
| 14 | | The performance of both the components and the link should show stable performance up to 1000MHz in order to allow for possible future applications | | | |
| 15 | | The performance of the channel should show stable performance | | | |
| | | Up to 500MHz when using Cat.6A patch cords | | | |
| | | Up to 1000MHz when using Cat.7A patch cords | | | |
| 16 | | The system supplier must be able to demonstrate in house design and manufacturing expertise for all components used (e.g. cables, outlets, panels and cords) in order to ensure compatibility of system elements. | | | |
| C | | Horizontal distribution cable (CATEGORY 7A) | | | |
| 1 | | The horizontal 4 pair cable shall be Category 7A S-FTP to meet the quality and performance criteria necessary to ensure correct operation of the installation in future and compliance with the warranty. | | | |
| 2 | | The installation design and routing of all cables shall take account of the manufacturer limits for the continued performance of the cables and the compliance with the warranty | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|---------------------|---|---------------------|-----------|--------------|
| 3 | | The cable shall be a 4 twisted pair cable with AWG 23 conductors. Having an external sheathing in a material that does not give off toxic fumes (Zero Halogen) in case of fire and offer flame propagation retardant properties. Traceability numbers should accompany the cable supplied from the manufacturers packaging to assist in quality validation of the installed cable | | | |
| 4 | | This very high performance cable shall have an individual and a common screen construction to provide outstanding EMC performance up to 1000 MHz All four pairs shall be individually screened with an aluminum foil. | | | |
| 5 | | The cable shall be shielded with a tinned copper braid. | | | |
| 6 | | All pairs must have impedance of 100 Ohms, with a tolerance of +-- 15 Ohms. | | | |
| 7 | | The Bidding Successful bidders should give the following compliance for the details mentioned herewith : | | | |
| | Type | Qualified against IEC 61156-5 and tested up to 1000Mhz or Greater | | | |
| | Material: | | | | |
| a | Conductors | 23 AWG solid bare copper or better | | | |
| b | Shield | Individually foiled Pairs Plus overall copper braid | | | |
| | Shield Material | Aluminum-Polyester | | | |
| c | Insulation | Polyethylene | | | |
| | Insulation diameter | should be 1.40mm | | | |
| d | Jacket | Low Smoke Zero Halogen (LSZH) | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|---|---|---------------------|-----------|--------------|
| | Jacket Diameter | should be 7.7mm or less | | | |
| e | Operating temperature | -20 Deg. C to +75 Deg. C | | | |
| f | Frequency tested up to | Minimum 1000 MHz | | | |
| g | Packing | Box of 1000 meters-500 meters | | | |
| j | Performance characteristics to be provided along with bid | Attenuation, Pair-to-pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss & ACR | | | |
| | ROHS | Should be ROHS compliant | | | |

Line Item No 2 & 3 : Switch Side Patch Cord 1 Mtr / User Side Patch Cord 2 Mtr

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|-----------|---|---------------------|-----------|--------------|
| | | Cat6A-TERA-RJ45 Data Patch Cords (1mtr,2 mtr) | | | |
| 1 | | In order to achieve backward compatibility in case the OEM is offering TERA Connectors TERA to RJ45 Patch cords should be offered ensuring maximum of 10G Speeds. | | | |
| 2 | | All patch cord cable shall be made from LSHF-FR material. | | | |
| 3 | | All TERA-RJ45 Data patch cords will be full screened. The jacket should be made from LSHF-FR material. | | | |
| 4 | | The TERA-RJ45 cords must be fitted with Category 7A-TERA RJ45 PLUGS, booted at each connector | | | |
| 5 | | The Category TERA-RJ45 shall be compliant to the ISO-IEC 11801 AMD.2 (A2: 2010) Category 7A, 6A, 5e | | | |
| 6 | | The characteristic impedance of the pairs must be identical to that of the horizontal cables. The Patch Cords shall have a | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|-----------|---|---------------------|-----------|--------------|
| | | guaranteed performance level of greater than 750 insertions without degradation to the performance level of the solution | | | |
| 7 | | The cable used for the Patch Cords shall be S-FTP patch cable. The cable shall be a 4-twisted pair cable with stranded conductors. Traceability numbers should accompany the cables supplied from the manufacturer's packaging to assist in quality validation of the installed cable | | | |
| 8 | | All pairs must have an impedance of 100 Ohms. | | | |

Line Item No 4 : Patch Panel for Rack

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|-----------|--|---------------------|-----------|--------------|
| E | | 24 Port Modular Patch Panels | | | |
| 1 | | Shall be unloaded with individually replaceable 24 nos. Can accept Cat7A jack | | | |
| 2 | | Shall be 19" rack mountable, Straight and of 1U height & complete with all mounting accessories, inbuilt rare support bard | | | |
| 3 | | Shall have labels for identification of ports | | | |
| 4 | | Should have integrated bonding bar for grounding individual jacks | | | |
| 5 | | Shall be RoHS Compliant | | | |
| 6 | | Shall have minimum 25-Year Extended Product Warranty and System Warranty | | | |
| 7 | | Shall be having a 6-port module construction for better cable dressing at the rear | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|-------------------------------|--|---------------------|-----------|--------------|
| | | Shall have Comprehensive port numbering on front | | | |
| 9 | | The Bidding Successful bidders should give the following compliance for the details mentioned herewith : | | | |
| | Type | 24-port, Unloaded shielded Jack panel which is Standards-compliant | | | |
| a | Ports | 24 | | | |
| b | Port arrangement | Modules of 6-ports each, arranged 1port x 6. | | | |
| c | Category | Should accept Shielded RJ45-Tera Jacks | | | |
| d | Circuit Identification Scheme | Icons on each of 24-ports | | | |
| e | Port Identification | 9mm or 12mm Labels on each of 24-ports | | | |
| f | Height | 1 U (1.75 inches) | | | |
| g | Interface | Polyester Moulding Compound, Black | | | |
| h | Panel | Black, powder coated steel | | | |
| j | ROHS-ELV | Statement | | | |

Line Item No 5 & 6 : Network IO User Side / Network IO Rack Side

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|-----------|---|---------------------|-----------|--------------|
| D | | Telecom Outlets (TO) | | | |
| 1 | | The connector shall be fully compliant to the IEC 60603-7-71- IEC 61076-3-104 Ed. 2 standard that define the Cat.7A connector to be used to form a Class FA channel as specified in the ISO-IEC 11801-A2:2010 standard. | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|---|--|---------------------|-----------|--------------|
| 2 | | Should be suitable for termination of solid Conductor Gauge of 24-22 AWG and stranded Conductor Gauge of 26-24 AWG | | | |
| 3 | | Contact Base Material should be Beryllium copper | | | |
| 4 | | Contact Plating Material should be Gold | | | |
| 5 | | Contact Plating Thickness should be 1.27 µm | | | |
| 6 | | To ensure protection against EMI, all connectors must be fully screened with 360° EMC protection. | | | |
| 7 | | The Bidding Successful bidders should give the following compliance for the details mentioned herewith | | | |
| | Type | Modular Jacks exceeds ISO-IEC 11801-A2:2010 requirements for Category 7A component performance @ 1000Mhz | | | |
| a | Modular Jack | 750 mating cycles | | | |
| b | Modular Jack & Lacing Fixture | Zinc Alloy | | | |
| c | Wiring blocks | Polycarbonate, with a Flammability Rating of UL 94 V-0 | | | |
| d | Voltage | 150VAC Max | | | |
| e | Current | 0.75A | | | |
| f | Operating Temp | minus 20 to 60 deg C | | | |
| i | Environmental conditions | | | | |
| i-i | Flowing Mixed gas corrosion resistance | According to IEC 60068-2-60 | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|--|--|---------------------|-----------|--------------|
| i-ii | Performance Characteristics to be provided with bid | Attenuation, NEXT, PS NEXT, FEXT and Return Loss | | | |
| i-iii | ROHS | Should be ROHS compliant | | | |

Line Item No 7 : Face Plat User Side

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|-----------|---|---------------------|-----------|--------------|
| 1 | | One Port face plate along with Faceplate (1) Label (2) Label cover (2) Mounting screw etc Colour White/Ivory Shape: Squre / Rectangle | | | |

Line Item No 8 : Fibre Cable Single Mode

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Ref Page No | |
|---------|-----------|--|---------------------|--------------------|--|
| 1 | | 1.5 SINGLE mode Optical Fibre Cable | | | |
| 2 | | Have a Yellow colored round lead free cable jacket available in OFNR, OFNP and LSOH constructions. | | | |
| 3 | | Shall contain a Rip Cord applied longitudinally under the cable jacket for easy cable jacket removal | | | |
| 4 | | Shall contain a lightweight Central Strength member located in the middle of the fibre bundles. | | | |
| 5 | | Shall contain both colour-coded buffered fibres as well as colour-coded buffer tubes. | | | |
| 6 | | Cables shall have length markings in 2 ft. increments | | | |
| 7 | | Fibre will be available in strand counts of 4, 6, 12, 24, 48, 72, and 96. | | | |
| 8 | | Shall meet these minimum performance parameters: | | | |
| 9 | | Minimum Performance Parameters | Fibre | Single mode | |
| | | | Cable Type | Outdoor | |
| | | | 1310 nm | 0.5 | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr No | Parameter | Minimum Technical Specification | | | | Compliance (Yes/No) | Ref Page No |
|-------|-----------|--|-----------------------------|-----------------------------|-----------|---------------------|-------------|
| | | for Qualified Cables | Maximum Attenuation (dB/km) | 1550 nm | 0.5 | | |
| | | | Zero dispersion | Wavelength (nm) | 1300-1324 | | |
| | | | | Slope (nm ² -km) | <0.093 | | |
| | | | Index of Refraction | 1310 nm | 1.467 | | |
| | | 1550 nm | | 1.468 | | | |
| | | | | | | | |
| | | <u>Ethernet Applications Supported</u> | | | | | |
| 10 | | Application | Distance (m) | | | | |
| 11 | | 10GBASE-L (1310 nm) | 8,000 | | | | |
| 12 | | 10GBASE-E (1550 nm) | 30,000 | | | | |
| 13 | | 10G Fibre Channel (Serial-1310 nm) | 10,000 | | | | |
| 14 | | 10G Fibre Channel (WDM-1310 nm) | 10,000 | | | | |
| 15 | | 1000BASE-LX (1300 nm) | 5,000 | | | | |
| 16 | | Fibre Channel 266/1062 (1300 nm) | 10,000 | | | | |
| 17 | | ATM 52/155/622 (1300 nm) | 15,000 | | | | |
| | | <u>Physical Characteristics:</u> | | | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No | Parameter | Minimum Technical Specification | | | Compliance (Yes/No) | Ref Page No |
|--------|-----------|---------------------------------------|------------|--|---------------------|-------------|
| 18 | | Mode and Fibre Type | Singlemode | | | |
| 19 | | Core Size (Microns) | 8.3 ± 1.0 | | | |
| 20 | | Cladding Size (Microns) | 125 ± 1.0 | | | |
| 21 | | Coating Size (Microns) | 245 ± 10 | | | |
| 22 | | Buffer Size (Microns) | 900 ± 50 | | | |
| 23 | | Core Cladding Concentricity (Microns) | ≤ 0.8 | | | |

Line Item No 9 : Fibre LIU for Fibre termination both side

| Sr. No | Parameter | Minimum Technical Specification | | | Compliance (Yes/No) | Ref Page No |
|--------|-----------|---|--|--|---------------------|-------------|
| 1 | | 1 optical fibre product specifications | | | | |
| 2 | | In addition to meeting the specifications outlined in ANSI/TIA-568.3-D and ISO/IEC 11801-1, the requirements in this section must also be met for all applicable optical fibre products as listed below. | | | | |
| 3 | | 1.1 Outlets/Adapters | | | | |
| 4 | | All optical fibre outlets/adapters shall meet the following characteristics: | | | | |
| 5 | | Be provided in options that offer interfaces to ST, SC, LC, and FC terminated jumpers and pigtails. | | | | |
| 6 | | Be available with Beige, Aqua, Erika Violet & Blue Adapter colors | | | | |
| 7 | | Provide for a maximum of 6-Duplex ST, 6-Duplex SC, 6-Quad LC, or 4-Duplex FC on a single adapter plate. | | | | |
| 8 | | Be available in an LC Shuttered option when Quad LC adapters are used. | | | | |
| 9 | | Offer a 3 and 4-Duplex ST to SC adapter. | | | | |
| 10 | | Offer a 12, 24, 72 and 96 Strand MTP to MTP pass through adapter plate | | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| S r. N o | Param eter | Minimum Technical Specification | Compli ance (Yes/ No) | Ref Page No |
|-----------------------------|-----------------------|---|--|----------------------------|
| 11 | | LC, SC and ST universally accept both multimode and single mode connectors. | | |
| 1 2 | | Include Red, Blue, Black and Clear colored icons for port identification | | |
| 1 3 | | Be made of high impact flame-retardant thermoplastic. | | |
| 1 4 | | 1.2 SINGLEMODE Pigtails | | |
| 1 5 | | Be available in standard lengths of 1 meter with custom lengths available upon request | | |
| 1 6 | | Offer a superior connector polish that meets Telcordia and ISO/IEC specifications for end-face geometry (including radius of curvature, apex offset, and spherical undercut) | | |
| 1 7 | | Use connectors that are complaint with color coding specifications as listed in ANSI/TIA-568-C.3 and ANSI/TIA-598-C | | |
| 1 8 | | Utilize precision zirconia ceramic ferrules on connectors | | |
| 1 9 | | Include dust caps on all assemblies | | |
| 2 0 | | Be 100% optically tested to meet the following performance specifications: | | |
| 2 1 | | Parameter | | |
| 2 2 | | Max. Insertion Loss (dB) 0.40 (0.1 Typical) | | |
| 2 3 | | Min. Return Loss (dB) 55 (60 Typical) | | |
| 2 4 | | 1.4 FIBRE Enclosures | | |
| 2 5 | | All interconnect centers, panels and trays (units) shall provide cross-connect, inter-connect, splicing capabilities and contain cable management for supporting and routing the fibre cables/jumpers. | | |
| 2 6 | | Not be bigger than one rack mount space and accommodate up to 36 ports for SC, LC or ST adapter plates or 18 ports for FC. | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Ref Page No |
|---------------|------------------|---|----------------------------|--------------------|
| 27 | | Have preloaded adapter plates with ST and SC fibre adapters in 6 and 8-port version, as well as a 12 port version for the SC, and LC adapters. | | |
| 28 | | Have blank adapter plates for future growth of the fibre infrastructure. | | |
| 29 | | Have six and eight port fibre adapter plates, which allow for color coding connectors. | | |
| 30 | | Have fibre adapter plates with snap-in installation and one-finger removal. | | |
| 31 | | Accommodate hybrid adapter plates for ST-to-SC or SC-to-ST connections. | | |
| 32 | | Be modular in design with internal fibre managers that provide slack storage to comply with fibre bend radius and the recommended slack storage length. | | |
| 33 | | Have a snap-on front shield to be used as a labeling surface and to protect jumpers. This shield can also relocate to another position during termination to maintain circuit identification. | | |
| 34 | | Accommodates a splice tray for mechanical or fusion splices. | | |
| 35 | | Be available with a drawer mechanism, which allows the panel to slide forward or to the rear, and has defeatable latches to allow removal from the rack or cabinet. | | |
| 36 | | Must be certified by Underwriters Laboratories to United States Standards and C22.2 Canadian Telecommunications Standards. | | |

Line Item no 10 : Fibre Patch Cord

| Sr. No | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Ref Page No |
|---------------|------------------|--|----------------------------|--------------------|
| 1 | | 1.3 SINGLEMODE Patch Cords | | |
| 2 | | Be available in standard lengths of 1, 2, 3 and 5 meters with custom lengths available upon request | | |
| 3 | | Utilize duplex singlemode fibre cable that is available in OFNR, ONFP and LSOH grade and meets the requirements of NEC/NFPA 70 Section 770-51(B) | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| | | | | |
|----|--|--|--|--|
| 4 | | Have a push-pull boot design to enhance installation and removal in high density patching environments. | | |
| 5 | | Have a rotating latch design to aid in polarity changes that does not damage the connector or the cable. | | |
| 6 | | Have an available APC face geometry | | |
| 7 | | Offer a superior connector polish that meets Telcordia and ISO/IEC specifications for end-face geometry (including radius of curvature, apex offset, and spherical undercut) | | |
| 8 | | Use cable and connectors that are complaint with color coding specifications as listed in ANSI/TIA-568-C.3 and ANSI/TIA-598-C | | |
| 9 | | Utilize precision zirconia ceramic ferrules on connectors | | |
| 10 | | Include dust caps on all assemblies | | |
| 11 | | Be 100% optically tested to meet the following performance specifications: | | |
| 12 | | Parameter | | |
| 13 | | Max. Insertion Loss (dB) 0.40 (0.1 Typical) | | |
| 14 | | Min. Return Loss (dB) 55 (60 Typical) | | |

Line Item No 11 : 24 Port PoE Switch

| Sr. No. | Parameters | Minimum Technical Specification | Compliance (Yes/No) | Ref. Page No |
|---------|--|---|---------------------|--------------|
| 1 | Port Density | 24 X 1G RJ-45 PoE+ Ports with 380W power budget 2 x 1G/10G SFP+ Ports and 2 x 1G SFP/Base-T Combo Ports upgradable to 2 x 10G SFP+ Ports | | |
| 2 | Power Supply | Internal Power Supply | | |
| 3 | Virtual Chassis/ Stacking Option | Upto 4 Switches or more | | |
| 4 | RAM | 1 GB or better | | |
| 5 | Flash | 1 GB or better | | |
| 6 | Switching Capacity and forwarding Rate | 128 Gbps or better and 68 Mpps or better | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameters | Minimum Technical Specification | Compliance (Yes/No) | Ref. Page No |
|---------|--------------------|--|---------------------|--------------|
| 7 | Latency & MTBF | Latency: < 4 μ s MTBF: 1447 k hours | | |
| 8 | Layer 2 Features | Mac Address:16K or more VLAN: 4K or more System Policies: 1.5K or more Max Jumbo Frame: 9216 bytes Multicast Group: up to 1000 | | |
| 10 | Quality of Service | Auto QoS for switch management traffic,Policy-based QoS, Traffic Prioritization, Priority Queues: Eight hardware-based queues per port, SPQ, WRR | | |
| 11 | Protocol Support | Static Routing, MSTP, RSTP, PVST+,IPv6 Tunneling, LACP, LAG, IGMPv3, DHCP, DHCP82,DHCP Relay for IPv4/IPv6,Multiple microcode image support with fallback recovery, ARP,SDN support through Restful API and openflow 1.3.1 | | |
| 12 | Management | Loopback IP address support for management per service, Policy- and port-based mirroring, Remote port mirroring, sFlow v5 and Remote Monitoring (RMON), Unidirectional Link Detection (UDLD),Digital Diagnostic Monitoring (DDM), LLDP-MED, NTP,MVRP, SNMP, sflow or equivalent | | |
| 13 | Security | Dynamic change of authentication (CoA),MAC-based authentication for non-IEEE 802.1X hosts, MAC address lockdown, Prevention from ARP attacks, Web based Authentication, Autosensing IEEE 802.1X multi-client, multi-VLAN support,RFC 1321 MD5, RFC 2284 PPP EAP,RFC 1826/1827/4303/4305 Encapsulating Payload (ESP) and crypto algorithms, RFC 2104 HMAC Message Authentication, Built-in CPU protection against malicious attacks | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameters | Minimum Technical Specification | Compliance (Yes/No) | Ref. Page No |
|---------|------------------------------------|---|---------------------|--------------|
| 14 | Resiliency | Unified management, control and virtual chassis technology, Virtual Chassis 1+N redundant supervisor manager, Virtual Chassis In-Service Software Upgrade (ISSU), Smart continuous switching technology, IEEE 802.3ad/802.1AX Link Aggregation Control Protocol (LACP) and static LAG groups across modules | | |
| 15 | Operating Temperature and Humidity | Temperature: 0 to 45Deg Humidity: 5% to 95% (non-condensing) | | |
| 16 | Safety Certifications | CE, EN 55022, RoHS, WEEE | | |
| | | US UL 60950, CSA22.2 | | |
| | | FIPS 140-2 | | |
| | | EN 60825-1/2 Laser, IEC 62368-1 | | |
| 17 | SFP | SFP should be of same make as switch. | | |
| 18 | | The Switch shall work with on premise and cloud based NMS without change in hardware/software/OS Image. | | |
| 19 | | 3 Years onsite from OEM with Toll free number for support in India | | |

Line Item No 12 : 48 Port PoE Switch

| Sr. No. | Parameters | Minimum specification | Compliance (Yes/No) | Ref Page No |
|---------|----------------------------------|---|---------------------|-------------|
| 1 | Port Density | 48 X 1G RJ-45 PoE+ Ports with 760W power budget. It should support Multigig on minimum 2 Ports out of 48 Ports. | | |
| | | 2 x 1G/10G SFP+ Ports and 2 x 1G SFP/Base-T Combo Ports upgradable to 2 x 10G SFP+ Ports. | | |
| 2 | Power Supply | Internal Power Supply | | |
| 3 | Virtual Chassis/ Stacking Option | Upto 4 Switches or more | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameters | Minimum specification | Compliance (Yes/No) | Ref Page No |
|---------|--|--|---------------------|-------------|
| 4 | RAM | 1 GB or better | | |
| 5 | Flash | 1 GB or better | | |
| 6 | Switching Capacity and forwarding Rate | 182 Gbps or better and 135 Mpps or better | | |
| 7 | Latency & MTBF | Latency: < 4 μ S MTBF: 789 k hours | | |
| 8 | Layer 2 Features | Mac Address:16K or more VLAN: 4K or more System Policies: 1.5K or more Max Jumbo Frame: 9216 bytes Multicast Group: up to 1000 | | |
| 10 | Quality of Service | Auto QoS for switch management traffic, Policy-based QoS, Traffic Prioritization, Priority Queues: Eight hardware-based queues per port, SPQ, WRR | | |
| 11 | Protocol Support | Static Routing, MSTP, RSTP, PVST+,IPv6 Tunneling, LACP, LAG, IGMPv3, DHCP, DHCP82,DHCP Relay for IPv4/IPv6,Multiple microcode image support with fallback recovery, ARP,SDN support through Restful API and openflow 1.3.1 | | |
| 12 | Management | Loopback IP address support for management per service, Policy- and port-based mirroring, Remote port mirroring, sFlow v5 and Remote Monitoring (RMON), Unidirectional Link Detection (UDLD),Digital Diagnostic Monitoring (DDM), LLDP-MED, NTP,MVRP, SNMP, sflow or equivalent | | |
| 13 | Security | Dynamic change of authentication (CoA),MAC-based authentication for non-IEEE 802.1X hosts, MAC address lockdown, Prevention from ARP attacks, Web based Authentication, Autosensing IEEE 802.1X multi-client,multi-VLAN support,RFC 1321 MD5, RFC 2284 PPP EAP,RFC 1826/1827/4303/4305 Encapsulating | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameters | Minimum specification | Compliance (Yes/No) | Ref Page No |
|---------|------------------------------------|---|---------------------|-------------|
| | | Payload (ESP) and crypto algorithms, RFC 2104 HMAC Message Authentication, Built-in CPU protection against malicious attacks | | |
| 14 | Resiliency | Unified management, control and virtual chassis technology, Virtual Chassis 1+N redundant supervisor manager, Virtual Chassis In-Service Software Upgrade (ISSU), Smart continuous switching technology, IEEE 802.3ad/802.1AX Link Aggregation Control Protocol (LACP) and static LAG groups across modules | | |
| 15 | Operating Temperature and Humidity | Temperature: 0 to 45Deg Humidity: 5% to 95% (non-condensing) | | |
| 16 | Safety Certifications | CE, EN 55022, RoHS, WEEE US UL 60950, CSA22.2 FIPS 140-2 EN 60825-1/2 Laser, IEC 62368-1 | | |
| 17 | SFP | SFP should be of same make as switch. | | |
| 18 | | The Switch shall work with on-premise and cloud based NMS without change in hardware/software/OS Image. | | |
| 19 | | 3 Years onsite warranty from OEM with Toll free number for support in India | | |

Line Item No 12 : Transceiver

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page No |
|---------|-----------|---------------------------------------|---------------------|-----------|-------------|
| 1 | | SFP should be of same make as switch. | | | |

Line Item No 14 : Rack

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Ref Page no. |
|---------|--------------------|--|---------------------|--------------|
| 1 | OEM Certificate | ISO 14001 for Environmental management system | | |
| | | ISO 45001 For Occupational health and safety management system | | |
| | | ISO 9001 Quality management system | | |
| | | OEM Have direct service office in Gujarat | | |
| 2 | Product compliance | comply with EIA 310 ,DIN 41494 , IEC 297standards | | |
| 3 | Construction | Welded | | |
| 4 | Material | CRCA Sheet | | |
| 5 | Depth | 600 mm Minimum | | |
| 6 | Width | 600 mm Minimum | | |
| 7 | Colour | RAL 7035 With electro-phoretic (EC) dip coat primed to 20 microns and then powder coated to RAL 7035 textured pure polyester (PP) to average 80 to 120 microns | | |
| 8 | Front door | Glass door with 4mm Thickness with lock and key arrangement | | |
| 9 | Cooling | Fan at Top 90 CFM | | |
| 10 | Cable entry | Top and bottom | | |
| 11 | Cable manager | Horizontal - 2 Nos With captive Hardware packet of 20 Nos | | |
| 12 | PANEL | Horizontal - 5Amp 5 Socket with fuse | | |

Line Item No 15: Cable Tray

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|-----------|--|---------------------|-----------|--------------|
| 1 | | Providing and fixing approved make Perforated C type cable tray . Made from CR sheet steel. The cable tray should be single or double bended as per required and as per IS 2062-1079 and shall be coated with hot dip galvanizing as per IS 2629-4759. With coupler plate - Fish plate and GI hardware like nut - bolt and washers etc. erected on existing | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|-----------|--|---------------------|-----------|--------------|
| | | support as per Specification and as per instruction of engineer in charge. | | | |

Line Item No 16: HDPE Pipe

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|-----------|---|---------------------|-----------|--------------|
| 1 | | 40mm 6 Kg ISI Make HDPE Pipe for Fibre Laying | | | |

Line Item No 18: Laying of UTP Cable along with all accessories which includes 32 mm conduits with accessories, Trunking and casing capping as per the requirement (Bidder to select the accessory material as per the specifications defined in bid) (Actual meter reading generated during the cable testing will be considered for payment).

| Sr. No. | Parameter | Minimum Technical Specification | Compliance (Yes/No) | Deviation | Ref Page no. |
|---------|---------------------------------|---|---------------------|-----------|--------------|
| 1. | Conduits and accessories | UPVC HMS Type 32" Conduits and accessories manufactured in accordance with IS: 9537 Part 3, BS: EN 61386-21 for UPVC conduits, IS: 3419 and BS: 4607 for UPVC fittings. | | | |
| 2. | Trunking | Trunking (100x100 & 100x50 mm) manufactured in accordance with Indian Standards IS: 14927 Part 2 and BS: EN 50085-2-1. Consisting of | | | |
| 3. | Casing Capping | 16x16 Casing capping with accessories like Coupler; Elbow ; T etc. | | | |
| | | 25x16 Casing Capping with accessories like Coupler; Elbow ; T etc. | | | |

Line Item No 27: Fibre and Copper Certification Charges (Third Party). Copper Certification to be done using CAT7A Tester.

| Sr No | Parameter | Specifications | Compliance (Yes/No) | Deviation | Ref Page no. |
|-------|-----------|----------------|---------------------|-----------|--------------|
| A | | TESTING | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr No | Parameter | Specifications | Compliance (Yes/No) | Deviation | Ref Page no. |
|----------|-----------|---|---------------------|-----------|--------------|
| 1 | | The manufacturer of the cabling system shall provide copper (Data) and optical fibre testing procedures that clearly describes the tools and settings to be used to ensure correct measurements of the system. | | | |
| B | | Testing of Class FA | | | |
| 1 | | The specific Class FA testing procedure edited by the cabling system manufacturer has to be strictly followed to ensure correct measurement and validity of the warranty. | | | |
| 2 | | To avoid being obliged to test against Class EA figures, each Cat7A connector shall be quality checked on continuity of pins 36, 45 (full testing of all connector components during production - No Sampling allowed) | | | |
| 3 | | 100 % of the installed horizontal links have to be tested. The testing procedure has to comply with the standard ISO-IEC 11801-A1:2008 A2:2010, according to the procedure for "Channel". The measurements shall be done using a Level iv testing equipment suitable to test Class F links up to 600-1000 MHz as defined in the manufacturer test procedure | | | |
| 4 | | The testing equipment must be yearly calibrated by the manufacturer and the copy of the calibration certificate must be included in the warranty request. | | | |
| 5 | | The following parameters have to be tested: | | | |
| I | | Pair continuity (wire map) | | | |
| Ii | | Pair length | | | |
| Iii | | DC Loop resistance per pair | | | |
| Iv | | Insertion loss (Attenuation) per pair | | | |
| V | | <u>NEXT</u> and Power sum <u>NEXT</u> for every pair combination | | | |
| Vi | | <u>FEXT</u> and Powersum <u>FEXT</u> for every pair combination | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr No | Parameter | Specifications | Compliance (Yes/No) | Deviation | Ref Page no. |
|----------|-----------|---|---------------------|-----------|--------------|
| Vii | | The ACR (ratio NEXT- insertion loss) for every pair combination | | | |
| Vii | | Return Loss (impedance match, retransmitted signal) | | | |
| Ix | | The complete test results of all the installed channels have to be collected in a certification file. It is preferred to have the test result in electronic format to facilitate the certification procedure. | | | |
| X | | Apart from all the test results mentioned above, a few more documents have to be added to the file: a list of material used for the project, a design of the network, a Cable schedule per distributor and finally all the necessary co-ordinates of the persons responsible of the project | | | |
| C | | FIBRE TESTING (SM) | | | |
| 1 | | The procedure shall comply with the ISO-IEC 14763-3 standard and to the successful bidder testing procedure. | | | |
| 2 | | The ISO-IEC 14763 standard specifies the implementation and operation of customer premises cabling. | | | |
| 3 | | The part 3 of this ISO document (14763-3) details test procedures for optical fibre cabling designed in accordance with ISO-IEC 11801:2002 and installed according to the recommendations of ISO-IEC 14763-2 (Planning and installation of customer premises cabling). | | | |
| 4 | | Fibre-optic Tests applied to links and exclude equipment and work area cord. | | | |
| 5 | | OF Attenuation testing is used to verify the initial performance of the installed link. | | | |
| 6 | | All 100 % of the installed OF links have to be tested and must pass the acceptance criteria. | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr No | Parameter | Specifications | Compliance (Yes/No) | Deviation | Ref Page no. |
|-------|-----------|--|---------------------|-----------|--------------|
| 7 | | The attenuation of the link is measured using the insertion loss method. This method uses an optical source and an optical power meter to compare the difference between two optical power levels. | | | |
| 8 | | When testing Single Mode optical fibre links with a <u>Light Source and a Power Meter</u>, this measurement kit has to be capable of operating at 1550nm and 1310nm for Single Mode | | | |
| 9 | | The test scenario with a Light Source and a Power Meter shall be one of the following for each link: | | | |
| 10 | | Single direction @ 1550nm and @ 1310nm for single mode fibres | | | |
| 11 | | The use of certification tool is recommended. Those tools are capable of producing a report logging the time of the test the link identification under test, the link length, the attenuation at the window tested and the acceptable link attenuation. The report shall also identify in which direction the testing was implemented. | | | |
| 13 | | When testing with basic optical source and power meter, the operator will fill up a report logging the time of the test, the link identification under test, the link length and attenuation at the window tested | | | |
| 14 | | The report shall also identify in which direction the testing was implemented. | | | |
| 15 | | Acceptable link attenuation (To be calculated) | | | |
| 16 | | The measured attenuation of the links shall have a lower value than the acceptable link attenuation calculated | | | |
| D | | PROCEDURES | | | |
| 1 | | Installation Guide | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr No | Parameter | Specifications | Compliance (Yes/No) | Deviation | Ref Page no. |
|----------|-----------|--|---------------------|-----------|--------------|
| | | All the components have to be installed according to the procedures prescribed by the supplier. During the whole period of installation, the installer has to put an Installation Guide at the disposal of the client, so that he can verify the compliance of the installation to the guidelines of the supplier. | | | |
| 4 | | MANAGEMENT OF THE PROJECT | | | |
| i | | Design of the Project | | | |
| | | The successful bidder will first make a site survey. This will allow him to propose a complete turnkey solution without any additional costs for unforeseen labour. If possible, the installer will try to use the existing infrastructure as much as possible. If cable supports or cable trays are lacking, then the successful bidder will have to evaluate the necessary quantities and price and take up a detailed description in his offer. | | | |
| ii | | To ensure the transparency of the installation and the maintenance of the structured cabling, the successful bidder has to develop a numbering and labelling scheme in agreement with the owner or his representative in order to identify all the components without ambiguity. After the temporary reception of the project, all the cabinets" layouts and the drawings of the building will be completed referring to this numbering scheme. | | | |
| 5 | | Project Management | | | |
| i | | For the complete duration of the project the successful bidder will appoint a Project Manager, who will work on his behalf. He will be the single point of contact to ensure a smooth co-ordination with the Customer | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr No | Parameter | Specifications | Compliance (Yes/No) | Deviation | Ref Page no. |
|-------|-----------|--|---------------------|-----------|--------------|
| ii | | For project with an estimated duration over 2 weeks, the successful bidder will appoint a Site Manager, who will be permanently present on site on behalf of the successful bidder. The Site Manager will report to the Project Manager, in order to ensure that the correct information is communicated from the commencement of the project until the hand-over of the network to the client | | | |

ANNEXURE-VII**FINANCIAL INFORMATION**

Details to be furnished duly supported by figures in Balance Sheet/ Profit & Loss Account for the last three preceding years (Financial years) duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (copies to be attached).

| Sl. No. | Details | Year Ending 31st March | | |
|---------|--|------------------------|--------|--------|
| | | Year 1 | Year 2 | Year 3 |
| 01 | Gross annual turnover in the similar works | | | |
| 02 | Profit (+) / Loss (-) | | | |

1. Income Tax Return
2. Audited Account of the company for last three years
3. Income Tax, PAN Details
4. GST No.

This is to certify that to the best of my knowledge and belief, the aforesaid facts and figures are correct and in conformity with the books of accounts of the establishment.

Dated:

Signature of Chartered Accountant
(with seal and membership number)

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 tender document.
2. Tender ref no: _____ dated: _____. 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 tender document 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: -----

Full Name: -----

Place: -----

Company Seal: -----

UNDERTAKING REGARDING BLACKLISTING / NON-DEBARMENT

(On Company / firm's Letterhead)

I/We hereby confirm and declare that we, M/s -----, is not blacklisted/ Deregistered/ debarred by any Government department/ Public Sector Undertaking/ Private Sector/ or any other agency for which we have Executed/ Undertaken the works/ Services as on date.

Signature of the Authorized Person

Date: -----

Full Name: -----

Place: -----

Company Seal: -----

(For Goods/Service Contracts)
(On Company / firm's Letterhead)

Tender No:.....

Dated:.....

CERTIFICATE

I/we have read the clause regarding restrictions on procurement from a bidder/OEM of a country which shares a land border with India; I/we hereby certify that this bidder/OEM is not from such a country and is eligible to be considered.

OR (whichever is applicable)

I/we have read the clause regarding restrictions on procurement from a bidder/OEM of a country which shares a land border with India; I/we hereby certify that this bidder/OEM is from _____(Name of Country) and has been registered with the Competent Authority.

I/we also certify that this bidder/OEM fulfils all the requirements in this regard and is eligible to be considered.

(Copy/ evidence of valid registration by the Competent Authority is to be attached with the bid document)

Signature of the Authorized Person

Date: -----

Full Name: -----

Place: -----

Company Seal: -----

(For Works Contracts, including Turnkey contracts)

(On Company / firm's Letterhead)

Tender No:.....

Dated:.....

CERTIFICATE

I/we have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries and hereby certify that this bidder is not from such a country and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority.

OR (whichever is applicable)

I/we have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I/we hereby certify that this bidder is from _____ (Name of Country) and has been registered with the Competent Authority and will not subcontract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I/we also certify that this bidder fulfils all the requirements in this regard and is eligible to be considered.

(Copy/ evidence of valid registration by the Competent Authority is to be attached with the bid document)

Signature of the Authorized Person

Date: -----

Full Name: -----

Place: -----

Company Seal: -----

DECLARATION OF LOCAL CONTENT

(To be given on Company Letter Head-For tender value upto Rs.10 Crores)

(To be given by Statutory Auditor/Cost Auditor/ Practising Cost Accountant/ Practising Chartered Accountant for tender value in excess of Rs.10 Crores)

Tender No:.....

Dated:.....

To
The Campus Director,
National Forensic Sciences University,
Gandhinagar
PIN: 382007

Subject: Declaration of Local Content-reg.

1. Country of origin of Goods being offered:.....
2. We hereby declare that items offered has% local content.
(Clarification for Local content calculation as per OM No: P-45021/102/2019-BE-IIPart (1) (E-50310), dated 4th March 2021 of Department of Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Govt. of India.)
3. The details of the location(s) at which local value addition is made are given in the below table:-

| Sl. No. | Name of the item | Location(s) of local value addition |
|---------|------------------|-------------------------------------|
| 1 | 2 | 3 |

"Local Content" means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of the imported content in the item (including all customs duties) as a proportion of the total value, in percent.

Important:

"False declaration will be in breach of Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules 2017 for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules 2017 along with such other actions as may be permissible under law."

Date:

Yours faithfully,

(Signature of the bidder,
with Official Seal)

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

ANNEXURE-XII

FINANCIAL BID FORMAT (to be filled online only)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/01 dated: 23/04/2024

Networking of newly constructed buildings at residential areas of NFSU Gandhinagar

List of Items and Services: -

| Sr | Name | Brief | Unit | Qty | Amount in INR | | | |
|----|-------------------------------------|--|------|------|--------------------------|-------|-----------------------|-------------------------|
| | | | | | Unit Price without Taxes | Taxes | Unit Price with Taxes | Total Amount with Taxes |
| | | | | A | B | C | D= (B+C) | E= (AxD) |
| 1 | Cat7 Cable | Cable, Copper, Category 7A, 1000 MHz E10, 4 Pair, Solid, S/FTP, LSOH-1, Violet, Reel, 500 Meter | Mtr | 3000 | | | | |
| 2 | Switch Side Patch Cord 1 Mtr | Copper, Patch Cord, Tera 4-Pair, RJ45, Category 6A, S/FTP, T568B, Stranded, CM/LSOH-1, Ivory Cable, White Boot, 1 Meter. | Nos | 82 | | | | |
| 3 | User Side Patch Cord 2 Mtr | Copper, Patch Cord, Tera 4-Pair, RJ45, Category 6A, S/FTP, T568B, Stranded, CM/LSOH-1, Ivory Cable, White Boot, 2 Meter | Nos | 82 | | | | |
| 4 | Patch Panel for Rack | Copper, Patch Panel, Tera / MAX, Empty, Shielded, 24 Openings, Flat, 1U, Black, Fixed Wire Manager | Nos | 4 | | | | |
| 5 | Network IO User Side | Copper, Outlet, TERA, Shielded, Category 7A/8, TERA, Flat, Black, Tool-Less, T568A/B, with Door, 22-23 AWG - User Side | Nos | 82 | | | | |
| 6 | Network IO Rack Side | Copper, Outlet, TERA, Shielded, Category 7A/8, TERA, Flat, Black, Tool-Less, T568A/B, with Door, 22-23 AWG- Panel Side | Nos | 82 | | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr | Name | Brief | Unit | Qty | Amount in INR | | | |
|----|---|--|------|-----|--------------------------|-------|-----------------------|-------------------------|
| | | | | | Unit Price without Taxes | Taxes | Unit Price with Taxes | Total Amount with Taxes |
| | | | | A | B | C | D= (B+C) | E= (AxD) |
| 7 | Face Plate User Side | Faceplate, 10G, British, Single Gang, 2 Openings, MX, White | Nos | 82 | | | | |
| 8 | Fibre Cable Single Mode | Cable, 6 Fibre, XGLO, Singlemode, OS1/OS2, 8.3/125, Outside Plant, Loose Tube, Armored, MDPE, Black, 1 Kilometer, International | Mtr | 75 | | | | |
| 9 | Fibre LIU for Fibre termination on both sides | 12 port Fibre, Enclosure, LightVerse Core, Rack Mount, 1U, Fixed Access, 4 Openings, Black - Fully Loaded - (With Required Accessories GLO® Jumper & Pigtails - 192 Quick-Pack® RIC Splice Cassette (RSC) - 192 LC Blade Patch Fibre Jumpers - 8 Fibre, Adapter Plate, Light Verse, Flat, Black Housing, Blank - 24 Splice Cassette and Trays - 8 | Nos | 2 | | | | |
| 10 | Fibre Patch Cord | Fibre, Jumper, Duplex, XGLO, Singlemode, LC UPC, LC UPC, OS1/OS2, 8.3/125, Yellow, LSOH-3C, 03 Meter | Nos | 4 | | | | |
| 11 | 24 Port PoE Switch | OS6360-P24X fixed 1RU chassis 24 PoE 1G BaseT, 2 fixed RJ45/SFP+ combo (1G/10G), 2 fixed 1G/10G SFP+ uplink/VFL ports. Internal AC PSU (380 budget), includes country specific power cord, guides and 19" rack mount kit. 3 Yr premium onsite Support for OS(including replacement in NBD when Required). Includes 24x7 | Nos | 1 | | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr | Name | Brief | Unit | Qty | Amount in INR | | | |
|----|--------------------|--|------|-----|--------------------------|-------|-----------------------|-------------------------|
| | | | | | Unit Price without Taxes | Taxes | Unit Price with Taxes | Total Amount with Taxes |
| | | | | A | B | C | D= (B+C) | E= (AxD) |
| | | phone support, problem diagnosis, access to support portal, software updates and upgrades. 1 meter long 10Gbs SFP+ direct stacking cable for OS6360 24 and 48 port models. | | | | | | |
| 12 | 48 Port PoE Switch | OS6360-P48X fixed 1RU chassis 48 PoE 1G BaseT, 2 fixed RJ45/SFP+ combo (1G/10G), 2 fixed 1G/10G SFP+ uplink/VFL ports. Internal AC PSU (760W budget), includes country specific power cord, guides and 19" rack mount kit. 3 Yr Partner Support Plus for OS(including replacement in NBD when Required). Includes 24x7 phone support, problem diagnosis, access to support portal, software updates and upgrades. 1 meter long 10Gbs SFP+ direct stacking cable for OS6360 24 and 48 port models | Nos | 2 | | | | |
| 13 | Transceiver | 10 Gigabit optical transceiver (SFP+). Supports monomode fibre over 1310nm wavelength nominal) with an LC connector. Typical reach of 10Km | Nos | 4 | | | | |
| 14 | Rack | Wall mounted enclosure of dimension 600W X15UX600D with front sheet steel glass door, top and bottom cover with cable entry provision, integrated side walls, 1 | Nos | 1 | | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr | Name | Brief | Unit | Qty | Amount in INR | | | |
|----|------------|--|------|------|--------------------------|-------|-----------------------|-------------------------|
| | | | | | Unit Price without Taxes | Taxes | Unit Price with Taxes | Total Amount with Taxes |
| | | | | A | B | C | D= (B+C) | E= (AxD) |
| | | pair of 19" angles with wall mounting provision, captive hardware(pack of 20).Color RAL 7035 230V AC Fan, 90 cfm with 1 mts long cable. 19" mountable socket strips with 6 nos of 5A universal sockets with 2 mts long power chord. 1U 19" Horizontal Cable Manager (Zinc blue plated) Wall Bracket Kit 10mm (pk of 4) | | | | | | |
| 15 | Cable Tray | SIZE: 300MM X 50MM X 16SWG WITH ALL ACCESSORIES LIKE 8MM G.I.FULL THREADED ROD, 8MM FASTNER, 8MM NUT AND WASHER, G.I.PERFORATED " C" CHANNEL SIZE: 35MM X 15MM X 18SWG (Supply Installation Testing and Commissioning all including) | Mtr | 150 | | | | |
| 16 | | 40mm 6kg ISI Make HDPE Pipe for Fibre Laying | Mtr | 50 | | | | |
| | | Labour | | | | | | |
| 17 | | Laying of HDPE Pipe for Fibre | Mtr | 50 | | | | |
| 18 | | Laying of UTP Cable along with all accessories which includes 32 mm conduits with accessories, Trunking and casing capping as per the requirement (Bidder to select the accessory material as per the specifications defined in section 6) (Actual meter reading generated | Mtr | 7595 | | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr | Name | Brief | Unit | Qty | Amount in INR | | | |
|----|------|--|------|-----|--------------------------|-------|-----------------------|-------------------------|
| | | | | | Unit Price without Taxes | Taxes | Unit Price with Taxes | Total Amount with Taxes |
| | | | | A | B | C | D= (B+C) | E= (AxD) |
| | | during the cable testing will be considered for payment) | | | | | | |
| 19 | | Laying of Fibre Cable in Pre Laid Conduits and TRUNKS | Mtr | 75 | | | | |
| 20 | | Fixing of Rack upto 18 U Size with Dressing | Nos | 3 | | | | |
| 21 | | Fixing of Patch Panel in the Rack along with Termination of Cable | Nos | 11 | | | | |
| 22 | | Termination of CAT7A IO on the user side | Nos | 217 | | | | |
| 23 | | Termination of CAT7A IO on the jack Panel Side | Nos | 217 | | | | |
| 24 | | Fixing of LIU in The Rack | Nos | 3 | | | | |
| 25 | | Fibre Splicing Per core | Nos | 36 | | | | |
| 26 | | Labelling and Feruling Charges | Nos | 217 | | | | |
| 27 | | Fibre and Copper Certification Charges (Third Party). Copper Certification to be done using CAT7A Tester Old Cables are not Include. | Job | 1 | | | | |
| 28 | | Concealed Conduiting charges Labor only including wall cutting and resurfacing | Mtr | 150 | | | | |
| 29 | | Rework Charges A - Remove Ios from Rack Side and User Side. B. Remove All Cables till rack with minimum Damage. C. Remove Patch Panesl from Rack Side. D. Remove Fibre cable & LIU from Rack. | Job | 3 | | | | |

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

| Sr | Name | Brief | Unit | Qty | Amount in INR | | | |
|----|------|---|------|-----|--------------------------|-------|-----------------------|-------------------------|
| | | | | | Unit Price without Taxes | Taxes | Unit Price with Taxes | Total Amount with Taxes |
| | | | | A | B | C | D= (B+C) | E= (AxD) |
| | | *Civil work is not part of this i.e. Ceiling cutting, Core Cut etc. | | | | | | |
| | | Total | | | | | | |
| | | Total with GST | | | | | | |
| | | In words: Rupees (with Taxes) | | | | | | |
| | | CAMC Cost for 4th year | | | | | | |
| | | CAMC Cost for 5th year | | | | | | |

In words: Rupees (with Taxes)

1. Non-conformities between Figures and Words:
 - a. If, in the price structure quoted for the required goods, there is a discrepancy between the unit price and total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price shall be corrected accordingly;
 - b. If there is an error in a total corresponding to the addition or subtraction of subtotals, the sub-totals shall prevail and the total shall be corrected; and
 - c. If there is a discrepancy between words and figures, the amount in words shall prevail.
2. L1 bidder will be decided based on the **Total with GST** mentioned in **FINANCIAL BID**. **CAMC price will not be considered in the Financial Evaluation.**
3. The price bid of any other form submitted by the bidder (other than in this format specified in the tender) will be rejected.

Signature of the bidder along with seal

Scope of Work:

1. Supply, Installation, Configuration, Commissioning and upgradation of the Network as per the requirement of the NFSU. Complete Network Infrastructure shall be provided with Three (3) years comprehensive onsite warranty along with operation and Maintenance (inclusive of Labour and Parts). The warranty period is defined in clause no. 5 of Annexure II.
2. Bidder must ensure the supplied Aggregation Switches and Transceiver modules should be integrated with the existing NFSU Core Switches without affecting the performance and uptime of the NFSU network.
3. The bidder should provide an onsite comprehensive warranty for **Three years** on all active components from the date of installation as mentioned in **Annexure-XII**. All products should have 3 years 8 x 5 x NBD (Next Business Day) support commitment with the back-to-back agreement with OEM. In case of equipment failure, NFSU Gandhinagar should be able to log cases with the OEM **both** through the bidder and directly without bidder intervention. An emergency response team should be available from OEM directly in case of any critical failures. OEM must have 24*7 TAC support to address and rectify the issue/problems occurring during the entire warranty period. The latest software upgrade for all products should be available free without any additional cost during the warranty.
4. The bidder will be liable for any hardware and software up-gradation for maintenance without any extra cost during the warranty period. The technical bid must contain the make, model and part number of all supplied components along with the supported part code.
5. In case of any future expansion / up-gradation within the warranty period, necessary changes in the configuration have to be done by the selected bidder for smooth integration/migration at no additional cost.
6. Replacement of defective equipment and shipment of the same should be the responsibility of the selected bidder without any financial commitment from NFSU Gandhinagar. The same has to complete within five working days after reporting the problem.
7. The bidder should provide support and assistance for the resolution of major technical problems or technical issues with a highly qualified technical team at the backend to support the onsite team.
8. The bidder is responsible for all unpacking, assembling, wiring, installation, cabling between equipment and components and connection to power supplies. They will test all Systems operations and perform all the necessary setup, configuration and customization for successful operation of the Network at site.
9. All the functionality, features and configuration shall be documented for all the equipment/components and shall be demonstrated with respect to the documentation prepared.
10. The bidder shall bear for any damage occurring during supply, installation, testing, commissioning & activation of network components, computer hardware etc. The same has

to be rectified by the agency at their own cost. In case the agency fails to do rectification, the same shall be rectified by the NFSU and the involved cost will be recovered from the agency.

11. One dedicated onsite network support Engineer/Manager to be posted during the installation of the work.
12. All OFC and UTP cable segments should be marked with the ferrules at both ends. Marking of information outlets corresponding to the jack panel port should also be done properly.
13. Installation of Network Racks shall be carried out strictly in accordance with specifications mentioned by original equipment manufacturers.
14. Work (i.e. Supply and Installation) has to be completed within 90 days from the date of issue of the purchase order by the NFSU.
15. Since most of the installation locations are in academic buildings, special arrangements have to be made by the bidder for executing this project without disturbing the other classes. Working hours may have to be rescheduled accordingly with the concurrence of IT System Manager, NFSU, Gandhinagar.
16. The selected bidder has to provide a **Three-years** comprehensive onsite warranty for all the networking items supplied and work done.
17. The vendor may visit the site on any working day in coordination with IT System Manager before the submission of the tender.
18. Work should be carried out with the guidance of IT System Manager, NFSU, Gandhinagar. For any technical dispute arising at any time during the execution of the work, the decision of IT System Manager will be the final.
19. Service quantities mentioned in the tender are tentative. Payment will be made on the basis of exact quantities installed and certified by the NFSU Committee.
20. Materials such as pipe, nuts and bolts etc. if required for the installation of the above item and other fixation work will have to be supplied by the vendor free of cost.
21. Adequate spare should be maintained at the site during the whole warranty period.
22. NFSU has the right to inspect and/or to test the material to confirm their conformity with the contract and in case any inspected/tested goods fail to perform with respect to the specifications, NFSU may reject them and the supplier shall either replace the rejected goods or make alteration necessary to meet the specifications free of cost to the NFSU.
23. The bidder is responsible for all unpacking, assembling, wiring, installation, and cabling between equipment and components. They will test all Systems operations and perform all the necessary setup, configuration and customization for the successful operation of the Network at the site.
24. The bidder shall use their own sets of tools, tackles, etc. required for testing, commissioning and warranty maintenance of the system.
25. The bidder shall bear for any damage occurring during supply, installation, testing, commissioning & activation of network components, computer hardware etc. The same has to be rectified by agency at their own cost. In case agency fails to do rectification, the same shall be rectified by the NFSU and involved cost will be recovered from the agency.

26. All the work shall be done in a conscientious manner as per the OEM guidelines and best industry practices. The system shall be subjected to inspection at various stages. The bidder shall follow all Safety Regulations and practices.
27. All items supplied must have a comprehensive onsite OEM warranty for a period of Three years.
28. Complete delivery of all materials has to be accomplished within four weeks of receipt of the purchase order, failing which Liquidation Damage (LD) @ 0.5% per week of 100% of total order value will be imposed as per NFSU purchase rules.
29. In any case total liquidated damage will be capped at 5% of the PO value.
30. The quality of the Optical Fibre Cable Plant depends upon the quality of individual items of work involved i.e. care while jointing/splicing in the fibre patch panels and the documentation of OFC cable plant for each location individually. In order to ensure quality in cable laying work, each component of work needs attention. The work shall be carried out strictly in accordance with specifications laid down to achieve the requisite quality aim.
31. The bidder is responsible for dismantling the existing network infrastructure (If anything found during installation) and brings back the same to IT System Manager-NFSU if it is not going to re-install or spare.
32. Any additional item which is not specified in the Bill of Quantity listed in Annexure-I but required between the integration of the supplied items by the bidder with the NFSU network needs to be supplied and installed by the bidder at no extra cost to the NFSU.
33. The scope of the work includes laying of OFC through) HDPE pipe by concealed method and associated works along with maintenance of the same for a period of three year from the completion of the entire project. In case concealed piping method is not feasible then NFSU committee will decide the methodology.
34. Manual trenching depth should be a minimum of 165 cm for normal and hard soil, a minimum of 100 cm for concrete areas and the boring / tunnelling method should be used in case of the crossing of concrete/bituminous roads at 165 cm (minimum) depth. The trench must be refilled with soft soil or recementing to be done depending on the type of trench after laying the OFC through the HDPE duct. Aesthetics must be maintained with the existing construction while excavating or refilling the cable trench.
35. The bidder is fully responsible for taking all possible safety precautions during the preparation of underground cable pathways and for keeping the construction site in a safe condition. If any damages occur to other service lines like electrical, water pipelines, drainage, sewerage, or any part of an existing structure, building or element then the same has to be informed immediately to IT System Manager-NFSU and to be restored by the bidder without any extra cost, failing which NFSU, Gandhinagar will be at liberty to rectify and restore the damages at the risk & cost of the bidder.
36. Route markers are also to be transported and placed along the OFC cable route at 20 meters apart and where the route changes direction like road crossings etc.
37. Specialised civil work i.e Ceiling, core cutting will be executed by NFSU and not part of this bid.

38. **Documentation, Acceptance and Testing:** The purpose of acceptance and testing is to verify the integrity of measurement and quality of work done. A complete As-Built Document (ABD) report consisting of mainly below below-mentioned points needs to be submitted after the completion of this project.
- a Location of Network Racks,
 - b Details of UTP and Fibre terminations in Patch Panels,
 - c UTP Patch Panel to User points connectivity details both are in pictorial and tabular formats),
 - d Optical loss test using both Laser Source Power Meter test (LSPM) and OTDR of each fibre core,
 - e Marking of fibre cores and UTP terminations at respective Patch Panel as well as in the user side I/O points.

ANNEXURE- XIV

MODEL BANK GUARANTEE FORMAT FOR FURNISHING EMD

Whereas.....(thereinafter called the "tenderer") has submitted their offer dated for the supply of (hereinafter called the "tender") against the purchaser's tender Notice No. KNOW ALL MEN by these presents that WEof having our registered office at are bound unto (hereinafter called the "Purchaser") in the sum of for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank thisDay of 20

THE CONDITIONS OF THIS OBLIGATION ARE

- (1) If the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- (2) If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:
 - (a) If the tenderer fails to furnish the Performance Security for the due performance of the contract.
 - (b) Fails or refuses to accept/execute the contract.

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the authorized officer of the Bank)
Name and designation of the officer
Seal, name & address of the Bank and Address of the Branch

TENDER DOCUMENT (2nd Attempt)

Tender Notice No: NFSU/IT CELL/118/NETWORK/IFS BUILDING/2023-24/02 dated: 23/04/2024

Revamping of Networking for three computer labs at IFS building at NFSU, Gandhinagar

Checklist

(Bidder should fill up Yes or No without fail)

| S.No | Bid Enclosures | Yes/ No |
|--|--|------------|
| Technical Bid (Envelope-A) contains the following documents | | |
| 1 | Tender fee of Rs. 1500/- / Exemption certificate | |
| 2 | EMD of ₹ 1,08,000/- (One Lakh and Eight Thousand rupees only) as per Annexure-XVI | |
| 3 | Technical Bid as per Annexure-V along with all supporting annexures, documents etc. as mentioned in the Tender document as per given sequence | |
| 4 | Signed Notice Inviting Tender (NIT) and corrigenda thereon, if any | |
| 5 | Any other supporting/ Additional Document/ Information | |
| Financial Bid (online) | | |
| 1 | Price Bid (As per the format given at Annexure-XII) | |

Note: All pages of the bid documents must be serially numbered and signed.

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