

Bid Corrigendum

GEM/2026/B/7187320-C3

Following terms and conditions supersede all existing "Buyer added Bid Specific Terms and conditions" given in the bid document or any previous corrigendum. Prospective bidders are advised to bid as per following Terms and Conditions:

Buyer Added Bid Specific Additional Terms and Conditions

1. Buyer Added text based ATC clauses

CORRIGENDUM-1

No.: NFSUB/2026-5-26/PURCHASE/Corrigendum-01 Date: 20.02.2026

The following amendments have been made in Tender No. GEM/2026/B/7187320 dated 30.02.2026 of the tender for SITC of NextGen Firewall for Network Security Solution and Wi-Fi Access Point with Networking at National Forensic Sciences University (NFSU) Bhopal Campus, Madhya Pradesh.

Amendment-1: Amendment of Technical Specifications of "24 Ports PoE Switch - 02 Qty" under "A. NextGen Firewall for Network Security Solution" Clause 6.4 - Detailed Technical Specification of 24 Ports PoE Switch

and

Annexure X - Compliance with Technical specification Sheet (A. SITC of Next Generation Firewall/ UTM - A.4) 24 Ports PoE Switch). Please refer attached ATC Document.

Note:

- 1. All other terms and conditions remain same.**
- 2. Prospective bidders hereby requested to take cognizance of this amendment. If any bidder submitted bid are advised to withdraw earlier submitted bid and submit revised bid as per amended technical specifications**

Note:

Prospective Bidders are requested to carefully read following ATC before submission of bid:

1. Prospective bidders are requested to go through attached Buyer uploaded ATC document before submission of bid.

2. Bidders are requested to submit Annexure X - Compliance with Technical specification - Duly seal and inked signed on letterhead of OEM with current date of the bid with proper name, mail id, designation & contact no. in the certificate must be submitted.

3. Technical Specification mentioned in the Annexure X - Compliance with Technical specification will be considered as final and offered product must be complied with mentioned specifications in Annexure X - Compliance with Technical specification and these specifications supersede GeM Specifications

4. ** COMMON IP ADDRESSES

Bidders may please note that GeM is capturing and showing the IP addresses used by the Buyer and the Bidder(s) /Seller(s). The received bids having matching/common IP address with either Bidder(s)/Seller(s) or Buyer, shall be outrightly rejected & shall not be considered for further evaluation.

2. Buyer uploaded ATC document [Click here to view the file.](#)
3. **Bidder financial standing:** The bidder should not be under liquidation, court receivership or similar proceedings, should not be bankrupt. Bidder to upload undertaking to this effect with bid.
4. Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regards. GST reimbursement will be as per actuals or as per applicable rates (whichever is lower), subject to the maximum of quoted GST %.
5. Bidders shall quote only those products (Part of Service delivery) in the bid which are not obsolete in the market and has at least 5 years residual market life i.e. the offered product shall not be declared end-of-life by the OEM before this period.
6. Data Sheet of the product(s) offered in the bid, are to be uploaded along with the bid documents. Buyers can match and verify the Data Sheet with the product specifications offered. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection.

7. Experience Criteria: The Bidder or its OEM {themselves or through reseller(s)} should have regularly, manufactured and supplied same or similar Category Products to any Central / State Govt Organization / PSU for 3 years before the bid opening date. Copies of relevant contracts to be submitted along with bid in support of having supplied some quantity during each of the year. In case of bunch bids, the primary product having highest value should meet this criterion.
8. Installation, Commissioning, Testing, Configuration, Training (if any - which ever is applicable as per scope of supply) is to be carried out by OEM / OEM Certified resource or OEM authorised Reseller.
9. IT equipment shall be IPv6 ready from day one.

10. Malicious Code Certificate:

The seller should upload following certificate in the bid:-

(a) This is to certify that the Hardware and the Software being offered, as part of the contract, does not contain Embedded Malicious code that would activate procedures to :-

- (i) Inhibit the desires and designed function of the equipment.
- (ii) Cause physical damage to the user or equipment during the exploitation.
- (iii) Tap information resident or transient in the equipment/network.

(b) The firm will be considered to be in breach of the procurement contract, in case physical damage, loss of information or infringements related to copyright and Intellectual Property Right (IPRs) are caused due to activation of any such malicious code in embedded software.

11. **Manufacturer Authorization:**Wherever Authorised Distributors/service providers are submitting the bid, Authorisation Form /Certificate with OEM/Original Service Provider details such as name, designation, address, e-mail Id and Phone No. required to be furnished along with the bid
12. **Non return of Hard Disk:** As per Buyer organization's Security Policy,Faulty Hard Disk of Servers/Desktop Computers/ Laptops etc. will not be returned back to the OEM/supplier against warranty replacement.
13. **OPTION CLAUSE:** The Purchaser reserves the right to increase or decrease the quantity to be ordered up to 25 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity up to 25% of the contracted quantity during the currency of the contract at the contracted rates. The delivery period of quantity shall commence from the last date of original delivery order and in cases where option clause is exercised during the extended delivery period the additional time shall commence from the last date of extended delivery period. The additional delivery time shall be $(\text{Increased quantity} \div \text{Original quantity}) \times \text{Original delivery period (in days)}$, subject to minimum of 30 days. If the original delivery period is less than 30 days, the additional time equals the original delivery period. The Purchaser may extend this calculated delivery duration up to the original delivery period while exercising the option clause. Bidders must comply with these terms.
14. Without prejudice to Buyer's right to price adjustment by way of discount or any other right or remedy available to Buyer, Buyer may terminate the Contract or any part thereof by a written notice to the Seller, if:
 - i) The Seller fails to comply with any material term of the Contract.
 - ii) The Seller informs Buyer of its inability to deliver the Material(s) or any part thereof within the stipulated Delivery Period or such inability otherwise becomes apparent.
 - iii) The Seller fails to deliver the Material(s) or any part thereof within the stipulated Delivery Period and/or to replace/rectify any rejected or defective Material(s) promptly.
 - iv) The Seller becomes bankrupt or goes into liquidation.
 - v) The Seller makes a general assignment for the benefit of creditors.
 - vi) A receiver is appointed for any substantial property owned by the Seller.
 - vii) The Seller has misrepresented to Buyer, acting on which misrepresentation Buyer has placed the Purchase Order on the Seller.
15. **Bidder Turn Over Criteria:** The minimum average annual financial turnover of the bidder during the last three years, ending on 31st March of the previous financial year, should be as indicated in the bid document. Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a certificate from the Chartered Accountant / Cost Accountant indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the bidder is less than 3 year old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria.
16. **OEM Turn Over Criteria:** The minimum average annual financial turnover of the OEM of the offered product during the last three years, ending on 31st March of the previous financial year, should be as indicated in the bid document. Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a certificate from the Chartered Accountant / Cost Accountant indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the

OEM is less than 3 year old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria. In case of bunch bids, the OEM of CATEGORY RELATED TO primary product having highest bid value should meet this criterion.

17. IMPORTED PRODUCTS: In case of imported products, OEM or Authorized Seller of OEM should have a registered office in India to provide after sales service support in India. The certificate to this effect should be submitted.
18. Availability of Service Centres: Bidder/OEM must have a Functional Service Centre in the State of each Consignee's Location in case of carry-in warranty. (Not applicable in case of goods having on-site warranty). If service center is not already there at the time of bidding, successful bidder / OEM shall have to establish one within 30 days of award of contract. Payment shall be released only after submission of documentary evidence of having Functional Service Centre.
19. Dedicated /toll Free Telephone No. for Service Support : BIDDER/OEM must have Dedicated/toll Free Telephone No. for Service Support.
20. Escalation Matrix For Service Support : Bidder/OEM must provide Escalation Matrix of Telephone Numbers for Service Support.
21. Bidder's offer is liable to be rejected if they don't upload any of the certificates / documents sought in the Bid document, ATC and Corrigendum if any.
22. The bidder is required to upload, along with the bid, all relevant certificates such as BIS licence, type test certificate, approval certificates and other certificates as prescribed in the Product Specification given in the bid document.
23. Warranty period of the supplied products shall be 3 years from the date of final acceptance of goods or after completion of installation, commissioning & testing of goods (if included in the scope of supply), at consignee location. OEM Warranty certificates must be submitted by Successful Bidder at the time of delivery of Goods. The seller should guarantee the rectification of goods in case of any break down during the guarantee period. Seller should have well established Installation, Commissioning, Training, Troubleshooting and Maintenance Service group in INDIA for attending the after sales service. Details of Service Centres near consignee destinations are to be uploaded along with the bid.
24. Bidders can also submit the EMD with Payment online through RTGS / internet banking in Beneficiary name
National Forensic Sciences University Bhopal Campus
Account No.
4601000100071752
IFSC Code
PUNB0208710
Bank Name
Punjab National Bank
Branch address
Mubarkpur Bhopal
.
Bidder to indicate bid number and name of bidding entity in the transaction details field at the time of on-line transfer. Bidder has to upload scanned copy / proof of the Online Payment Transfer along with bid.
25. Bidders can also submit the EMD with Account Payee Demand Draft in favour of
National Forensic Sciences University Bhopal Campus
payable at
Bhopal
.
Bidder has to upload scanned copy / proof of the DD along with bid and has to ensure delivery of hardcopy to the Buyer within 5 days of Bid End date / Bid Opening date.

Disclaimer

The additional terms and conditions have been incorporated by the Buyer after approval of the Competent Authority in Buyer Organization, whereby Buyer organization is solely responsible for the impact of these clauses on the bidding process, its outcome, and consequences thereof including any eccentricity / restriction arising in the bidding process due to these ATCs and due to modification of technical specifications and / or terms and conditions governing the bid. If any clause(s) is / are incorporated by the Buyer regarding following, the bid and resultant contracts shall be treated as null and void and such bids may be cancelled by GeM at any stage of bidding process without any notice:-

1. Definition of Class I and Class II suppliers in the bid not in line with the extant Order / Office Memorandum

issued by DPIIT in this regard.

2. Seeking EMD submission from bidder(s), including via Additional Terms & Conditions, in contravention to exemption provided to such sellers under GeM GTC.
3. Publishing Custom / BOQ bids for items for which regular GeM categories are available without any Category item bunched with it.
4. Creating BoQ bid for single item.
5. Mentioning specific Brand or Make or Model or Manufacturer or Dealer name.
6. Mandating submission of documents in physical form as a pre-requisite to qualify bidders.
7. Floating / creation of work contracts as Custom Bids in Services.
8. Seeking sample with bid or approval of samples during bid evaluation process. (However, in bids for [attached categories](#), trials are allowed as per approved procurement policy of the buyer nodal Ministries)
9. Mandating foreign / international certifications even in case of existence of Indian Standards without specifying equivalent Indian Certification / standards.
10. Seeking experience from specific organization / department / institute only or from foreign / export experience.
11. Creating bid for items from irrelevant categories.
12. Incorporating any clause against the MSME policy and Preference to Make in India Policy.
13. Reference of conditions published on any external site or reference to external documents/clauses.
14. Asking for any Tender fee / Bid Participation fee / Auction fee in case of Bids / Forward Auction, as the case may be.
15. Buyer added ATC Clauses which are in contravention of clauses defined by buyer in system generated bid template as indicated above in the Bid Details section, EMD Detail, ePBG Detail and MII and MSE Purchase Preference sections of the bid, unless otherwise allowed by GeM GTC.
16. In a category based bid, adding additional items, through buyer added additional scope of work/ additional terms and conditions/or any other document. If buyer needs more items along with the main item, the same must be added through bunching category based items or by bunching custom catalogs or bunching a BoQ with the main category based item, the same must not be done through ATC or Scope of Work.

Further, if any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller within 4 days of bid publication on GeM. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.

*This document shall overwrite all previous versions of Bid Specific Additional Terms and Conditions.

[This Bid is also governed by the General Terms and Conditions](#)

Additional Terms & Conditions (ATC)

CORRIGENDUM-1

No.: NFSUB/2026-5-26/PURCHASE/Corrigendum-01

Date: 20.02.2026

The following amendments have been made in Tender No. GEM/2026/B/7187320 dated 30.02.2026 of the tender for SITC of NextGen Firewall for Network Security Solution and Wi-Fi Access Point with Networking at National Forensic Sciences University (NFSU) Bhopal Campus, Madhya Pradesh.

Amendment-1: Amendment of Technical Specifications of “24 Ports PoE Switch - 02 Qty” under “A. NextGen Firewall for Network Security Solution” Clause 6.4 - Detailed Technical Specification of 24 Ports PoE Switch

and

Annexure X - Compliance with Technical specification Sheet (A. SITC of Next Generation Firewall/ UTM - A.4) 24 Ports PoE Switch)

Revised technical specifications of 24 Ports PoE Switch for NextGen Firewall for Network Security Solution are as follows:

SN	Technical specification
1.	Manageable switch should have minimum 24 x 2.5/1 GE RJ45 POE ports and 4x 10GE SFP+ ports
2.	The form factor of the proposed switch should be 1 RU Rack-Mount Appliance
3.	Switching capacity of the proposed switch should be minimum 200 Gbps
4.	Packet per second capacity of the switch should be minimum 300 Mpps
5.	Proposed Switch should support minimum 32K MAC address storage
6.	Proposed switch latency < 1μs. Must be available in public document of OEM
7.	Proposed switch should support 4000 VLANs ID
8.	Proposed switch must have minimum 750W POE power budget
9.	Should support min 1GB memory , maximum to be specified
10.	Should support Jumbo frames and link auto-negotiation
11.	Should support Spanning Tree Protocol MSTP native, and backwards compatible with RTSP, STP and STP Root Guard
12.	Should support Edge Port / Port Fast
13.	IEEE 802.1AX Link Aggregation IEEE 802.1q VLAN tagging, Private VLAN, Voice VLAN
14.	should support Unicast/Multicast traffic balance over trunking port for dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac
15.	Should support IEEE 802.3x Flow Control
16.	Admin Authentication Via RFC 2865 RADIUS
17.	Should support 802.1x port-based authentication
18.	Should support 802.1x MAC-based authentication, IEEE 802.1x MAC Access Bypass (MAB)
19.	Should support IEEE 802.1x Dynamic VLAN Assignment, MAC-IP Binding
20.	Should support Radius CoA (Change of Authority) and Radius Accounting
21.	Switch should support local user database and can integrate with LDAP, RADIUS, TACACS+ servers

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22.	should support Storm Control, LoopGuard
23.	Should support IGMP snooping, DHCP snooping (entry limit per port) and Dynamic ARP Inspection
24.	Should support Port mirroring, sFlow, TDR (time- domain reflectometer)/cable diagnostics.
25.	Switch should support 512 ACL entries
26.	Switch should support Policy Control of Users and Devices
27.	Should support IEEE 802.1p Based Priority Queuing
28.	Should support IP TOS/DSCP Based Priority Queuing
29.	Should support Telnet,SSH, HTTP,HTTPS with IPv4 and IPv6 Management
30.	Switch should support SNMP v1, v2c and v3
31.	Software download/upload: TFTP/FTP/GUI
32.	Proposed switch should be managed via both, GUI and CLI
33.	MUST support multiple configuration files with Dual-firmware image support
34.	Switch should support IP conflict detection and notification
35.	Switches shall inbuilt packet capture feature in both GUI and CLI
36.	Power Required :100–240V AC, 50–60 Hz
37.	Operating Temperature :0–45°C
38.	Humidity: 10–90% non-condensing
39.	Solution must be offered with required security subscriptions and OEM 24x7 warranty support
40.	MUST support multiple configuration files with Dual-firmware image support
41.	Switch should support IP conflict detection and notification
42.	Switches should manage from the proposed switch controller
43.	Power Required :100–240V AC, 50–60 Hz

Note:

1. All other terms and conditions remain same.

2. Prospective bidders hereby requested to take cognizance of this amendment. If any bidder submitted bid are advised to withdraw earlier submitted bid and submit revised bid as per amended technical specifications

Sd/-
Assistant Registrar
NFSU Bhopal Campus

Additional Terms & Conditions (ATC)

**Scope of Work, Technical Specifications
and other Details of Work for
SITC of NextGen Firewall for Network Security
Solution
and
Wi-Fi Access Point with Networking**

Additional Terms & Conditions (ATC)

A. NextGen Firewall for Network Security Solution

1. Introduction:

National Forensic Sciences University, Bhopal Campus intends to deploy a secure, high-availability and scalable network infrastructure consisting of Next-Generation Firewall/ UTM, high-capacity Core Switches and a Fiber Backbone. The proposed solution must ensure reliable performance, strong security posture and seamless integration with the existing network environment.

The Objective is to ensure the infrastructure should support future expansion and simplified management to ensure continuous visibility into network and connected devices.

2. Project Objective:

The Bidder shall supply, install and commission the network infrastructure. The primary goal is to establish a secure and scalable network foundation. Specifically for the Firewall and Core Switching infrastructure.

The deployed Firewall must provide Next-Generation Firewall and Unified threat Management security features. The Firewall/UTM should host captive portals, used primarily for Users and Student Authentication. That requires users to authenticate with credentials or accept an Acceptable Use Policy (AUP) before gaining network access, ensuring accountability and policy enforcement. The UTM should have capability to manage, shape and prioritize network traffic to ensure that critical services receive adequate bandwidth while preventing misuse or excessive consumption by non-essential applications.

The UTM solution is required to provide reporting functions that allow administrators to monitor the organization's usage patterns and system health. Reports must be capable of being generated on-demand or scheduled for automatic delivery in standard formats like PDF and CSV. The reporting engine must cover key categories including tracking threats and security events, as well as Traffic and Usage for visibility into bandwidth consumption and application control. Furthermore, the system must provide insights into VPN and User Activity, browsing logs alongside System and Performance metrics regarding device health and resource usage. The solution must also support Custom Reports views based on specific administrative requirements.

To support the campus's growing data demands, the Bidder must establish 10G/100G capable Core Switching layer to handle high-volume inter-VLAN traffic with non-blocking performance for future scalability. This Core Switch must be configured to function as the Layer 3 gateway, performing high speed Layer 3 Inter-VLAN Routing. This configuration ensures that internal traffic flows efficiently between departmental VLANs through the firewall, thereby minimizing latency and maximizing throughput.

3. Scope of Work (SoW)

- a. The Bidder's Scope of Work covers all activities required to achieve the Project Objective from initial design and planning through to final handover and post-implementation support.
- b. The Vendor is responsible for Supply, Installation, implementation/configuration, integration, migration, replication, testing, training, maintenance and support of all the items supplied under the project.
- c. All supplied hardware must be from reputable Enterprise grade OEMs. The bidder must ensure to supply all necessary licenses, software subscriptions and management tools required for Firewall/UTM Device and Core Switches. The solution must be fully Integrate with the existing network.

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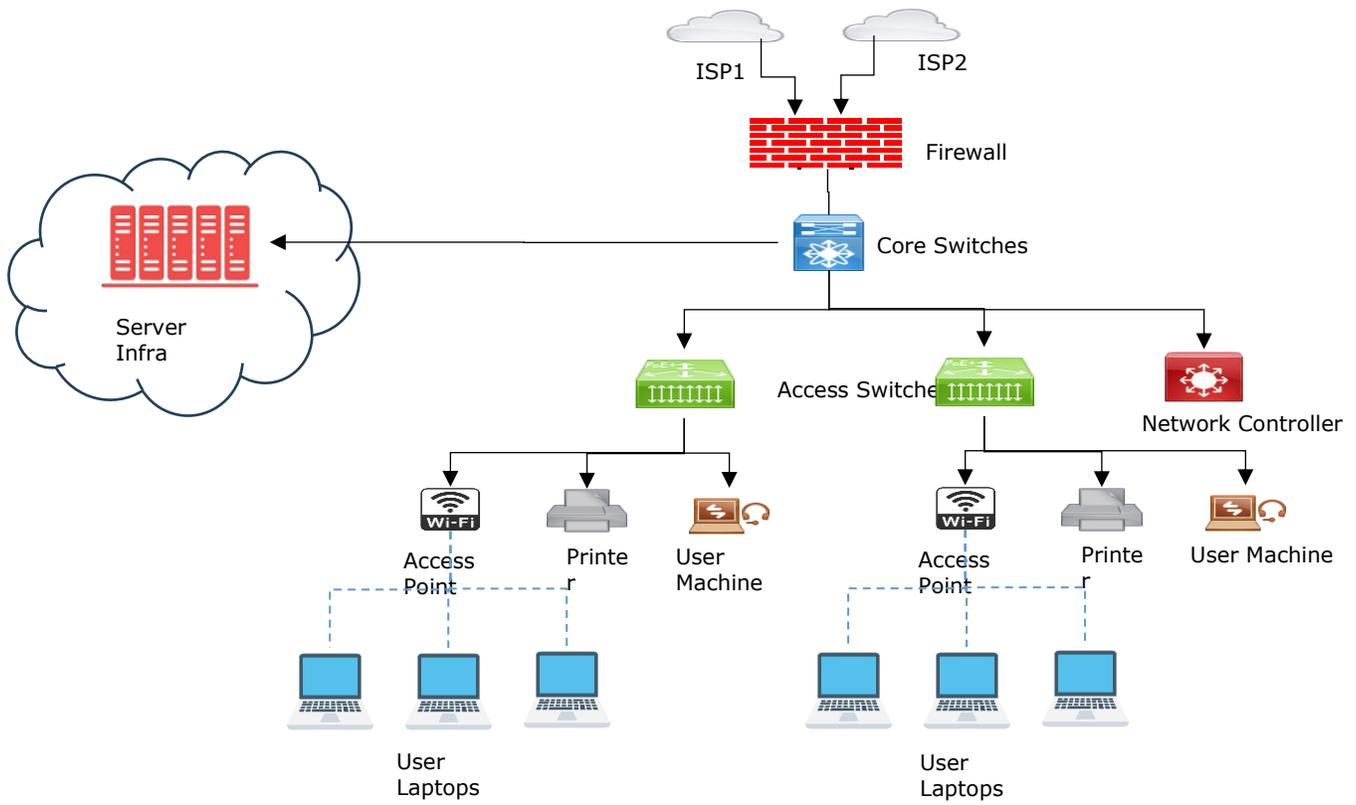
- d. The Bidder shall provide onsite technical support during the handover phase to ensure a smooth transition and timely issue resolution. The Bidder must also ensure the availability of timely onsite technical support as per the escalation matrix, including defined response and resolution timelines for each escalation level. Onsite engineers must be available when remote troubleshooting is insufficient or when directed by the NFSU Bhopal Campus
- e. The bidder shall provide comprehensive onsite OEM warranty for a period of Three (03) years from date of taking over (TOC) by NFSU Bhopal Campus as part of scope of this tender.
- f. It is expected that bidder and OEM shall ensure that the equipment/components being supplied by them shall not be declared “End of Support Life” for minimum Five (5) years from the date of taking over (TOC) by NFSU Bhopal Campus. If the same is de-supported by the OEM for any reason whatsoever, the bidder shall replace it with a compatible equivalent or higher technical specification that is acceptable to NFSU Bhopal Campus without any additional cost and without impacting the performance of the solution in any manner whatsoever.
- g. Bidder shall comply with cyber security recommendations/guidelines issued by various statutory agencies like CERT-In, NCIIPC, CEA, Meity etc. from time-to-time during entire contract period (including extension of contract, if any).
- h. Since the instrument will be installed in the temporary campus initially, vendor should take responsibility of shifting the entire set up (equipment/devices supplied under this project including integration of additional equipment, if any) to Permanent Campus of NFSU Bhopal at a later date even if the contract period is over. This will be a onetime activity and may occur anytime during entire contract period (including extension of contract, if any). During such shifting all requisite configurations/ settings, required to be done at new locations for ensuring functioning of the supplied solution to be performed by the bidder. The bidder shall ensure proper working of the setup as per the technical specifications after shifting of the system to new location.

Note:

- a) The aforesaid scope of work is indicative but not exhaustive.
- b) The License Quoted by the bidder shall be Enterprise Grade Licenses only.
- c) Unless expressly stated otherwise, all solutions shall be provided by the Bidder. bidder is required to factor the necessary software, services as per defined scope. Additionally, the Bidder is required to design, size, procure, deliver, implement, deploy, parameterize, customize, interface/ integrate, train, maintain and manage the end-to-end solutions as per the scope.
- d) In case, the Bidder has not indicated any component/module in their proposed solution that is required for providing services, the successful Bidder shall have to provide required services within the contracted price at no additional cost to NFSU Bhopal.
- e) In case of discrepancies observed in various sections of Technical Specification for the same requirement, higher configuration /value shall be considered.
- f) If there is any conflicting requirement specified in different sections of technical specifications, the applicable requirement shall be decided by the NFSU Bhopal Campus and that shall be binding on the contractor/successful bidder.

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4. Proposed Network Architecture



Functioning of the Network Architecture:

- The Internet Line from different ISPs shall be terminated to the UTM/ Firewall Device that shall act as a security gateway between the Internet and Intranet to ensure only legitimate traffic flows in and out of the network.
- The UTM shall monitor network traffic for malicious activity and known threats, automatically blocking or alerting administrators to potential exploits and attacks.
- The UTM shall further connect to the Core Switch where Layer 3 VLANs shall be configured.
- The Core Switch is responsible for efficient Layer 3 routing between all defined VLANs (e.g., Student, Admin, Staff, Guest) to enable seamless and fast communication across different network segments, and Implements secure DHCP practices by binding specific, reserved IP addresses to known MAC addresses.
- Server Infra Should be connected to the Core Switch in a different VLAN.
- The Access Switches shall be connected to Access Points, User Machines and Printers.
- Access switches are responsible for initially tagging traffic with the correct VLAN ID as soon as it enters the network.
- The Access Points shall be connected to the Access Switches for the connectivity of wireless devices.
- One Hardware Network Controller shall be connected to Core Switch that will work as a Network Controller to manage all the Network Switches and Access Points from a single console. It shall manage the handoff of wireless clients (users) as they move between different APs across buildings and floors and that provides real-time visibility into the health of all APs, connected client statistics, bandwidth usage per user, and security alerts.

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5. BOQ

Item No.	Item Description	Qty	UoM
1	Next Generation Firewall/ UTM	01	Each
2	24 Ports Core Switch	01	Each
3	10G SFP+ Transceiver	18	Each
4	24 Ports PoE Switch	02	Each
5	Windows Server 2025 Standard License	02	Each
6	42U Rack with all its accessories	01	Each
7	24 Port Patch Panel Loaded	01	Each
8	6 Core OFC Cable	300	Mtr
9	1 Mtr LC to LC Fiber Patch Cord	24	Each
10	12 Ports LC LIU	04	Each
11	24 Ports LC LIU	01	Each
13	Supply, Installation, Testing and Commissioning Charges	01	Each

6. Technical Specifications

Detailed Technical Specifications of the component of the work for SITC of NextGen Firewall for Network Security Solution at NFSU Bhopal Campus:

- 6.1 Next Generation Firewall/ UTM
- 6.2 Core Switch
- 6.3 10G SFP+ Transceiver
- 6.4 24 Ports PoE Switch
- 6.5 Windows Server License
- 6.6 42U Floor Mount Rack
- 6.7 24 Ports CAT6 Patch Panel
- 6.8 6 Core Fiber Cable
- 6.9 OFC LC-LC Patch Cord
- 6.10 12 Ports LIU Loaded
- 6.11 24 Ports LIU Loaded

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6.1 Detailed Technical Specification of Next Generation Firewall/ UTM

S. No.	Specifications
1	Must have fixed 4 x 10GE SFP+, 4 x GE SFP, 8 x GE RJ45 interfaces along with dedicated separate 1GE HA and 1 x 1G management port.
2	The NGFW product should be either a multicore CPU or a custom processor-based architecture with a hardened 64-bit operating system.
3	The proposed solution should have a built-in GUI and CLI to make on-the-go changes in the Firewall policies and for troubleshooting any issues related to the network.
4	The proposed firewall should have internal redundant power supply from day 1. External Adaptor power supply will not consider.
5	Proposed Hardware must have TPM module to store encryption keys /passwords
6	Firewall Throughput Minimum 25 Gbps OR Higher (Measured with 64 Byte)
7	The firewall shall provide Minimum 5 Gbps of Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection and logging enabled on Enterprise Mix / Application Mix.
8	Minimum 5 Gbps of SSL Inspection throughput
9	Concurrent sessions of 8M or above and Minimum connection per second 400K or above
10	The firewall should support IPsec VPN throughput of 10 Gbps
11	Firewall must have a hardened OEM operating system.
12	Should be a hardware appliance based. Firewall, IPSEC and SSL VPN, Antivirus, Anti-Malware, IPS, Web and Application control, DOS prevention, Bandwidth Management and Routing functionalities must be integrated in a single appliance from day 1.
13	Firewall appliance must have at least 5 virtual firewall /instants active from day-1 with each firewall domains/instances having a separate administrative control OR equivalent, Security zones and VLAN.
14	The following features must be available in each virtual firewall domain/instant context environment: Firewall, IPSEC and SSL VPN, IPS, Web and Application Control, Anti Virus /Malware, policy based routing, User and Group management, Logging and Reporting.
15	The appliance should support NAT66, NAT46, NAT64, DNS 64, DHCPv6.
16	Proposed Firewall must have IPS, Advanced Malware Protection, Application Control, URL, DNS & Video Filtering, antivirus and SSL decryption from day 1
17	AV Signatures can be updated in three different ways: manually, via pull technology or push technology. Administrator can schedule to check for new updates or if the device has a public IP address, updates can be pushed to the device each time an update is available.
18	Automatic failover (condition based on ICMP, TCP or UDP protocol) as well as load sharing for outbound traffic.
19	Must support various form of user Authentication methods simultaneously
20	The firewall must be able to support routing protocols including RIP, OSPF, ISIS, BGP and OSPFv3
21	Should support TLSv1.3 decryption in all modes of operation must supported
22	The firewall must have the capability to create DOS prevention policy to prevent against DOS attacks.
23	Should be able to perform Anti-malware scans for HTTP, SMTP, IMAP, POP3, and FTP traffic.
24	The Appliance should have an option to configure wildcard FQDN.
25	All category of firewalls should be able to identify attacks based on Geo-location and define policy to block on the basis of Geo-location.
26	The appliance should support more than 2000 application layer and risk-based controls that can invoke tailored intrusion prevention system (IPS) threat detection policies to optimize security effectiveness.
27	The proposed solution should be able to provide details of the malware / attacks blocked at the firewall level.
28	NGFW should be able to monitor encrypted traffic to detect APTs hidden in SSL traffic.
29	The Propose Antivirus protection shall include advance malware protection: Virus Outbreak Protection Content disarm and reconstruction (CDR)

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30	NGFW should have cloud sandbox functionality to protect organizations from Advanced Persistent Threats. In case any additional license is required, the bidder must include it in the proposal from day one.
31	Firewall should support application signature database and custom application creation
32	The administrator shall be able to define application control list based on selectable application group and/or list and its corresponding actions
33	The proposed system shall be able to queries a real time database of over 250 million + rated websites categorized into 70+ unique content categories.
34	The proposed firewall shall have custom URL-categorization
35	The proposed firewall shall customizable block pages
36	DNS Security should support predictive analytics to disrupt attacks that use DNS for Data theft and Command and Control
37	DNS security capabilities should block known Bad domains
38	Should be able to call 3rd party threat intelligence data on malicious IPs, URLs and Domains to the same firewall policy to block those malicious attributes and list should get updated dynamically with latest data.
39	The proposed solution should support the ability to create QoS policy on a per rule basis- by source address, by destination address, by application by static or dynamic application groups by port and services.
40	Should have inbuilt feature for two factor authentication via OTP (email or mobile) for at least two admin users access from day 1.
41	The security appliance should be having a configurable option to quarantine attack generating source addresses for a defined duration.
42	The Wan load Balancing must be able to fail over between various connections, such as Internet, MPLS, Leased line and even Routed-based VPN interfaces. It should support configuring a threshold on the links on a percentage/ Bandwidth basis.
43	In the proposed should allow the use of the most preferred link based upon Link characteristics (Latency, Jitter, Packet loss) for critical applications as defined in policy from day 1.
44	The proposed solution should support policy-based routing based on applications, source and destination. Policy routing should work along with WAN load-balancing.
45	The proposed solution should support an identity-based routing option, allowing traffic to be forced out of a specific Internet gateway based on authentication rather than IP address.
46	Built-in GUI on the system should have the option to display the logical topology of the network for protecting the Firewall.
47	Proposed vendor should have an in-house threat intelligence team and offer built-in capabilities on firewall to integrate with various security threat feeds using STIX/TAXII/API
48	The OEM must provide 24 X 7 X 365 technical support. The OEM must provide Direct Premium Support with dedicated login credentials with highest level permissions to search knowledge base, downloading of the patches, documents and to manage the device.
49	The proposed product or product family or operating system should be EAL 4 or higher or NDPP certified. Bidder need to submit public website link or documentary proof along with the technical bid.
50	The proposed firewall OEM should be ISO 9001 & ISO 14001 certified. Bidder need to submit public website link or documentary proof along with the technical bid.
51	Proposed firewall or its Operating System should be IPv6 or USv6 or IPv6 logo ready certified. Bidder need to submit public website link or documentary proof along with the technical bid.
52	The Proposed Firewall OEM should not be Blacklisted even once by any Central/State/PSU or any Government organization in last 5 years.
53	Solution must be offered with required security subscriptions and OEM support

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6.2 Detailed Technical Specification of Core Switch

S. No.	Specification
1	L3 Managed Switch should have minimum 24 24x 10G/1G SFP+/SFP slots and minimum 2 x 100G /40GE QSFP+ Ports
2	The proposed switch form factor should 1 RU Rack-Mount Appliance and should have one RJ-45 Serial console or any other type of console port. Switch should have separate dedicated management/service port.
3	Dual internal hot swappable power supply from day
4	Switching capacity of the proposed switch should be minimum 850 Gbps and 1200 Mpps Packet per second.
5	Proposed switch should support routing protocol -static route, RIP, OSPF, BGP from day 1
6	Proposed switch should have redundant Dual Hot Swappable power supply from day 1
7	Proposed Switch should support minimum 64K MAC address and 4000 VLAN's
8	Proposed switch should have the high availability options and support MLAG Or Equivalent
9	Should support DHCP Server and Relay
10	should support dynamic routing protocol OSPF, RIP ,VRRP and BGP
11	Must have IP conflict detection and notification of conflict
12	Minimum IPv4 route entries 8K support
13	Must support jumbo frame
14	Should support Spanning Tree Protocol MSTP native, and backwards compatible with RTSP, STP and STP Root Guard
15	Should support IEEE 802.1ad Link Aggregation, IEEE 802.1q VLAN tagging, LLDP/MED. Should support LACP to aggregate 2x10Gig ports to achieve higher backbone bandwidth.
16	Should support 802.1p support, QoS support prioritizing the traffic
17	Should support 802.1x port-based authentication
18	Should support 802.1x MAC-based authentication, IEEE 802.1x MAC Access Bypass (MAB).
19	Should support IEEE 802.1x Guest and Fallback VLAN
20	Should support IEEE 802.1x Dynamic VLAN Assignment
21	Should support TFTP/SFTP and NTP
22	Switch should support local user database and can integrate with RADIUS, Radius CoA,TACACS+ servers
23	Should support SSH, HTTP,HTTPS with IPv4 and IPv6 Management
24	Switch should support SNMP v1, v2c and v3, IGMP, RMON.
25	Proposed switch should be managed via both, GUI and CLI
26	Should have support storm control and STP root and BPDU guard protection
27	Proposed switch latency < 1μs. Must be available in public document of OEM
28	Power Required :100–240V AC, 50–60 Hz
29	Operating Temperature : 0–45°C, Humidity: 10–90% non-condensing
30	Solution must be offered with required security subscriptions and OEM 24x7 warranty support

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6.3 Detailed Technical Specification of 10G SFP+ Transceiver

SN	Specification
1	Form factor: SFP+
2	Support data rate: 10G
3	Wavelength: 1310 nm
4	Support protocol IEEE 802.3ae
5	Fiber type: Single mode
6	Should support 10 km optical distance
7	Should have LC Duplex optical interface
8	Operating Temperature: 0°C to 70°C
9	Hot-swappable input/output gadget
10	Should be RoHS compliant

6.4 Detailed Technical Specification of 24 Ports PoE Switch (Revised)

SN	Technical specification
1.	Manageable switch should have minimum 24 x 2.5/1 GE RJ45 POE ports and 4x 10GE SFP+ ports
2.	The form factor of the proposed switch should be 1 RU Rack-Mount Appliance
3.	Switching capacity of the proposed switch should be minimum 200 Gbps
4.	Packet per second capacity of the switch should be minimum 300 Mpps
5.	Proposed Switch should support minimum 32K MAC address storage
6.	Proposed switch latency < 1µs. Must be available in public document of OEM
7.	Proposed switch should support 4000 VLANs ID
8.	Proposed switch must have minimum 750W POE power budget
9.	Should support min 1GB memory , maximum to be specified
10.	Should support Jumbo frames and link auto-negotiation
11.	Should support Spanning Tree Protocol MSTP native, and backwards compatible with RTSP, STP and STP Root Guard
12.	Should support Edge Port / Port Fast
13.	IEEE 802.1AX Link Aggregation IEEE 802.1q VLAN tagging, Private VLAN, Voice VLAN
14.	should support Unicast/Multicast traffic balance over trunking port for dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac
15.	Should support IEEE 802.3x Flow Control
16.	Admin Authentication Via RFC 2865 RADIUS
17.	Should support 802.1x port-based authentication
18.	Should support 802.1x MAC-based authentication, IEEE 802.1x MAC Access Bypass (MAB)
19.	Should support IEEE 802.1x Dynamic VLAN Assignment, MAC-IP Binding
20.	Should support Radius CoA (Change of Authority) and Radius Accounting
21.	Switch should support local user database and can integrate with LDAP, RADIUS, TACACS+ servers
22.	should support Storm Control, LoopGuard
23.	Should support IGMP snooping, DHCP snooping (entry limit per port) and Dynamic ARP Inspection
24.	Should support Port mirroring, sFlow, TDR (time- domain reflectometer)/cable diagnostics.
25.	Switch should support 512 ACL entries
26.	Switch should support Policy Control of Users and Devices

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27.	Should support IEEE 802.1p Based Priority Queuing
28.	Should support IP TOS/DSCP Based Priority Queuing
29.	Should support Telnet,SSH, HTTP,HTTPS with IPv4 and IPv6 Management
30.	Switch should support SNMP v1, v2c and v3
31.	Software download/upload: TFTP/FTP/GUI
32.	Proposed switch should be managed via both, GUI and CLI
33.	MUST support multiple configuration files with Dual-firmware image support
34.	Switch should support IP conflict detection and notification
35.	Switches shall inbuilt packet capture feature in both GUI and CLI
36.	Power Required :100–240V AC, 50–60 Hz
37.	Operating Temperature :0–45°C
38.	Humidity: 10–90% non-condensing
39.	Solution must be offered with required security subscriptions and OEM 24x7 warranty support
40.	MUST support multiple configuration files with Dual-firmware image support
41.	Switch should support IP conflict detection and notification
42.	Switches should manage from the proposed switch controller
43.	Power Required :100–240V AC, 50–60 Hz

6.5 Detailed Technical Specification of Windows Server License

SN	Specification
1	Windows Server 2025 Standard - 16 Core License

6.6 Detailed Technical Specification of 42U Floor Mount Rack

S.NO.	Specifications Floor Mount 42U Rack
1	Rack Size - Floor Mount 42U - 800W x 1000D
2	Conforms to DIN 41494 OR equivalent ISO Standards
3	Adjustable 19" equipment mounting verticals provide the better mounting flexibility maximizing the usable mounting space
4	Top and bottom Panel with ventilation and cable entry facility
5	Provision to mount the cooling fans on the top panel
6	Powder coated finish with pretreatment process meeting all industry standards
7	Grounding and Bonding Options
8	100% assured compatibility with all equipment conforming to DIN 41494. General industrial standard for equipment
9	Construction: Welded Frame
10	Front Door: Lockable Toughened Glass Door, Steel Single, Steel Dual
11	Equipment Mounting: DIN Standard 10mm Sq. Slots.
12	Mounting Angle: 19" Mounting angles made of formed steel
13	Top and Bottom Cover: Welded to Frame, Vented and Field Cable entry exit cut outs
14	Mounting Option: Castor wheels (Front 2 wheels with Brakes and rear without brakes) Or Levellers Or Base plinth

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15	Standard Color: Black or Grey
16	Accessories: Power Distribution Units, Cable Manager, Fans and Fan Modules (FHU with 4 FAN 360CFM), Hardware Packet, Jacking Feet
17	Vertical Power Distribution Unit with 2 x (12 x 5/15) sockets Round Pin, 230 Volts AC, 32 Amp with Plug. And 2x Self Tray.
18	OEM Should be international certification for the ISO 45001 Health and Safety Management System, ISO 9001 Quality Management System, ISO 14001 Environmental Management System, and ISO 14064-1 Greenhouse Gas Inventory Standards.

6.7 Detailed Technical Specification of 24 Ports CAT6 Patch Panel

S. No.	Specifications
1	Category 6 24 port Patch Panel should be 24 Port 1U Size loaded with 24 port RJ-45 IO.
2	Mounts in standard 19inch racks.
3	Patch panel should have cable manager for improvement management.
4	Patch panel suitable for Category 6 keystone.
5	Panel material should have SPCC and Black Color.
6	Rear support bar material should have SPCC and Black Color.
7	RJ-45 jack housing should be PBT + Glass fiber UL94V-O and Contact brackets should be PBT + Glass fiber UL94V-O.
8	Rj-45 contact material should be phosphor bronze with nickel plated and plug contact area finish with 50 micro-inches Gold plated.
9	Contact resistance should be maximum 20 milliohm.
10	Operating Temperature should be -10° Celsius to 60° Celsius.
11	Life of RJ-45 Jack should be 750 cycles minimum @ 500 VDC.
12	OEM for the cable box and all copper Accessories should be from same OEM.

6.8 Detailed Technical Specification of 6 Core Fiber Cable

S. No.	Specification
1	The fiber is optimized for operation at 1310 nm and at 1550 nm.
2	The Fiber should be Armoured 6 core unitube 9/125 μm Single Mode fiber with central loose tube jelly compound, high quality ECCS steel tape.
3	Armour Tape: Armoured design with music quality steel wire.
4	Jacket material: HDPE
5	Outer diameter: 7.2 ± 0.5 mm
6	Thickness of the Jacket: 1.8 ± 0.2 mm
7	Pulling Tension: Short Term 1000N, Bend Radius 20D.
8	Crush Load(N/100mm): 2000
9	Refractive index - Fiber type 9/125: - OS1 - 1.4674 and PMD <= 0.2 ps/km.
10	The Fiber Operating Temperature should be – 20 deg C to +60 deg C.
11	The Fiber Max Attenuation :0.34 (db / km) @ Operational Wavelength 1310 nm and, 0.24 (db / km) @ Operational Wavelength 1550 nm.
12	The value for Mode-field/Cladding Diameter (um) 9.3 ± 0.5 and 125 ± 1.0
13	Cable Cut-off wavelength should be <1260 (nm)
14	The Fiber should follow Standards: ANSI/TIA-568-C. 3 and ISO11801, IEC 60793-1/60794-1-2 and ITU-T-REC G.652D

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6.9 Detailed Technical Specification of OFC LC-LC Patch Cord

S.NO.	Optical Fiber Equipment Cords - LC-LC Duplex
1	Optical fiber patch leads shall comprise of Single mode 9/125µm fiber with LC-LC fiber connectors terminated at each end. The optical fiber patch leads shall comply with the following specifications: compatible with industry standards (IEC 61754/TIA/EIA).
2	Single mode G652D, Duplex Type, Cable yellow Color, LSZH
3	Compact & strong crimping offers exceptional tensile strength in cable assemblies.
4	Adopts high precision ceramic ferrule with good concentricity
5	Insertion Loss <0.3 db , Return Loss >/= 50dB for UPC
6	Repeatability: 0.2dB 1000 times mating cycles
7	Working Temperature -10 deg. C to + 70 deg. C, Storage Temperature -20°C ~+70°C
8	Length Should be 1 Meter

6.10 Detailed Technical Specification of 12 Ports LIU Loaded

S.NO.	FIBER PATCH PANELS – RACK MOUNT – 12 port LIU Loaded
1	12 port Loaded LIU accommodate simplex LC single mode adapters with LC Pigtail.
2	1.5mm steel sheet for strong housing, Slim 1 Unit Mounting Height
3	can manage both splices and terminations
4	Preassembled shelves in multiple configurations
5	should have fiber magic sticker provision inside for 900um tight buffered fiber storing
6	Accessory kit consists of cable ties, mounting ear screw and spiral wrap tube, cable saddle.
7	Front-Mounted Cable Saddles for jumper management
8	Rubber grommet allow for pre-terminated fiber trunk installation, protects cable and minimizes dust build-up
9	Adapter panel - Steel, 1.5mm Thickness
10	Splice Tray: Plastic
11	Metal Outer Shelf: Steel, 1.5mm Thickness
12	Fixed design is easy to work for patching the connectors
S.NO.	Optical Fiber Pigtail – LC Type 1 Meter -Specifications
1	Provide a field installable Single mode LC pigtails to terminate fiber optic cables from cable-to-cable, cable-to-equipment and equipment-to-equipment.
2	Utilize a UPC polishing on the tip to provide high yield during installation.
3	Meet TIA/EIA 568.C.3 standards for repeatability.
4	Buffer diameter 900um Tight buffer, Minimum bend Radius: Install :30mm, Retention Strength: 20N, Cable: 900um Buffered
5	Insertion Loss (Max) <0.3 db Max, Return Loss >/= 50 db for UPC
6	Connector ferrule Ceramic, LC Type Simplex Type, Cable Color Yellow
7	Repeatability ≤ 0.2dB 200 times Mating Cycle
8	Operating Temp. -10 deg. C to + 70 deg. C

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6.11 Detailed Technical Specification of 24 Ports LIU Loaded

FIBER PATCH PANELS – RACK MOUNT – 24 port LIU Loaded	
S.NO.	Specifications
1	12 port Loaded LIU accommodate simplex LC single mode adapters with LC Pigtail.
2	1.5mm steel sheet for strong housing, Slim 1 Unit Mounting Height
3	can manage both splices and terminations
4	Preassembled shelves in multiple configurations
5	should have fiber magic sticker provision inside for 900um tight buffered fiber storing
6	Accessory kit consists of cable ties, mounting ear screw and spiral wrap tube, cable saddle.
7	Front-Mounted Cable Saddles for jumper management
8	Rubber grommet allow for pre-terminated fiber trunk installation, protects cable and minimizes dust build-up
9	Adapter panel - Steel, 1.5mm Thickness
10	Splice Tray: Plastic
11	Metal Outer Shelf: Steel, 1.5mm Thickness
12	Fixed design is easy to work for patching the connectors
Optical Fiber Pigtail – LC Type 1 Meter	
S.NO.	Specifications
1	Provide a field installable Single mode LC pigtails to terminate fiber optic cables from cable-to-cable, cable-to-equipment and equipment-to-equipment.
2	Utilize a UPC polishing on the tip to provide high yield during installation.
3	Meet TIA/EIA 568.C.3 standards for repeatability.
4	Buffer diameter 900um Tight buffer, Minimum bend Radius: Install :30mm, Retention Strength: 20N, Cable: 900um Buffered
5	Insertion Loss (Max) <0.3 db Max, Return Loss >/= 50 db for UPC
6	Connector ferrule Ceramic, LC Type Simplex Type, Cable Color Yellow
7	Repeatability ≤ 0.2dB 200 times Mating Cycle
8	Operating Temp. -10 deg. C to + 70 deg. C

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B. Wi-Fi Access Point with Networking

1. Introduction

National Forensic Sciences University, Bhopal Campus aims to implement and deploy a secure, high-performance Wi-Fi 6 and wired network infrastructure across the premises. The deployed network must support high-density usage, provide seamless centralized management and fully meet all functional and technical requirements defined in this document.

The objective is to ensure reliable, high-speed and secure Wi-Fi access for employees and authorized devices across the Campus.

2. Project Objectives

The Bidder must ensure to deploy seamless and reliable wireless connectivity across the campus ensuring high availability, robust security and consistent network performance. The proposed Wi-Fi solution must be a scalable architecture that supports future expansion and technological upgrades that enable centralized control and management of all supplied Access Points and the Switches through a single console interface. The system is required to provide an intuitive Monitoring Dashboard that furnishes at-a-glance summaries of the overall network health, including details on sites, device information, connected clients and critical alarms/warnings.

Furthermore, the solution must facilitate advanced Client Health diagnostics. This capability is required to offer connection analysis for wireless client speeds, effectively simplifying troubleshooting by tracking and monitoring the user's connection progression through all 802.11 stages, EAP authentication, RADIUS, captive portal redirects, encryption key setup, DHCP, and roaming. A robust Reporting structure is mandatory which must provide configurable data on daily, weekly and monthly schedules, tracking real-time client performance metrics, connections, traffic, SNR (signal-to-noise ratio) and historical data rate. These reports must be exportable to the administrator.

The Controller must facilitate temporary, authenticated guest access using a fully administered Guest Pass feature. For enhanced coverage and reliability across the campus, the wireless network must support Mesh Wi-Fi capabilities. Finally for integration with existing monitoring tools and processes, the controller must allow external Integration using industry-standard protocols including SNMP v2/v3, and API.

3. Scope of Work (SoW)

- a) The Bidder's Scope of Work covers all activities required to achieve the Project Objective, from initial design and planning through to final handover and post-implementation support.
- b) The bidder is responsible for the supply, installation, configuration, testing, documentation and warranty support for the components defined in the document.
- c) The bidder must conduct a site survey for the planning of placement of access points in the campus and the Bidder shall submit a site survey certificate duly signed by the competent Authority.
- d) The bidder shall validate the existing LAN infrastructure to ensure readiness for backhaul requirements, including switch ports, VLANs configurations and cabling. The bidder shall provide enterprise-grade Wi-Fi access points, controllers, switches and associated components as specified along with all required licenses, software subscriptions and management tools required for Wi-Fi6 operations and centralized management.
- e) The Bidder shall provide onsite technical support during the handover phase to ensure a smooth transition and timely issue resolution.
- f) The Bidder must also ensure the availability of timely onsite technical support as per the escalation matrix, including defined response and resolution timelines for each escalation level.
- g) Onsite engineers must be available when remote troubleshooting is insufficient or when directed by the NFSU Bhopal.

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- h) The bidder shall provide comprehensive onsite OEM warranty for a period of Three (03) years from date of taking over (TOC) by NFSU Bhopal Campus as part of scope of this tender.
- i) It is expected that bidder and OEM shall ensure that the equipment/components being supplied by them shall not be declared “End of Support Life” for minimum Five (5) years from the date of taking over (TOC) by NFSU Bhopal Campus. If the same is de-supported by the OEM for any reason whatsoever, the bidder shall replace it with a compatible equivalent or higher technical specification that is acceptable to NFSU Bhopal Campus without any additional cost to the and without impacting the performance of the solution in any manner whatsoever.
- j) Bidder shall comply with cyber security recommendations/guidelines issued by various statutory agencies like CERT-In, NCIIPC, CEA, Meity etc. from time-to-time during entire contract period (including extension of contract, if any).
- k) Since the instrument will be installed in the temporary campus initially, vendor should take responsibility of shifting the entire set up (equipment/devices supplied under this project including integration of additional equipment, if any) to Permanent Campus of NFSU Bhopal at a later date even if the contract period is over. This will be a onetime activity and may occur anytime during entire contract period (including extension of contract, if any). During such shifting all requisite configurations/ settings, required to be done at new locations for ensuring functioning of the supplied solution to be performed by the bidder. The bidder shall ensure proper working of the setup as per the technical specifications after shifting of the system to new location.

Note:

- g) The aforesaid scope of work is indicative but not exhaustive.
- h) The License Quoted by the bidder shall be Enterprise Grade Licenses only.
- i) Unless expressly stated otherwise, all solutions shall be provided by the Bidder. bidder is required to factor the necessary software, services as per defined scope. Additionally, the Bidder is required to design, size, procure, deliver, implement, deploy, parameterize, customize, interface/ integrate, train, maintain and manage the end-to-end solutions as per the scope.
- j) In case, the Bidder has not indicated any component/module in their proposed solution that is required for providing services, the successful Bidder shall have to provide required services within the contracted price at no additional cost to Owner.
- k) In case of discrepancies observed in various sections of Technical Specification for the same requirement, higher configuration /value shall be considered.
- l) If there is any conflicting requirement specified in different sections of technical specifications, the applicable requirement shall be decided by the NFSU Bhopal Campus and that shall be binding on the contractor/successful bidder.

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4. BoQ

Item No.	Item Description	Qty	UoM
1	Wireless Indoor Access Point	15	Each
2	Network Controller	01	Each
3	24 Ports PoE Switch	01	Each
4	12U Rack with its accessories	02	Each
5	24 Port Patch Panel Loaded	02	Each
6	CAT6 Patch Cord 1 Mtr	15	Each
7	CAT6 Cable UTP 305 Mtr Bundle	03	Each
8	PVC Conduit	500	Mtr
9	Supply, Installation, Testing and Commissioning Charges	01	Job

5. Technical Specifications:

Detailed Technical Specifications of the component of the work for SITC of Wi-Fi Access Point with Networking at NFSU Bhopal Campus:

- 5.1 Wi-Fi 6 Indoor Access Point
- 5.2 Network Controller
- 5.3 24 Ports PoE Switch
- 5.4 12U Wall Mount Rack
- 5.5 24 Ports CAT6 Loaded Patch Panel
- 5.6 CAT6 Patch Cord
- 5.7 CAT6 Cable

5.1 Detailed Technical Specification of Wi-Fi 6 Indoor Access Point

SN	Technical specification
1.	The Access Point should support 802.11ax Wi-Fi 6 OR higher standard
2.	Must have the interla Three-Radio 2.4GHz , 5GHz and 6GHz (Optional) ,1 BLE/Zigbee antenna and 1 GPS antenna
3.	Should have minimum 1 x 2.5G Multigigabit Ethernet (RJ45), 1x RS232 RJ45 Serial Port
4.	Should support 2x 2 MU-MIMO
5.	The access Point should support throughput 2.5 Gbps Or Higher Aggirgated throughput
6.	Access point should support SSID's in Tunnel, Local Bridge, and mesh mode.
7.	Should support 8 Simultaneous SSIDs on client serving radio
8.	Should support following EAP types : EEAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM, EAP-AKA, EAP-FAST
9.	Access point should support IEEE standards minimum 801.1x and back ward compitible
10.	Should have physical security lock (such as Kensington lock)
11.	Should support mounting options of Ceiling, T-Rail and wall all these accessories should included with box. If not quote all mounting kit.
12.	Access point should support below Wireless Monitoring Capabilities

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13.	a) Rogue Scan Radio Modes should support both background and dedicated
14.	b) WIPS / WIDS Radio Modes should support both background and dedicated
15.	c) should support Spectrum Analyzer
16.	d) should support Packet Sniffer Mode
17.	Must support Reliable Multicast Video to maintain video quality
18.	Should support Local AP diagnostic web portal, Command line(CLI) directly to access point.
19.	Access point Operating Temperature should be: 0–45°C
20.	WiFi Alliance certified for 6 OR 7
21.	Solution should be supplied with OEM technical support and warranty
22.	Access point should have TEC, BIS, WPC (ETA), IPv6 logo ready, CE, FCC, IEC 60950 and RoHS certificates.
23.	OEM should have ISO-9001:2015, ISO-14001:2015, ISO-20000-1:2018, ISO-27001:2013, ISO-45001:2018, ISO/IEC 15408 and CMMi Level 3 certificates.
24.	Controller must be supplied with a comprehensive warranty for a minimum period of three (3) years.

5.2 Detailed Technical Specification of Network Controller

SN	Technical specification
1.	Controller and WiFi Access Points should be from the same OEM
2.	Bidder may offer combined wireless controller functionality with an NGFW appliance available with the same OEM, and compliance with the required specifications.
3.	Hardware On premise wireless controller should be able to manage up to 50 wireless AP from Day 1.
4.	Dual internal Power Supply
5.	Proposed solution must have at least 1 x 10G interface and 2 x 1G Copper interface
6.	The Solution must support 802.11ax primarily and should be backward compatible to 802.11 ac/n/a/b/g Wave 2 standards-based wireless Access Points.
7.	Must support IPv4 & IPv6. Proposed solution OS OR Model OR Family must be Ipv6 / Usv6 Certified.
8.	The proposed controller must have a security feature. 2FA for at least 2 admins to access the controller
9.	The solution should support Guest Portal from Day 1 with multiple authentication Mechanisms
10.	The solution should be scalable to support WIPS, Rouge AP detection and Honeypot AP detection
11.	Should be able to provide insights based on successful connections/connected clients, coverage, capacity / performance, AP Uptime, Roaming and throughput.
12.	Should be able to integrate with various external authentication mechanism include the RADIUS servers, LDAP, AD etc.
13.	Must support Packet capture to enhance troubleshooting.
14.	Must be able to time limit base access per SSID based uplink or downlink Bandwidth.
15.	Must be able to limit per user-based uplink or downlink bandwidth.
16.	Must be able to set a maximum per-user bandwidth limit on a per-SSID basis.
17.	Controller must support deep packet inspection for all user traffic across Layer 4-7 network to analyze information about applications usage, peak network usage times for all access points from day 1.
18.	Should be able to handle interference and shift the communication on another channel automatically if, needed.
19.	Providing alerts when APs are down, or compromised RF environment is detected.
20.	Should be able to create access policies based on various groups / labels / subnets.
21.	Should be able to extend API to integrate with other systems as well.

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22.	Must provide real-time charts/log showing interferers per access point, on a per- radio, per-channel basis.
23.	Must be able to classify different types of interferences.
24.	Controller must support automatic DHCP based IP allocation to end points.
25.	Controller must support DHCP based allocation of separate IP series for different SSIDs.
26.	Wireless controller support the following types of client load balancing: a) Access Point Hand-off - the wireless controller signals a client to switch to another access point. b) Frequency Hand-off - the wireless controller monitors the usage of 2.4GHz and 5GHz bands, and signals clients to switch to the lesser-used frequency automatically.
27.	The wireless controller should include the following features.
28.	Wireless guest management, Captive portal support for user login
29.	Content security and filtering
30.	RF Management a) Having Automatic Channel Allocation b) Having Automatic Power Control c) Supporting Neighbourhood scanning of RF environment to minimise neighbouring AP interference and leakage across floors. d) Having Coverage Hole Detection e) Providing alerts when APs are down or compromised RF environment is detected f) Having Self healing - Automatic neighbouring AP power increase to fill in for coverage losses g) Rogue AP detection and Blocking h) Should support Spectrum Analysis
31.	Solution supply with OEM 24x7 support and warranty and require licences from 1.
32.	Controller should have CE, FCC, IEC 60950, TEC, and BIS certificates.
33.	OEM should have ISO-9001:2015, ISO-14001:2015, ISO-20000-1:2018, ISO-27001:2013, ISO-45001:2018, ISO/IEC 15408 and CMMi Level 3 certificates.
34.	Controller must be supplied with a comprehensive warranty for a minimum period of three (3) years.

5.3 Detailed Technical Specification of 24 Ports PoE Switch

SN	Technical specification
1.	Manageable switch should have minimum 24 x 2.5/1 GE RJ45 POE ports and 4x 10GE SFP+ ports
2.	The form factor of the proposed switch should be 1 RU Rack-Mount Appliance
3.	Switching capacity of the proposed switch should be minimum 200 Gbps
4.	Packet per second capacity of the switch should be minimum 300 Mpps
5.	Proposed Switch should support minimum 32K MAC address storage
6.	Proposed switch latency < 1µs. Must be available in public document of OEM
7.	Proposed switch should support 4000 VLANs ID
8.	Proposed switch must have minimum 750W POE power budget
9.	Should support min 1GB memory , maximum to be specified
10.	Should support Jumbo frames and link auto-negotiation
11.	Should support Spanning Tree Protocol MSTP native, and backwards compatible with RTSP, STP and STP Root Guard
12.	Should support Edge Port / Port Fast
13.	IEEE 802.1AX Link Aggregation IEEE 802.1q VLAN tagging, Private VLAN, Voice VLAN
14.	should support Unicast/Multicast traffic balance over trunking port for dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac
15.	Should support IEEE 802.3x Flow Control
16.	Admin Authentication Via RFC 2865 RADIUS

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17.	Should support 802.1x port-based authentication
18.	Should support 802.1x MAC-based authentication, IEEE 802.1x MAC Access Bypass (MAB)
19.	Should support IEEE 802.1x Dynamic VLAN Assignment, MAC-IP Binding
20.	Should support Radius CoA (Change of Authority) and Radius Accounting
21.	Switch should support local user database and can integrate with LDAP, RADIUS, TACACS+ servers
22.	should support Storm Control, LoopGuard
23.	Should support IGMP snooping, DHCP snooping (entry limit per port) and Dynamic ARP Inspection
24.	Should support Port mirroring, sFlow, TDR (time- domain reflectometer)/cable diagnostics.
25.	Switch should support 512 ACL entries
26.	Switch should support Policy Control of Users and Devices
27.	Should support IEEE 802.1p Based Priority Queuing
28.	Should support IP TOS/DSCP Based Priority Queuing
29.	Should support Telnet,SSH, HTTP,HTTPS with IPv4 and IPv6 Management
30.	Switch should support SNMP v1, v2c and v3
31.	Software download/upload: TFTP/FTP/GUI
32.	Proposed switch should be managed via both, GUI and CLI
33.	MUST support multiple configuration files with Dual-firmware image support
34.	Switch should support IP conflict detection and notification
35.	Switches shall inbuilt packet capture feature in both GUI and CLI
36.	Power Required :100–240V AC, 50–60 Hz
37.	Operating Temperature :0–45°C
38.	Humidity: 10–90% non-condensing
39.	Solution must be offered with required security subscriptions and OEM 24x7 warranty support
40.	MUST support multiple configuration files with Dual-firmware image support
41.	Switch should support IP conflict detection and notification
42.	Switches should manage from the proposed switch controller
43.	Power Required :100–240V AC, 50–60 Hz

5.4 Detailed Technical Specification of 12U Wall Mount Rack

S.NO.	Specifications
1	Rack Size
2	Wall Mount 12U - 550W x 600D.
3	Features:
4	Conforms to DIN 41494 OR equivalent ISO Standards
5	Adjustable 19" equipment mounting verticals provide the better mounting flexibility maximizing the usable mounting space
6	Top and bottom Panel with ventilation and cable entry facility
7	Provision to mount the cooling fans on the top panel
8	Powder coated finish with pretreatment process meeting all industry standards
9	Depth adjustable mounting slots.

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10	Grounding and Bonding Options 100% assured compatibility with all equipment conforming to DIN 41494. General industrial standard for equipment
11	Construction: Welded Frame
12	Front Door: Lockable Front Glass Door (tinted, Toughened) with Lock & Key, 2 pairs of 19" Mounting Rails with U-Marking.
13	Equipment Mounting: DIN Standard 10mm Sq. Slots.
14	Mounting Angle: 19" Mounting angles made of formed steel
15	Top and Bottom Cover: Welded to Frame, Vented and Field Cable entry exit cut outs
16	Standard Color: Grey
17	Accessories: Power Distribution Units (6 Socket 5/15 Amp. Power Distribution Unit (1 No), Cable Manager, Fans and Fan Modules (Roof Mounted Fan Unit / 90 CFM /230V AC (1 Nos), Hardware Packet etc.
18	Static Load: - 40KG

5.5 Detailed Technical Specification of 24 Ports CAT6 Loaded Patch Panel

S. No.	Specifications
1	Category 6 24 port Patch Panel should be 24 Port 1U Size loaded with 24 port RJ-45 IO.
2	Mounts in standard 19 inch racks.
3	Patch panel should have cable manager for improvement management.
4	Patch panel suitable for Category 6 keystone.
5	Panel material should have SPCC and Black Color.
6	Rear support bar material should have SPCC and Black Color.
7	RJ-45 jack housing should be PBT + Glass fiber UL94V-O and Contact brackets should be PBT + Glass fiber UL94V-O.
8	Rj-45 contact material should be phosphor bronze with nickel plated and plug contact area finish with 50 micro-inches Gold plated.
9	Contact resistance should be maximum 20 miliohm.
10	Operating Temperature should be -10° Celsius to 60° Celsius.
11	Life of RJ-45 Jack should be 750 cycles minimum @ 500 VDC.

5.6 Detailed Technical Specification of CAT6 Patch Cord

S. No.	Specifications
Features	
1	Category 6 patch cords with four pair twisted cable terminated with RJ45 modular plugs at both the ends.
2	Patch Cord should have TIA/EIA 568C.2 standard.
3	Category 6 patch cord should be 100% factory made and performance tested.
4	Category 6 patch cord length requires – 1 meter.
5	Color code for Patch Cord: Grey/Blue/Green
6	UL Application - PC UL94-V-0
Performance Characteristics	
7	Patch cord conductor should be 24 AWG, multi-strands.
8	Patch cord conductor metal should be made from bare copper.
9	Insulation material should be high density polyethylene, material used should be FRPVC
10	Insertion cycle- 750 Times.
11	Dielectric voltage- 1000V DC/Min <05A
12	Insulation Resistance - >500M Ohm, 1000DC/Min
Modular Connector/Plug Characteristics	
13	Patch cord plug should be gold plated.

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14	Patch cord should support heat resistance max 75 degree C
15	Contact blade of plug should be made from copper alloy.

5.7 Detailed Technical Specification of CAT6 Cable

S. No.	Unshielded Twisted Pair Category 6 Cable
Features	
1	Category 6 Unshielded Twisted 4 pair shall be compliant with ANSI/TIA/EIA-568-C.2 and ISO/IEC 11801 Class E.
2	Should support 1000BASE-T (1 Gigabit Ethernet) standard.
3	Category 6 should operate on bandwidth up to 250MHz as per standard.
Construction Characteristics	
4	Conductor should be 23 AWG solid bare copper.
5	Conductor Insulation material should be HDPE.
6	Four twisted pairs separated by internal X shaped, full separator. Half shall not be accepted.
7	Sheath material should be FR-PVC.
8	Cable outer diameter should be 6.1 mm nominal.
9	Cable weight should be 13.6Kg/Box.
Electrical Properties	
10	Conductor Resistance: $\leq 9.38\Omega/100m$
11	Mutual Capacitance: $< 5.6nF/100m$
12	Resistance Unbalance: 5% Max
13	Delay Skew: $< 45nS$
14	Capacitance unbalance: 330pF/100m
15	NVP: 69%
Other Characteristics	
16	Each meter printed with sequential Length Counter
17	Temperature Range -20° to $+70^{\circ}C$
18	Approval : UL Listed & ETL Verified
19	OEM Should be International certification for the ISO 45001 Health and Safety Management System, ISO 9001 Quality Management System, ISO 14001 Environmental Management System, and ISO 14064-1 Greenhouse Gas Inventory Standards.
20	OEM for the cable Box and all copper Accessories should be from same OEM.

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Bid Specific Terms & Conditions:

1. Firm should have ISO 9001 and 27001 Certification.
2. Supply, Installation, implementation/configuration, integration, migration, replication, testing, training, maintenance and support of all the items supplied under the project during the contract period including extension of contract, if any.
3. The bidder shall provide comprehensive OEM onsite warranty for a period of 03 (Three) years as part of scope of this tender from the date of taking over (TOC) by NFSU Bhopal. Bidder should submit OEM undertaking to provide warranty for 03 years for supplied component by respective OEM and should have back-to-back warranty arrangement with respective OEM to ensure smooth operations. All products procured under this RFP should be with 24x7, 4-hour support from OEM. The bidder shall provide documentary evidence for the same.
4. The Bidder shall ensure that the spares and updates/upgrades for all the Hardware Items and their associated software's shall be available for Five (05) years from the date of SITC. Also, the bidder shall ensure that the patches, updates/upgrades for all the Software Items shall be available for Five (05) years from the date of SITC.
5. Prepare the designs, architecture and implement the solution in line with best practices in the industry, regulatory guidelines, IT Act 2000 (along with its amendments), standards as modified from time to time or any other law of the land which may be applicable.
6. The bidder shall configure Hardware and Systems Software as per the latest ISO 27001 Standard best practices.
7. Bidder shall mention country of origin of proposed OEM under the project. Bidder shall follow Government of India Guidelines in this regard while proposing the system.
8. The bidder shall ensure that all equipment & software supplied are IPv6 compliant.
9. Given BOQ is minimum requirement of NFSU Bhopal and has to be supplied by bidder. Bidder can offer higher or better or additional items, if required to meet their solution requirement at no extra cost.
10. The selected bidder shall be responsible to provide all facilities like labour, transportation, tool kits, testing equipment, cables, connectors, power cords etc. within scope of work which is necessary for successful deployment of solution. Transportation, lodging and boarding of manpower shall be in Supplier's scope.
11. All the proposed Hardware should support all upgrades, versions, releases of the software, licenses as and when released by OEM for the entire period of the project.
12. Bidder is responsible for developing and implementing the security configuration, hardening of all the devices and software that are procured under the project as per industry standard. Also, they have to periodically review the guidelines and configure.
13. Bidder has to also maintain (non-comprehensive) the list of existing equipment's listed at BoQ. Bidder need to coordinate and manage it as a part of Operations & Maintenance.

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Checklist of Documents to be submitted

(THE BID DOCUMENTS HAVE TO BE UPLOADED)

Sl. No.	Documents	Submitted (Yes/No)
1.	Details of Registration of firm	
2.	Annexure I to Annexure IX – Duly seal signed on letterhead of firm/OEM must be submitted.	
3.	<u>Annexure VIII - Manufacturer Authorization Form (MAF) - Duly seal and inked signed on letterhead of OEM for each active component</u> with current date of the bid with proper name, mail id, designation & contact no. in the certificate must be submitted.	
4.	<u>Annexure X - Compliance with Technical specification – Duly seal and inked signed on letterhead of OEM</u> current date of the bid with proper name, mail id, designation & contact no. in the certificate must be submitted.	
4.	Bidder's Annual turnover/Audited Balance Sheet and Profit & loss accounts/ certified by Chartered Accountant with valid UDIN	F.Y. 2024-25
F.Y. 2023-24		
F.Y. 2022-23		
5.	Copy of PAN Card	
6.	Copy of GST Registration	
7.	Copy of Registration Certificate	
8.	Technical specification catalogue/brochure of offered make and model	
9.	Any other Certificate, If any a) b) c)	

Date:

(Seal & Signature of the bidder)

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1. General Terms and Conditions

(a) The Earnest Money:

- I. Earnest money by means of a of Account Payee Demand Draft/ Fixed Deposit Receipt / Online Transfer/ Bank Guarantee may be enclosed with the Technical Bid. It is also clarified that the quotations received without earnest money in technical bid will be summarily rejected. The of Account Payee Demand Draft/ Fixed Deposit Receipt / Online Transfer/ Bank Guarantee may be prepared in the name of “**National Forensic Sciences University Bhopal Campus**” payable at Bhopal M.P. Hard copy of EMD must be submitted within one week after end date of Bid submission.
- II. No request for transfer of any previous deposit of earnest money or security deposit or payment of any pending bill held by the NFSU in respect of any previous work will be entertained.
- III. Bidder shall not be permitted to withdraw his offer or modify the terms and conditions thereof. In case the Tenderer fails to observe and comply with stipulations made herein or backs out after quoting the rates, the aforesaid amount of earnest money will be forfeited by the NFSU.
- IV. The Tenders without Earnest Money will be summarily rejected.
- V. **EMD EXEMPTION:** The bidder seeking EMD exemption, must submit the valid supporting document for the relevant category as per GeM GTC with the bid.

Following categories of Sellers shall however, be exempted from furnishing Bid Security:

- i. **Micro and Small Enterprises (MSEs) who are holding valid Udyam Registration and are manufacturer of the offered Product or Service (Primary Product / Service - in case of bunch bid with total value wise evaluation) and give specific confirmation to this effect at the time of bid submission and claim EMD exemption and whose credentials are validated online through Udyam Registration website of Ministry of MSME and also through supporting document uploaded during bidding process.**
- ii. **Start-ups as recognized by Department for Promotion of Industry and Internal Trade (DPIIT), holding valid Startup Recognition Certificate (which is to be uploaded while bidding and claiming EMD exemption and to be validated by the Buyer) and are manufacturer of the offered Product or Service (Primary Product / Service - in case of bunch bid with total value wise evaluation). Bidder to ensure that turnover for any of the financial years has not exceeded beyond limits prescribed in the certificate / Start Up scheme of DPIIT.**
- iii. **KVIC, ACASH, WDO, Coir Board, TRIFED and Kendriya Bhandar.**
- iv. **Sellers who have got their credentials verified through the process of Vendor Assessment by Vendor Assessment Agencies for the Primary Product / Primary Service for which Bid / RA has been invited and holding valid Vendor Assessment or Vendor Assessment Exemption Report / confirmation (Seller to upload VA report / VAE confirmation).**
- v. **Sellers / Service Providers holding valid BIS License for the Primary Product Category whose credentials are validated through BIS database and through uploaded supporting documents.**
- vi. **No Claim shall lie against the NFSU in respect of erosion in the value or interest on the amount of EMD.**
- vii. **The EMD, in case of successful bidders shall be returned after submission of performance security and in case of unsuccessful bidders shall be retained by the Purchaser, up to a maximum period of 6 months from the date of opening of the Bids or till the finalization of the tender, whichever is later. The bid security shall be refunded to the unsuccessful Tenderer on written request. No interest will be payable by the NFSU authorities on the EMD.**

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viii. Bid Security submitted by the bidder shall be forfeited, if the bidder:

- a) Withdraws or modify or impairs or derogates from the bid in any respect within the period of validity of its bid; or
- b) If it comes to notice that the information / documents furnished General Terms and Conditions on GeM 4.0 (Version 1.25) dt 14th July 2025 in its bid is false, misleading or forged; or
- c) Fails to furnish requisite performance security within stipulated time required as per e-bid / RA conditions.

(b) At any time prior to date of submission of tender, the competent authority may modify the terms & conditions of the tender document by a corrigendum displayed on the website of NFSU Gandhinagar (<http://www.nfsu.ac.in>). The competent authority may or may not, at his discretion, extend the date and time for submission of tenders.

(c) Right of acceptance:

The NFSU Bhopal Campus reserve the right to accept the whole or any part or portion of the bid; and the bidder shall provide the same at the rates quoted. The NFSU Bhopal Campus reserve the right to reject any or all tenders / quotations or all offers received in response to the tender or cancel or withdraw the tender notice without assigning any reason thereof and also does not bind itself to accept the lowest quotation or any tender and no claim in this regard shall be entertained.

(d) Delivery: Delivery of goods shall be made by the supplier as per tender from the date of purchase order.

(e) INSPECTION:

I. NFSU Bhopal Campus shall have the right to inspect and/or to test the goods to confirm their conformity to the Tender Specifications at no extra cost to the NFSU Bhopal Campus.

II. The Director, NFSU Bhopal Campus shall be the final authority to reject full or any part of the supply which is not confirming to the specification and other terms and conditions.

III. No payment shall be made for rejected Stores. Rejected items must be removed by the Bidders within one week from the date of rejection at their own risk and cost and replaced immediately. In case these are not removed, these will be auctioned at the risk and responsibility of the suppliers without any further

(g) Warranty

- i. The warranty of entire equipment's / hardware (including OS) & software deployed for this project shall be onsite, comprehensive, back-to-back from OEM, with Advance replacement of hardware for a period of 3 years (36 months) from the date of acceptance.
- ii. The bidder will warrant all the hardware and software against defects arising out of faulty design, materials and media workmanship of the hardware and software. The bidder will provide support for hardware and pre-installed software components including operating system during the warranty period. Defective hardware shall be replaced by the vendor at his own cost, including the cost of transport.
- iii. The bidder warrants that the Goods supplied under the Contract are new, unused and the most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.
- iv. The bidder further warrants that all the Goods supplied under this Contract shall have no defect arising from design, materials or workmanship or from any act or omission of the bidder, that may develop under normal use of the supplied Goods in the conditions prevailing at the final destination.
- v. The warranty should cover all parts including updates, upgrades of software, maintenance or support for its proper operation, performance and output as specified in the tender technical specifications for a period of 36 months from the Date of acceptance by the NFSU Bhopal at no cost to NFSU Bhopal.
- vi. The bidder shall guarantee an uptime of 99.5% for all the locations where the equipment's are commissioned, during warranty, if contracted, which shall be calculated on monthly basis.

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- vii. The "Downtime" is the time between the Time of Report by the NFSU Bhopal and Time of Restoration/resolution within the contracted hours. "Failure" is the condition that renders the NFSU Bhopal unable to communicate through Network Devices. "Restoration" is the condition when the selected bidder demonstrates that the Network Switch is in working order and the NFSU Bhopal acknowledges the same.
- viii. The Downtime calculated shall not include any Failure due to NFSU Bhopal (Power, WAN links, cabling fault etc.) Preventive maintenance activity.
- ix. The percentage uptime is calculated on monthly basis (24 hours a day).
- x. If the bidder fails to maintain guaranteed uptime of 99.5% per month for all the ordered locations, the NFSU Bhopal shall impose penalty as mentioned in section 4.14.15.
- xi. Bidder's hardware engineer will report at NFSU Bhopal offices within '**TWO HOURS**' for [Call-to-Response] of reporting of breakdown through telephone/ email / portal or Fax or courier at the vendor's office as per call logging and escalation matrix. Bidder shall resolve the issue after reporting it within '**FOUR HOURS**' [Call-to-Resolution] for network equipment's delivered at all locations.
- xii. Penalty for shortfall in Performance Compliance Level: Amount of penalty to be calculated on monthly basis for the shortfall in performance compliance level is as under:
 - a- If the contractor/OEM fails to visit the location within 02 Hrs after lodging complaints
A Penalty for each complains= {Rs 1000/-} X down time in number of next working days.
(Whichever is higher)
- xiii. In case a fault at the individual switch location is not rectified within 24 hrs of reporting, a penalty of Rs. 2000/- (Rs Two thousand only) per switch per working day shall be imposed for the total period starting from reporting time of failure. This penalty shall be applied for each location separately.
- xiv. The amount of penalty may be claimed/ adjusted while releasing the Performance Bank Guarantee or the warranty period for the hardware will be extended accordingly.
- xv. During the Warranty period, the bidder will have to undertake system maintenance and replacement or repair of defective parts or systems.
- xvi. The NFSU Bhopal shall promptly notify the bidder in writing / e-mail / fax of any claims arising under this warranty. Upon receipt of such notice the Vendor shall, as mentioned below, repair or replace the defective goods or parts thereof, without any cost to the NFSU Bhopal.
- xvii. In case equipment is taken away for repairs or the down time of any piece of equipment or component thereof exceeds the agreed Call-To-Resolution time, the bidder shall provide standby equipment of the same or higher configuration at no cost to the NFSU Bhopal till the original equipment is repaired and made operational.
- xviii. In case some equipment is declared by the bidder as beyond repairs, the vendor shall provide a replacement equipment of the same or higher configuration from the same OEM with prior approval of the NFSU Bhopal.
- xix. Free on-site maintenance services shall be provided by the bidder during the period of warranty.
- xx. Any corruption in the software or media shall be rectified during the full period of the contract including warranty, if contracted, at no extra cost to the NFSU Bhopal.
- xxi. The bidder shall make available the spare parts, components etc., for the equipment's for a minimum period of five years. If any of the peripherals/components are not available during the warranty / AMC period, the substitution shall be carried out with peripherals/components of equivalent or higher capacity with prior approval of the NFSU Bhopal.

f) Liquidated Damages

Supply of material will have to be completed as per the period mentioned in the purchase order. The liquidated damages charges @ 0.5% per week shall be imposed if supply made after expiry of delivery period subject to maximum 10% of the total value of goods/contract value. Quantum of liquidated damages assessed and levied by the purchaser shall be final and not challengeable by the supplier.

(g) Risk Purchase

If successful Tenderer fails to supply material within the stipulated delivery date or material supplied other than specification specified in tender, NFSU Bhopal Campus reserves the right to procure same or equivalent material

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from alternative sources at the vendor's risk, responsibility and cost. Any extra cost incurred in the procurement of the material from alternative source will be recovered from the Security Deposit / Bank Guarantee and Pending Bills and if the value of the materials under risk purchase exceeds, the amount of Security Deposit and / or Bank Guarantee and Pending Bills, the same may be recovered, if necessary, by due legal process.

(h) The Payment clause:

- The bill in triplicate may be sent to this office for settlement after satisfactorily delivery of the material. The bill should have full particulars of the item(s).
- No payment shall be made in advance nor shall the loan from any bank or financial institutions be recommended on the basis of the order of award of work.
- The contractor shall submit the bill only after supply of material up to to satisfaction of the NFSU Bhopal Campus, on receipt of a pre-receipted bill /invoice from the Contractor. No payment will be made for goods rejected.

(i) Security Deposit

- a) The successful bidder will be required to furnish a Security Deposit of an amount of 5% of Contract Value after receiving of Letter of Award in the form of Bank Guarantee/Demand Draft which shall be valid for 60 days beyond completion of all the contractual obligations.
- b) The security deposit can be forfeited by order of this Institute in the event of any breach or negligence or non-observance of any condition of contract or for unsatisfactory performance or non-observance of any condition of the contract.
- c) Security Deposit will be discharged after completion of contractor's performance obligation under the contract.
- d) No interest on Security Deposit shall be paid by the NFSU Bhopal Campus to the Bidder.

(j) Breach of Terms and Conditions:

In case of breach of any terms and conditions as mentioned above, the Competent Authority, will have the right to cancel the work order/ job without assigning any reason thereof and nothing will be payable by NFSU Bhopal Campus in that event the security deposit shall also stand forfeited.

(k) Subletting of Work:

The firm shall not assign or sublet the work/job or any part of it to any other person or party without having first obtained permission in writing of NFSU, Bhopal Campus, which will be at liberty to refuse if thinks fit. The tender is not transferable. Only one tender shall be submitted by one Tenderer.

(l) Arbitration:

If any conflict or difference arises concerning this agreement, its interpretation on payment to the made there-under, the same shall be settled out by mutual consultation and negotiation. If attempts for conciliation do not yield any result within a period of 30 days, either of the parties may make a request to the other party for submission of the dispute for decision by an Arbitral Tribunal containing Sole Arbitrator to be appointed by The Campus Director, NFSU Bhopal Campus. Such requests shall be accompanied with a panel of names of three persons to act as the sole arbitrator. In case of such arbitrator refusing, unwilling or becoming incapable to act or his mandate having been terminated under law, another arbitrator shall be appointed in the same manner from among the panel of three persons to be submitted by the claimant. The provision of Arbitration and Conciliation Act, 1990 and the rule framed there under and in force shall be applicable to such proceedings.

(m) Legal Jurisdiction:

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The agreement shall be deemed to have been concluded in Bhopal, M.P., and all obligations hereunder shall be deemed to be located at Bhopal, M.P., and Court within Bhopal, M.P., will have Jurisdiction to the exclusion of other courts.

(n) Fall Clause

If the Annual Rate Contract holder firm reduces its price or sells or even offers to sell the Annual Rate Contracted goods following conditions of sale similar to those of the Annual Rate Contract, at a price lower than the Annual Rate Contract price, to any person or organization during the currency of the Annual Rate Contract, the Annual Rate Contract price will be automatically reduced with effect from that date for all the subsequent supplies under the Annual Rate Contract and the Annual Rate Contract amended accordingly.

(o) Force Majeure

1. Notwithstanding the provisions of GCC Clauses relating to extension of time, penalty and Termination for Default the Supplier shall not be liable for forfeiture of its security deposit, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
2. If the performance in whole or in part or any obligations under the contract is prevented or delayed by any reason of Force Majeure for a period exceeding 60 days, either party may at its option terminate the contract without any financial repercussions on either side.

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Annexure I

Undertaking

Acceptance Of Terms & Conditions Of Tender

(Duly sealed and signed certificate on Company/ Firm's Letterhead)

**To,
The Campus Director,
National Forensic Sciences Bhopal Campus
C/o CFSL Bhopal,
Barkheda Bonder, Indore Bhopal Highway,
Bhopal**

Subject: Acceptance of All Terms & conditions of Tender.

Tender ref: GeM tender No. _____ dated _____

Dear Sir,

1. I/We have Downloaded/obtained the tender document(s) for the above-mentioned Tender enquiry no. from the GeM portal/website.
2. I/We hereby certify that I/we have read entire terms & conditions of the tender documents (including all documents like annexure, schedules etc.) along with Additional terms and conditions (ATC) which form part of the tender document and I/we shall be abiding by the terms & conditions/clauses contained therein
3. The corrigendum(s) issued from time to time by NFSU, Bhopal Campus to have also been taken into consideration, while submitting this acceptance letter.
4. I/We do hereby declare that I/We have read and understood the entire specifications/requirements laid down in the tender document and have prepared the bid compliance with the requirements specified in the document.
5. I/We hereby unconditionally accept the tender conditions of above-mentioned tender document(s)/corrigendum(s) in totality/entirely.
6. In case any provisions of this tender are found violated, NFSU, Bhopal Campus shall be at liberty to reject this tender/bid and we shall not have any claim/right against NFSU, Bhopal Campus in satisfaction of this condition.

Date:

(Seal & Signature of the bidder)

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Annexure II

Bid-Securing Declaration Form

(Duly sealed and signed certificate on Company/ Firm's Letterhead)

Date: _____
GeM Bid No: _____

**To,
The Campus Director,
National Forensic Sciences Bhopal Campus
C/o CFSL Bhopal,
Barkheda Bonder, Indore Bhopal Highway,
Bhopal**

Respected Sir,

I/We. The undersigned, declare that: I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of two year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Date:

(Seal & Signature of the bidder)

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Annexure III

Undertaking

self-declaration certificate for the clean track record

(Duly sealed and signed certificate on Company/ Firm's Letterhead)

To,
The Campus Director,
National Forensic Sciences Bhopal Campus
C/o CFSL Bhopal, Barkheda Bonder, Indore Bhopal Highway,
Bhopal

Subject: Declaration regarding Blacklisting, Fraud and Corrupt Practices & Land Border -reg.

Respected Sir,

1. I -----Proprietor/ Director/ Partner of the firm M/s.-----
-----do hereby solemnly affirm that the firm M/s. -----has never
been black listed/debarred by any organization/office and there has not been any work cancelled
against them for poor performance in the last three years reckoned from the date of invitation of
Tender.
2. We certify that during the last 3 years, we have neither failed to perform on any contract,
as evidenced by Imposition of a penalty by an arbitral or judicial authority or a judicial
pronouncement or arbitration award, nor been expelled from any project or contract by any
public/private authority nor have had any contract terminated by any public authority for breach
on our part.
3. There is no vigilance/CBI case or court case pending against the firm. This is to declare and certify that
neither myself nor my firm has ever been blacklisted by any Govt./Semi Govt./Public/Private Institution.
4. We have not directly or indirectly or through an agent engaged or Indulged in any corrupt
practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in
respect of any tender or request for proposal Issued by or any agreement entered into with the
Authority or any other public sector enterprise or any Government, Central or State;
5. I/We have read the clause regarding restrictions on procurement from a bidder of a country which shares
a land border with India; I/We certify that this bidder is not from a country or, if from such a country,
has been registered with the Competent Authority, I hereby certify that this bidder fulfills all requirement
in this regard and is eligible to be considered. (Where applicable, evidence of valid registration by the
Competent Authority shall be attached).
6. I/We certified that all information furnished by our firm is true & correct and in the event that the
information is found to be incorrect/untrue or found violated, then your department/organization shall
without giving any notice or reason therefore or summarily reject the bid or terminate the contract without
prejudice to any other rights or remedy including the forfeiture of the full earnest money deposit
absolutely.

Date:

(Seal & Signature of the bidder)

Additional Terms & Conditions (ATC)

Annexure IV

Undertaking

Price Reasonability Certificate

(Duly sealed and signed certificate on Company/ Firm's Letterhead)

**To,
The Campus Director,
National Forensic Sciences Bhopal Campus
C/o CFSL Bhopal, Barkheda Bonder, Indore Bhopal Highway,
Bhopal**

This is to certify that the prices quoted for -----**(Name of the Item offered)** are best and minimum and we have not quoted the same on lesser rates than those being offered to any Government institution/University or to any customer nor we will do till the validity of offer or execution of Purchase Order.

Date:

(Seal & Signature of the bidder)

Additional Terms & Conditions (ATC)

Annexure-V

WORK EXPERIENCE

Sn	Name of the Client	Order No.	AMOUNT	Remarks
1.				Supporting documents like Purchase Order/ Work Order <u>along with satisfactory Completion certificate from client etc.</u>
2.				
3.				
4.				
5.				

Note: Satisfactory Completion certificate from client must be submitted along with copy of purchase/Work order.

Date:

(Seal & Signature of the bidder)

Additional Terms & Conditions (ATC)

Annexure-VI

Average Annual Turnover Details

Evaluation Criteria			Remark
The annual financial turnover of the bidder, ending on 31st March of the year.	Financial Year	Turnover in Rs.	Supporting Documents are to be submitted
	2022-23		
	2023-24		
	2024-25		

Date:

(Seal & Signature of the bidder)

** A copy of duly signed profit & loss accounts / CA Certificate with UDIN is to be submitted as per the Annexure-IV of ATC.*

Additional Terms & Conditions (ATC)

Annexure-VII

Undertaking

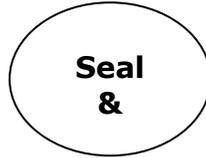
(Duly sealed and signed certificate on Company/ Firm's Letterhead)

I/We hereby agree to take full responsibility of shifting the entire set up (equipment/devices supplied under this project including integration of additional equipment, if any) to Permanent Campus of NFSU Bhopal at a later date even if the contract period is over. This will be a onetime activity and may occur anytime during entire contract period (including extension of contract, if any). During such shifting all requisite configurations/ settings, required to be done at new locations for ensuring functioning of the supplied solution. We will ensure proper working of the setup as per the technical specifications after shifting of the system to new location.

Date:

Authorized Signatory

Date:



Name:

Place:

Designation:

Additional Terms & Conditions (ATC)

Annexure-VIII (a)

**Manufacturer Authorization Form (MAF)
(Inked Sign copy on Letterhead of OEM)
For Next Generation Firewall UTM**

Date: _____

To,
The Campus Director,
National Forensic Sciences Bhopal Campus
C/o CFSL Bhopal,
Barkheda Bonder, Indore Bhopal Highway,
Bhopal (M.P.) – 462038

Dear Sir,
Tender Reference No. _____

We, _____ <OEM/ Manufacturer name> having our registered office at _____, are an established and reputed manufacturer of Computer Systems.

We confirm that M/s _____ <Bidder name> having its registered office at _____ is our authorized partner for M/s _____. We hereby authorize M/s _____ <Bidder name> to quote and execute the order for the subject tender on behalf of _____ <OEM/ Manufacturer name>.

Our full support is extended to them in all respects for supply, warranty and maintenance of our products. We also ensure to provide the service support for the supplied equipment during the entire warranty period of 3 years from the date of supply/installation of the equipment as per tender terms.

We also undertake that in case of default in execution of this tender by the M/s _____ <Bidder name>, the _____ <OEM/ Manufacturer name> will take all necessary steps for successful execution of the contractual obligations as per tender.

We hereby confirm that, as on the date of submission of this tender M/s _____ <Bidder name>, has sufficient credit worthiness directly with us to supply our Products / Services and has adequate line of credit arrangement with us to undertake this contract / PO as per terms & conditions within stipulated time lines.

In case nominated Business Partner fails to meet contractual obligations / time lines, we will arrange to take all necessary steps for successful execution of this project as per tender requirements.

Yours faithfully,

Name of person: _____

(Seal of the OEM)

For and on behalf of M/s _____

Designation: _____

Date:

Contact No.: _____

Place:

Email ID:

Additional Terms & Conditions (ATC)

Annexure-VIII (b)

**Manufacturer Authorization Form (MAF)
(Inked Sign copy on Letterhead of OEM)
For 24 Ports Core Switch**

Date: _____

**To,
The Campus Director,
National Forensic Sciences Bhopal Campus
C/o CFSL Bhopal,
Barkheda Bonder, Indore Bhopal Highway,
Bhopal (M.P.) – 462038**

Dear Sir,
Tender Reference No. _____

We, _____ <OEM/ Manufacturer name> having our registered office at _____, are an established and reputed manufacturer of Computer Systems.

We confirm that M/s _____ <Bidder name> having its registered office at _____ is our authorized partner for M/s _____. We hereby authorize M/s _____ <Bidder name> to quote and execute the order for the subject tender on behalf of _____ <OEM/ Manufacturer name>.

Our full support is extended to them in all respects for supply, warranty and maintenance of our products. We also ensure to provide the service support for the supplied equipment during the entire warranty period of 3 years from the date of supply/installation of the equipment as per tender terms.

We also undertake that in case of default in execution of this tender by the M/s _____ <Bidder name>, the _____ <OEM/ Manufacturer name> will take all necessary steps for successful execution of the contractual obligations as per tender.

We hereby confirm that, as on the date of submission of this tender M/s _____ <Bidder name>, has sufficient credit worthiness directly with us to supply our Products / Services and has adequate line of credit arrangement with us to undertake this contract / PO as per terms & conditions within stipulated time lines.

In case nominated Business Partner fails to meet contractual obligations / time lines, we will arrange to take all necessary steps for successful execution of this project as per tender requirements.

Yours faithfully,

Name of person: _____

(Seal of the OEM)

For and on behalf of M/s _____

Designation: _____

Date:

Contact No.: _____

Place:

Email ID:

Additional Terms & Conditions (ATC)

Annexure-VIII (c)

**Manufacturer Authorization Form (MAF)
(Inked Sign copy on Letterhead of OEM)
For 24 Ports PoE Switch**

Date: _____

To,
The Campus Director,
National Forensic Sciences Bhopal Campus
C/o CFSL Bhopal,
Barkheda Bonder, Indore Bhopal Highway,
Bhopal (M.P.) – 462038

Dear Sir,
Tender Reference No. _____

We, _____ <OEM/ Manufacturer name> having our registered office at _____, are an established and reputed manufacturer of Computer Systems.

We confirm that M/s _____ <Bidder name> having its registered office at _____ is our authorized partner for M/s _____. We hereby authorize M/s _____ <Bidder name> to quote and execute the order for the subject tender on behalf of _____ <OEM/ Manufacturer name>.

Our full support is extended to them in all respects for supply, warranty and maintenance of our products. We also ensure to provide the service support for the supplied equipment during the entire warranty period of 3 years from the date of supply/installation of the equipment as per tender terms.

We also undertake that in case of default in execution of this tender by the M/s _____ <Bidder name>, the _____ <OEM/ Manufacturer name> will take all necessary steps for successful execution of the contractual obligations as per tender.

We hereby confirm that, as on the date of submission of this tender M/s _____ <Bidder name>, has sufficient credit worthiness directly with us to supply our Products / Services and has adequate line of credit arrangement with us to undertake this contract / PO as per terms & conditions within stipulated time lines.

In case nominated Business Partner fails to meet contractual obligations / time lines, we will arrange to take all necessary steps for successful execution of this project as per tender requirements.

Yours faithfully,

Name of person: _____

(Seal of the OEM)

For and on behalf of M/s _____

Designation: _____

Date:

Contact No.: _____

Place:

Email ID:

Additional Terms & Conditions (ATC)

Annexure-VIII (d)

**Manufacturer Authorization Form (MAF)
(Inked Sign copy on Letterhead of OEM)
For Wi-Fi 6 Indoor Access Point**

Date: _____

**To,
The Campus Director,
National Forensic Sciences Bhopal Campus
C/o CFSL Bhopal,
Barkheda Bonder, Indore Bhopal Highway,
Bhopal (M.P.) – 462038**

Dear Sir,
Tender Reference No. _____

We, _____ <OEM/ Manufacturer name> having our registered office at _____, are an established and reputed manufacturer of Computer Systems.

We confirm that M/s _____ <Bidder name> having its registered office at _____ is our authorized partner for M/s _____. We hereby authorize M/s _____ <Bidder name> to quote and execute the order for the subject tender on behalf of _____ <OEM/ Manufacturer name>.

Our full support is extended to them in all respects for supply, warranty and maintenance of our products. We also ensure to provide the service support for the supplied equipment during the entire warranty period of 3 years from the date of supply/installation of the equipment as per tender terms.

We also undertake that in case of default in execution of this tender by the M/s _____ <Bidder name>, the _____ <OEM/ Manufacturer name> will take all necessary steps for successful execution of the contractual obligations as per tender.

We hereby confirm that, as on the date of submission of this tender M/s _____ <Bidder name>, has sufficient credit worthiness directly with us to supply our Products / Services and has adequate line of credit arrangement with us to undertake this contract / PO as per terms & conditions within stipulated time lines.

In case nominated Business Partner fails to meet contractual obligations / time lines, we will arrange to take all necessary steps for successful execution of this project as per tender requirements.

Yours faithfully,

Name of person: _____

(Seal of the OEM)

For and on behalf of M/s _____

Designation: _____

Date:

Contact No.: _____

Place:

Email ID:

Additional Terms & Conditions (ATC)

Annexure-VIII (e)

**Manufacturer Authorization Form (MAF)
(Inked Sign copy on Letterhead of OEM)
For Network Controller**

Date: _____

To,
The Campus Director,
National Forensic Sciences Bhopal Campus
C/o CFSL Bhopal,
Barkheda Bonder, Indore Bhopal Highway,
Bhopal (M.P.) – 462038

Dear Sir,
Tender Reference No. _____

We, _____ <OEM/ Manufacturer name> having our registered office at _____, are an established and reputed manufacturer of Computer Systems.

We confirm that M/s _____ <Bidder name> having its registered office at _____ is our authorized partner for M/s _____. We hereby authorize M/s _____ <Bidder name> to quote and execute the order for the subject tender on behalf of _____ <OEM/ Manufacturer name>.

Our full support is extended to them in all respects for supply, warranty and maintenance of our products. We also ensure to provide the service support for the supplied equipment during the entire warranty period of 3 years from the date of supply/installation of the equipment as per tender terms.

We also undertake that in case of default in execution of this tender by the M/s _____ <Bidder name>, the _____ <OEM/ Manufacturer name> will take all necessary steps for successful execution of the contractual obligations as per tender.

We hereby confirm that, as on the date of submission of this tender M/s _____ <Bidder name>, has sufficient credit worthiness directly with us to supply our Products / Services and has adequate line of credit arrangement with us to undertake this contract / PO as per terms & conditions within stipulated time lines.

In case nominated Business Partner fails to meet contractual obligations / time lines, we will arrange to take all necessary steps for successful execution of this project as per tender requirements.

Yours faithfully,

Name of person: _____

(Seal of the OEM)

For and on behalf of M/s _____

Designation: _____

Date:

Contact No.: _____

Place:

Email ID:

Additional Terms & Conditions (ATC)

Annexure-IX

Other Terms and Conditions

S. No.	Other Terms and Conditions	Compliance Yes/No
1.	Scope of Work: SITC and demonstration of all items with all accessories as mentioned in the detailed specifications sheet.	
2.	The Bidder should give self-declaration certificate for acceptance of all terms & conditions of tender documents. A duly completed certificate to this effect is to be submitted as per the Annexure-I of ATC on the letter head of the bidder. No other format will be considered.	
3.	Bid-Securing Declaration Undertaking - Duly sealed and signed certificate on Company/ Firm's Letterhead must be submitted as per annexure III	
4.	The firm should be neither blacklisted by any Central / State Government / Public Undertaking / Institute nor is any criminal case registered / pending against the firm or its owner / partners anywhere in India. A duly completed undertaking to this effect is to be submitted as per the Annexure-IV of ATC on the letter head of the bidder. No other format will be considered.	
5.	Price Reasonability Certificate - Duly sealed and signed certificate on Company/ Firm's Letterhead is to be submitted as per the Annexure-V of ATC . No other format will be considered	
6.	The Bidder should attach list of Purchase Order / Work Order for SITC of quoted item/items during last 3 years from the date of publication of tender. The details of the same along with work order with satisfactory completion certificate from clients are to be submitted with Annexure-VI of ATC on the letter head of the bidder. No other format will be considered	
7.	Minimum Average Annual Turnover of the bidder (For 3 Years): 133 Lac Audited Balance Sheets of last 3 financial years must be submitted. Copies of duly audited profit & loss accounts / CA Certificate with UDIN are to be submitted as per the Annexure-VII of ATC .	
8.	Undertaking for Re-installation of the equipment: Since the instrument will be installed in the temporary campus initially, vendor should take responsibility of shifting the instrument at their cost to the permanent campus at a later date even if the warranty period is over. A duly completed undertaking to this effect is to be submitted as per the Annexure-VIII of ATC on the letter head of the bidder. No other format will be considered.	
9.	Manufacturer Authorization Form (MAF) - Duly seal and inked signed on letterhead of OEM with current date of the bid with proper name, mail id, designation & contact no. of authorized person in the certificate must be submitted for the following Active Component: a) Next Generation Firewall/UTM b) 24 Ports Core Switch c) 24 Ports PoE Switch d) Wi-Fi 6 Indoor Access Point e) Network Controller as per the Annexure VIII (a) to Annexure VIII (e). No other format will be considered.	
10.	Onsite Warranty & Support - Warranty period of each item shall be 3 years onsite OEM warranty and the warranty period shall be from the date of final acceptance of goods or after completion of installation, commissioning & testing of goods at the consignee location. The Successful Bidder must submit the OEM Warranty certificates at the time of Commissioning of the items/items.	
11.	Performance Certificate from Clients: The bidders mandatorily submit performance certificate of the equipment's from at least 3 clients within 5 years from the bid publication date, with valid email and Mobile number for verification of the performance of the equipment. Note: 1. Installation/ report will not be considered as a performance certificate. 2. If the client confirms poor performance report on official enquiry from NFSU Bhopal Campus, the bid will be liable for rejection.	

Additional Terms & Conditions (ATC)

Annexure-IX

Other Terms and Conditions

S. No.	Other Terms and Conditions	Compliance Yes/No
12.	Compliance with Technical specification – As per Annexure- X of ATC on the letter head of the OEM to be mandatorily submitted. No other format will be considered. Variation will not be accepted in any case. No other format will be considered.	
13.	All the documents mentioned above, are to be submitted duly field and Seal signed in the provided format (Annexure) along with the bid. Without the above-mentioned documents in the provided format, the bid will be summarily rejected.	
14.	SITC and demonstration to be completed within 60 days after receipt of the contract.	
15.	Vendor must supply All the Hardware accessories required to install the equipment's.	
16.	Seller should submit Brochure with Printed catalogue / or any other relevant document to be attached for justification of Specification Compliance sheet and detailed technical specifications of the equipment quoted and the product quoted should also be available on the website of OEM.	
17.	The bidder should also quote the rates for AMC and CMC (Excluding Taxes) for further 05 years after completion of Warranty period separately.	
18.	Vendors should comply to the norms of demonstration of entire equipment to be supplied to END User as and when asked by END user at actual Site of Installation during any stage of Administrative or Technical Scrutiny.	
19.	Seller should be an authorized vendor for the sale of the quoted product as per the specifications required and should have authorized service Centre for any post delivery services, repairs or replacement or parts, products or requirement of accessories as and when needed and should have authorized service Centre in India and in the State where the product is to be delivered.	
20.	Custom Clearance at Bhopal Airport. (In Case of Imported Items)	
21.	Timely Servicing/rectification of defects during the warranty period: After having been notified of the defects/service requirement during the warranty period, Seller has to complete the required Service / Rectification within 7 days' time limit. If the Seller fails to complete service/rectification with the defined time limit, a penalty of 0.5% of the Unit Price of the product shall be charged as a penalty for each week of delay from the seller. Seller can deposit the penalty with the Buyer directly else the Buyer shall have a right to recover all such penalty amount from the Performance Security (PBG). Cumulative Penalty cannot exceed more than 10% of the total contract value after which the Buyer shall have the right to get the service/rectification done from alternate sources at the risk and cost of the Seller besides the forfeiture of PBG. The seller shall be liable to reimburse the Buyer for such service/rectification.	

Additional Terms & Conditions (ATC)

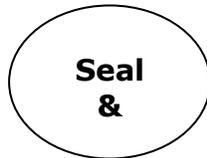
Annexure-IX

Other Terms and Conditions

S. No.	Other Terms and Conditions	Compliance Yes/No
22.	The Bidder mandatorily submit BoQ Price Break-up in the “Excel Upload Required” at Gem Portal.	
23.	Exemption from Make in India Purchase Preference: As per the No. 23011/14/2024-WS-III dated 07.01.2026 from Women Safety Division, Ministry of Home Affairs, Government of India following equipment is exempted from Public Procurement (Preference to Make in India) clause: 1. Firewall/UTM (Sr. No. 8.4) - Make in India Purchase Preference policy will not be applicable for above mentioned equipment as there is no local manufacturer is available. 2. Wireless Access Point (Sr. No. 8.7) - Make in India Purchase Preference policy will not be applicable for above mentioned equipment as there is no local manufacturer is available.	
24.	Conditional bid will not be accepted in any case. Bid with conditional clause will be summarily rejected and correspondence in this regard will be entertained.	
25.	Other Important Documents (OID) – PAN, GST and Registration certificate must be submitted.	
26.	** COMMON IP ADDRESSES Bidders may please note that GeM is capturing and showing the IP addresses used by the Buyer and the Bidder(s) /Seller(s). The received bids having matching/common IP address with either Bidder(s)/Seller(s) or Buyer, shall be outrightly rejected & shall not be considered for further evaluation.	

Date:

Place:



Authorized Signatory

Name:

Designation:

Additional Terms & Conditions (ATC)

Annexure-X

Compliance with Technical specification Sheet

A. SITC of Next Generation Firewall/ UTM

- A.1) Next Generation Firewall/ UTM
- A.2) 24 Ports Core Switch
- A.3) 10G SFP+ Transceiver
- A.4) 24 Ports PoE Switch
- A.5) Windows Server 2025 Standard License
- A.6) 42U Rack with all its accessories
- A.7) 24 Port Patch Panel Loaded
- A.8) Optical Fiber Cable 6 Core
- A.9) OFC LC-LC Patch Cord
- A.10) 12 Ports LIU Loaded
- A.11) 24 Ports LIU Loaded

B. SITC of Wi-Fi 6 Indoor Access Point

- B.1) Wi-Fi 6 Indoor Access Point
- B.2) Network Controller
- B.3) 24 Ports PoE Switch
- B.4) 12U Wall Mount Rack
- B.5) 24 Ports CAT6 Loaded Patch Panel
- B.6) CAT6 Patch Cord
- B.7) CAT6 Cable

A. SITC of Next Generation Firewall/ UTM Compliance

A.1) Next Generation Firewall/ UTM

Next Generation Firewall/ UTM		
Make:		
Model:		
S. No.	Specifications	Compliance (Yes/No)
1	Must have fixed 4 x 10GE SFP+, 4 x GE SFP, 8 x GE RJ45 interfaces along with dedicated separate 1GE HA and 1 x 1G management port.	
2	The NGFW product should be either a multicore CPU or a custom processor-based architecture with a hardened 64-bit operating system.	
3	The proposed solution should have a built-in GUI and CLI to make on-the-go changes in the Firewall policies and for troubleshooting any issues related to the network.	
4	The proposed firewall should have internal redundant power supply from day 1. External Adaptor power supply will not consider.	
5	Proposed Hardware must have TPM module to store encryption keys /passwords	
6	Firewall Throughput Minimum 25 Gbps OR Higher (Measured with 64 Byte)	
7	The firewall shall provide Minimum 5 Gbps of Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection and logging enabled on Enterprise Mix / Application Mix.	
8	Minimum 5 Gbps of SSL Inspection throughput	
9	Concurrent sessions of 8M or above and Minimum connection per second 400K or above	
10	The firewall should support IPSec VPN throughput of 10 Gbps	
11	Firewall must have a hardened OEM operating system.	

Additional Terms & Conditions (ATC)

12	Should be a hardware appliance based. Firewall. IPSEC and SSL VPN, Antivirus, Anti-Malware, IPS, Web and Application control, DOS prevention, Bandwidth Management and Routing functionalities must be integrated in a single appliance from day 1.	
13	Firewall appliance must have at least 5 virtual firewall /instants active from day-1 with each firewall domains/instances having a separate administrative control OR equivalent, Security zones and VLAN.	
14	The following features must be available in each virtual firewall domain/instant context environment: Firewall, IPSEC and SSL VPN, IPS, Web and Application Control, Anti Virus /Malware, policy based routing, User and Group management, Logging and Reporting.	
15	The appliance should support NAT66, NAT46, NAT64, DNS 64, DHCPv6.	
16	Proposed Firewall must have IPS, Advanced Malware Protection, Application Control, URL, DNS & Video Filtering, antivirus and SSL decryption from day 1	
17	AV Signatures can be updated in three different ways: manually, via pull technology or push technology. Administrator can schedule to check for new updates or if the device has a public IP address, updates can be pushed to the device each time an update is available.	
18	Automatic failover (condition based on ICMP, TCP or UDP protocol) as well as load sharing for outbound traffic.	
19	Must support various form of user Authentication methods simultaneously	
20	The firewall must be able to support routing protocols including RIP, OSPF, ISIS, BGP and OSPFv3	
21	Should support TLSv1.3 decryption in all modes of operation must supported	
22	The firewall must have the capability to create DOS prevention policy to prevent against DOS attacks.	
23	Should be able to perform Anti-malware scans for HTTP, SMTP, IMAP, POP3, and FTP traffic.	
24	The Appliance should have an option to configure wildcard FQDN.	
25	All category of firewalls should be able to identify attacks based on Geo-location and define policy to block on the basis of Geo-location	
26	The appliance should support more than 2000 application layer and risk-based controls that can invoke tailored intrusion prevention system (IPS) threat detection policies to optimize security effectiveness.	
27	The proposed solution should be able to provide details of the malware / attacks blocked at the firewall level.	
28	NGFW should be able to monitor encrypted traffic to detect APTs hidden in SSL traffic.	
29	The Propose Antivirus protection shall include advance malware protection: Virus Outbreak Protection Content disarm and reconstruction (CDR)	
30	NGFW should have cloud sandbox functionality to protect organizations from Advanced Persistent Threats. In case any additional license is required, the bidder must include it in the proposal from day one.	
31	Firewall should support application signature database and custom application creation	
32	The administrator shall be able to define application control list based on selectable application group and/or list and its corresponding actions	
33	The proposed system shall be able to queries a real time database of over 250 million + rated websites categorized into 70+ unique content categories.	

Additional Terms & Conditions (ATC)

34	The proposed firewall shall have custom URL-categorization	
35	The proposed firewall shall customizable block pages	
36	DNS Security should support predictive analytics to disrupt attacks that use DNS for Data theft and Command and Control	
37	DNS security capabilities should block known Bad domains	
38	Should be able to call 3rd party threat intelligence data on malicious IPs, URLs and Domains to the same firewall policy to block those malicious attributes and list should get updated dynamically with latest data.	
39	The proposed solution should support the ability to create QoS policy on a per rule basis- by source address, by destination address, by application by static or dynamic application groups by port and services.	
40	Should have inbuilt feature for two factor authentication via OTP (email or mobile) for at least two admin users access from day 1.	
41	The security appliance should be having a configurable option to quarantine attack generating source addresses for a defined duration.	
42	The Wan load Balancing must be able to fail over between various connections, such as Internet, MPLS, Leased line and even Routed-based VPN interfaces. It should support configuring a threshold on the links on a percentage/ Bandwidth basis.	
43	In the proposed should allow the use of the most preferred link based upon Link characteristics (Latency, Jitter, Packet loss) for critical applications as defined in policy from day 1.	
44	The proposed solution should support policy-based routing based on applications, source and destination. Policy routing should work along with WAN load-balancing.	
45	The proposed solution should support an identity-based routing option, allowing traffic to be forced out of a specific Internet gateway based on authentication rather than IP address.	
46	Built-in GUI on the system should have the option to display the logical topology of the network for protecting the Firewall.	
47	Proposed vendor should have an in-house threat intelligence team and offer built-in capabilities on firewall to integrate with various security threat feeds using STIX/TAXII/API	
48	The OEM must provide 24 X 7 X 365 technical support. The OEM must provide Direct Premium Support with dedicated login credentials with highest level permissions to search knowledge base, downloading of the patches, documents and to manage the device.	
49	The proposed product or product family or operating system should be EAL 4 or higher or NDPP certified. Bidder need to submit public website link or documentary proof along with the technical bid.	
50	The proposed firewall OEM should be ISO 9001 & ISO 14001 certified. Bidder need to submit public website link or documentary proof along with the technical bid.	
51	Proposed firewall or its Operating System should be IPv6 or USv6 or IPv6 logo ready certified. Bidder need to submit public website link or documentary proof along with the technical bid.	
52	The Proposed Firewall OEM should not be Blacklisted even once by any Central/State/PSU or any Government organization in last 5 years.	
53	Solution must be offered with required security subscriptions and OEM support	

Additional Terms & Conditions (ATC)

A.2) Core Switch

24 Port Core switch		
Make:		
Model:		
S. No.	Specification	Compliance (Yes/No)
1.	L3 Managed Switch should have minimum 24 24x 10G/1G SFP+/SFP slots and minimum 2 x 100G /40GE QSFP+ Ports	
2.	The proposed switch form factor should 1 RU Rack-Mount Appliance and should have one RJ-45 Serial console or any other type of console port. Switch should have separate dedicated management/service port.	
3.	Dual internal hot swappable power supply from day	
4.	Switching capacity of the proposed switch should be minimum 850 Gbps and 1200 Mpps Packet per second.	
5.	Proposed switch should support routing protocol -static route, RIP, OSPF, BGP from day 1	
6.	Proposed switch should have redundant Dual Hot Swappable power supply from day 1	
7.	Proposed Switch should support minimum 64K MAC address and 4000 VLAN's	
8.	Proposed switch should have the high availability options and support MCLAG Or Equivalent	
9.	Should support DHCP Server and Relay	
10.	should support dynamic routing protocol OSPF, RIP ,VRRP and BGP	
11.	Must have IP conflict detection and notification of conflict	
12.	Minimum IPv4 route entries 8K support	
13.	Must support jumbo frame	
14.	Should support Spanning Tree Protocol MSTP native, and backwards compatible with RTSP, STP and STP Root Guard	
15.	Should support IEEE 802.1ad Link Aggregation, IEEE 802.1q VLAN tagging, LLDP/MED. Should support LACP to aggregate 2x10Gig ports to achieve higher backbone bandwidth.	
16.	Should support 802.1p support, QoS support prioritizing the traffic	
17.	Should support 802.1x port-based authentication	
18.	Should support 802.1x MAC-based authentication, IEEE 802.1x MAC Access Bypass (MAB).	
19.	Should support IEEE 802.1x Guest and Fallback VLAN	
20.	Should support IEEE 802.1x Dynamic VLAN Assignment	
21.	Should support TFTP/SFTP and NTP	
22.	Switch should support local user database and can integrate with RADIUS, Radius CoA,TACACS+ servers	
23.	Should support SSH, HTTP,HTTPS with IPv4 and IPv6 Management	
24.	Switch should support SNMP v1, v2c and v3, IGMP, RMON.	
25.	Proposed switch should be managed via both, GUI and CLI	
26.	Should have support storm control and STP root and BPDU guard protection	
27.	Proposed switch latency < 1μs. Must be available in public document of OEM	
28.	Power Required :100–240V AC, 50–60 Hz	
29.	Operating Temperature : 0–45°C, Humidity: 10–90% non-condensing	
30.	Solution must be offered with required security subscriptions and OEM 24x7 warranty support	

Additional Terms & Conditions (ATC)

A.3) 10G SM SFP+ Transceiver

10G SM SFP+ Transceiver		
Make:		
Model:		
SN	Specification	Compliance (Yes/No)
1	Form factor: SFP+	
2	Support data rate: 10G	
3	Wavelength: 1310 nm	
4	Support protocol IEEE 802.3ae	
5	Fiber type: Single mode	
6	Should support 10 km optical distance	
7	Should have LC Duplex optical interface	
8	Operating Temperature: 0°C to 70°C	
9	Hot-swappable input/output gadget	
10	Should be RoHS compliant	

A.4) 24 Ports PoE Switch

24 Port PoE Switch		
Make:		
Model:		
SN	Specification	Compliance (Yes/No)
1.	Manageable switch should have minimum 24 x 2.5/1 GE RJ45 POE ports and 4x 10GE SFP+ ports	
2.	The form factor of the proposed switch should be 1 RU Rack-Mount Appliance	
3.	Switching capacity of the proposed switch should be minimum 200 Gbps	
4.	Packet per second capacity of the switch should be minimum 300 Mpps	
5.	Proposed Switch should support minimum 32K MAC address storage	
6.	Proposed switch latency < 1μs. Must be available in public document of OEM	
7.	Proposed switch should support 4000 VLANs ID	
8.	Proposed switch must have minimum 750W POE power budget	
9.	Should support min 1GB memory , maximum to be specified	
10.	Should support Jumbo frames and link auto-negotiation	
11.	Should support Spanning Tree Protocol MSTP native, and backwards compatible with RTSP, STP and STP Root Guard	
12.	Should support Edge Port / Port Fast	
13.	IEEE 802.1AX Link Aggregation IEEE 802.1q VLAN tagging, Private VLAN, Voice VLAN	
14.	should support Unicast/Multicast traffic balance over trunking port for dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac	
15.	Should support IEEE 802.3x Flow Control	

Additional Terms & Conditions (ATC)

16.	Admin Authentication Via RFC 2865 RADIUS	
17.	Should support 802.1x port-based authentication	
18.	Should support 802.1x MAC-based authentication, IEEE 802.1x MAC Access Bypass (MAB)	
19.	Should support IEEE 802.1x Dynamic VLAN Assignment, MAC-IP Binding	
20.	Should support Radius CoA (Change of Authority) and Radius Accounting	
21.	Switch should support local user database and can integrate with LDAP, RADIUS, TACACS+ servers	
22.	should support Storm Control, LoopGuard	
23.	Should support IGMP snooping, DHCP snooping (entry limit per port) and Dynamic ARP Inspection	
24.	Should support Port mirroring, sFlow, TDR (time- domain reflectometer)/cable diagnostics.	
25.	Switch should support 512 ACL entries	
26.	Switch should support Policy Control of Users and Devices	
27.	Should support IEEE 802.1p Based Priority Queuing	
28.	Should support IP TOS/DSCP Based Priority Queuing	
29.	Should support Telnet,SSH, HTTP,HTTPS with IPv4 and IPv6 Management	
30.	Switch should support SNMP v1, v2c and v3	
31.	Software download/upload: TFTP/FTP/GUI	
32.	Proposed switch should be managed via both, GUI and CLI	
33.	MUST support multiple configuration files with Dual-firmware image support	
34.	Switch should support IP conflict detection and notification	
35.	Switches shall inbuilt packet capture feature in both GUI and CLI	
36.	Power Required :100–240V AC, 50–60 Hz	
37.	Operating Temperature :0–45°C	
38.	Humidity: 10–90% non-condensing	
39.	Solution must be offered with required security subscriptions and OEM 24x7 warranty support	
40.	MUST support multiple configuration files with Dual-firmware image support	
41.	Switch should support IP conflict detection and notification	
42.	Switches should manage from the proposed switch controller	
43.	Power Required :100–240V AC, 50–60 Hz	

A.5) Windows Server License

Windows Server license		
SN	Specification	Compliance (Yes/No)
1	Windows Server 2025 Standard - 16 Core License	

Additional Terms & Conditions (ATC)

A.6) 42U Floor Mount Rack

Floor Mount 42U Rack		
Make:		
Model:		
S.NO.	Specifications Floor Mount 42U Rack	Compliance (Yes/No)
1	Rack Size	
2	Floor Mount 42U - 800W x 1000D.	
3	Features:	
4	Conforms to DIN 41494 OR equivalent ISO Standards	
5	Adjustable 19" equipment mounting verticals provide the better mounting flexibility maximizing the usable mounting space	
6	Top and bottom Panel with ventilation and cable entry facility	
7	Provision to mount the cooling fans on the top panel	
8	Powder coated finish with pretreatment process meeting all industry standards	
9	Grounding and Bonding Options	
10	100% assured compatibility with all equipment conforming to DIN 41494. General industrial standard for equipment	
11	Construction: Welded Frame	
12	Front Door: Lockable Toughened Glass Door, Steel Single, Steel Dual	
13	Equipment Mounting: DIN Standard 10mm Sq. Slots.	
14	Mounting Angle: 19" Mounting angles made of formed steel	
15	Top and Bottom Cover: Welded to Frame, Vented and Field Cable entry exit cut outs	
16	Mounting Option: Castor wheels (Front 2 wheels with Brakes and rear without brakes) Or Levellers Or Base plinth	
17	Standard Color: Black or Grey	
18	Accessories: Power Distribution Units, Cable Manager, Fans and Fan Modules (FHU with 4 FAN 360CFM), Hardware Packet, Jacking Feet	
19	Vertical Power Distribution Unit with 2 x (12 x 5/15) sockets Round Pin, 230 Volts AC, 32 Amp with Plug. And 2x Self Tray.	
20	OEM Should be international certification for the ISO 45001 Health and Safety Management System, ISO 9001 Quality Management System, ISO 14001 Environmental Management System, and ISO 14064-1 Greenhouse Gas Inventory Standards.	

A.7) 24 Ports CAT6 Patch Panel

Unshielded Twisted Pair Category 6 Loaded Patch Panel - 24 Port	Compliance (Yes/No)
Make:	
Model Number:	
Features	
Category 6 24 port Patch Panel should be 24 Port 1U Size loaded with 24 port RJ-45 IO.	
Mounts in standard 19inch racks.	
Patch panel should have cable manager for improvement management.	
Patch panel suitable for Category 6 keystone.	

Additional Terms & Conditions (ATC)

Panel material should have SPCC and Black Color.	
Rear support bar material should have SPCC and Black Color.	
RJ-45 jack housing should be PBT + Glass fiber UL94V-O and Contact brackets should be PBT + Glass fiber UL94V-O.	
Rj-45 contact material should be phosphor bronze with nickel plated and plug contact area finish with 50 micro-inches Gold plated.	
Contact resistance should be maximum 20 milliohm.	
Operating Temperature should be -10° Celsius to 60° Celsius.	
Life of RJ-45 Jack should be 750 cycles minimum @ 500 VDC.	
OEM for the cable box and all copper Accessories should be from same OEM.	

A.8) 6 Core Fiber Cable

Optical Fiber 6 Core Cable	Compliance (Yes/No)
Make:	
Model:	
Min. Required Specification	
The fiber is optimized for operation at 1310 nm and at 1550 nm.	
The Fiber should be Armoured 6 core unitube 9/125 μm Single Mode fiber with central loose tube jelly compound, high quality ECCS steel tape.	
Armour Tape: Armoured design with music quality steel wire.	
Jacket material: HDPE	
Outer diameter: 7.2 ± 0.5 mm	
Thickness of the Jacket: 1.8 ± 0.2 mm	
Pulling Tension: Short Term 1000N, Bend Radius 20D.	
Crush Load(N/100mm): 2000	
Refractive index - Fiber type 9/125: - OS1 - 1.4674 and PMD <= 0.2 ps/km.	
The Fiber Operating Temperature should be – 20 deg C to +60 deg C.	
The Fiber Max Attenuation :0.34 (db / km) @ Operational Wavelength 1310 nm and, 0.24 (db / km) @ Operational Wavelength 1550 nm.	
The value for Mode-field/Cladding Diameter (um) 9.3 ± 0.5 and 125 ± 1.0	
Cable Cut-off wavelength should be <1260 (nm)	
The Fiber should follow Standards: ANSI/TIA-568-C. 3 and ISO11801, IEC 60793-1/60794-1-2 and ITU-T-REC G.652D	

Additional Terms & Conditions (ATC)

A.9) OFC LC-LC Patch Cord

OFC Patch cord, LC-LC, 1 Mtr.		
Make:		
Model:		
S.NO.	Optical Fiber Equipment Cords - LC-LC Duplex	Compliance (Yes/No)
1	Optical fiber patch leads shall comprise of Single mode 9/125μm fiber with LC-LC fiber connectors terminated at each end. The optical fiber patch leads shall comply with the following specifications: compatible with industry standards (IEC 61754/TIA/EIA).	
2	Single mode G652D, Duplex Type, Cable yellow Color, LSZH	
3	Compact & strong crimping offers exceptional tensile strength in cable assemblies.	
4	Adopts high precision ceramic ferrule with good concentricity	
5	Insertion Loss <0.3 db , Return Loss >= 50dB for UPC	
6	Repeatability: 0.2dB 1000 times mating cycles	
7	Working Temperature -10 deg. C to + 70 deg. C, Storage Temperature -20°C ~+70°C	
8	Length Should be 1 Meter	

A.10) 12 Ports LIU Loaded

12 port LIU Loaded-LC		
Make:		
Model:		
S.NO.	FIBER PATCH PANELS – RACK MOUNT – 12 port LIU Loaded	Compliance (Yes/No)
1	12 port Loaded LIU accommodate simplex LC single mode adapters with LC Pigtail.	
2	1.5mm steel sheet for strong housing, Slim 1 Unit Mounting Height	
3	can manage both splices and terminations	
4	Preassembled shelves in multiple configurations	
5	should have fiber magic sticker provision inside for 900um tight buffered fiber storing	
6	Accessory kit consists of cable ties, mounting ear screw and spiral wrap tube, cable saddle.	
7	Front-Mounted Cable Saddles for jumper management	
8	Rubber grommet allow for pre-terminated fiber trunk installation, protects cable and minimizes dust build-up	
9	Adapter panel - Steel, 1.5mm Thickness	
10	Splice Tray: Plastic	
11	Metal Outer Shelf: Steel, 1.5mm Thickness	
12	Fixed design is easy to work for patching the connectors	
Optical Fiber Pigtail – LC Type 1 Meter -		
S.NO.	Specifications	Compliance (Yes/No)
1	Provide a field installable Single mode LC pigtails to terminate fiber optic cables from cable-to-cable, cable-to-equipment and equipment-to-equipment.	
2	Utilize a UPC polishing on the tip to provide high yield during installation.	
3	Meet TIA/EIA 568.C.3 standards for repeatability.	
4	Buffer diameter 900um Tight buffer, Minimum bend Radius: Install :30mm, Retention Strength: 20N, Cable: 900um Buffered	
5	Insertion Loss (Max) <0.3 db Max, Return Loss >= 50 db for UPC	
6	Connector ferrule Ceramic, LC Type Simplex Type, Cable Color Yellow	
7	Repeatability ≤ 0.2dB 200 times Mating Cycle	
8	Operating Temp. -10 deg. C to + 70 deg. C	

Additional Terms & Conditions (ATC)

A.11) 24 Ports LIU Loaded

24 port LIU Loaded-LC		
Make:		
Model:		
S.NO.	FIBER PATCH PANELS – RACK MOUNT – 24 port LIU Loaded	Compliance (Yes/No)
1	12 port Loaded LIU accommodate simplex LC single mode adapters with LC Pigtail.	
2	1.5mm steel sheet for strong housing, Slim 1 Unit Mounting Height	
3	can manage both splices and terminations	
4	Preassembled shelves in multiple configurations	
5	should have fiber magic sticker provision inside for 900um tight buffered fiber storing	
6	Accessory kit consists of cable ties, mounting ear screw and spiral wrap tube, cable saddle.	
7	Front-Mounted Cable Saddles for jumper management	
8	Rubber grommet allow for pre-terminated fiber trunk installation, protects cable and minimizes dust build-up	
9	Adapter panel - Steel, 1.5mm Thickness	
10	Splice Tray: Plastic	
11	Metal Outer Shelf: Steel, 1.5mm Thickness	
12	Fixed design is easy to work for patching the connectors	
Optical Fiber Pigtail – LC Type 1 Meter -		
S.NO.	Specifications	Compliance (Yes/No)
1	Provide a field installable Single mode LC pigtails to terminate fiber optic cables from cable-to-cable, cable-to-equipment and equipment-to-equipment.	
2	Utilize a UPC polishing on the tip to provide high yield during installation.	
3	Meet TIA/EIA 568.C.3 standards for repeatability.	
4	Buffer diameter 900um Tight buffer, Minimum bend Radius: Install :30mm, Retention Strength: 20N, Cable: 900um Buffered	
5	Insertion Loss (Max) <0.3 db Max, Return Loss >= 50 db for UPC	
6	Connector ferrule Ceramic, LC Type Simplex Type, Cable Color Yellow	
7	Repeatability ≤ 0.2dB 200 times Mating Cycle	
8	Operating Temp. -10 deg. C to + 70 deg. C	

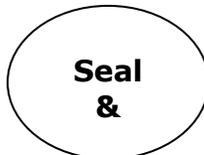
Note- Parties must mention make and model no. of the equipment offered by them, with detailed specification (on separate sheet). Otherwise, their tender will not be accepted.

Please Note:

1. In all above system specifications, equivalent or higher specifications can be allowed.
2. OEM have to provide written undertaking for complying above requirements

Date:

Place:



**Authorized Signatory
Name:**

Designation:

Additional Terms & Conditions (ATC)

B. SITC of Wi-Fi 6 Indoor Access Point Compliance

B.1) Detailed Technical Specification of Wi-Fi 6 Indoor Access Point

Wi-Fi 6 Indoor Access Point		
Make:		
Model:		
SN	Technical specification	Compliance (Yes/No)
1	The Access Point should support 802.11ax Wi-Fi 6 OR higher standard	
2	Must have the interla Three-Radio 2.4GHz , 5GHz and 6GHz (Optional) ,1 BLE/Zigbee antenna and 1 GPS antenna	
3	Should have minimum 1 x 2.5G Multigigabit Ethernet (RJ45), 1x RS232 RJ45 Serial Port	
4	Should support 2x 2 MU-MIMO	
5	The access Point should support throughput 2.5 Gbps Or Higher Aggirgated throughput	
6	Access point should support SSID's in Tunnel, Local Bridge, and mesh mode.	
7	Should support 8 Simultaneous SSIDs on client serving radio	
8	Should support following EAP types : EEAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM, EAP-AKA, EAP-FAST	
9	Access point should support IEEE standards minimum 801.1x and back ward compitible	
10	Should have physical security lock (such as Kensington lock)	
11	Should support mounting options of Ceiling, T-Rail and wall all these accessories should included with box. If not quote all mounting kit.	
12	Access point should support below Wireless Monitoring Capabilities	
13	a) Rogue Scan Radio Modes should support both background and dedicated	
14	b) WIPS / WIDS Radio Modes should support both background and dedicated	
15	c) should support Spectrum Analyzer	
16	d) should support Packet Sniffer Mode	
17	Must support Reliable Multicast Video to maintain video quality	
18	Should support Local AP diagnostic web portal, Command line(CLI) directly to access point.	
19	Access point Operating Temperature should be: 0–45°C	
20	WiFi Alliance certified for 6 OR 7	
21	Solution should be supplied with OEM technical support and warranty	
22	Access point should have TEC, BIS, WPC (ETA), IPv6 logo ready, CE, FCC, IEC 60950 and RoHS certificates.	
23	OEM should have ISO-9001:2015, ISO-14001:2015, ISO-20000-1:2018, ISO-27001:2013, ISO-45001:2018, ISO/IEC 15408 and CMMi Level 3 certificates.	
24	Controller must be supplied with a comprehensive warranty for a minimum period of three (3) years.	

Additional Terms & Conditions (ATC)

B.2) Detailed Technical Specification of Network Controller

Network Controller		
Make:		
Model:		
SN	Technical specification	Compliance (Yes/No)
1	Controller and WiFi Access Points should be from the same OEM	
2	Bidder may offer combined wireless controller functionality with an NGFW appliance available with the same OEM, and compliance with the required specifications.	
3	Hardware On premise wireless controller should be able to manage up to 50 wireless AP from Day 1.	
4	Dual internal Power Supply	
5	Proposed solution must have at least 1 x 10G interface and 2 x 1G Copper interface	
6	The Solution must support 802.11ax primarily and should be backward compatible to 802.11 ac/n/a/b/g Wave 2 standards-based wireless Access Points.	
7	Must support IPv4 & IPv6. Proposed solution OS OR Model OR Family must be Ipv6 / Usv6 Certified.	
8	The proposed controller must have a security feature. 2FA for at least 2 admins to access the controller	
9	The solution should support Guest Portal from Day 1 with multiple authentication Mechanisms	
10	The solution should be scalable to support WIPS, Rouge AP detection and Honeypot AP detection	
11	Should be able to provide insights based on successful connections/connected clients, coverage, capacity / performance, AP Uptime, Roaming and throughput.	
12	Should be able to integrate with various external authentication mechanism include the RADIUS servers, LDAP, AD etc.	
13	Must support Packet capture to enhance troubleshooting.	
14	Must be able to time limit base access per SSID based uplink or downlink Bandwidth.	
15	Must be able to limit per user-based uplink or downlink bandwidth.	
16	Must be able to set a maximum per-user bandwidth limit on a per-SSID basis.	
17	Controller must support deep packet inspection for all user traffic across Layer 4-7 network to analyze information about applications usage, peak network usage times for all access points from day 1.	
18	Should be able to handle interference and shift the communication on another channel automatically if, needed.	
19	Providing alerts when APs are down, or compromised RF environment is detected.	
20	Should be able to create access policies based on various groups / labels / subnets.	
21	Should be able to extend API to integrate with other systems as well.	
22	Must provide real-time charts/log showing interferers per access point, on a per- radio, per-channel basis.	
23	Must be able to classify different types of interferences.	

Additional Terms & Conditions (ATC)

24	Controller must support automatic DHCP based IP allocation to end points.	
25	Controller must support DHCP based allocation of separate IP series for different SSIDs.	
26	Wireless controller support the following types of client load balancing: a) Access Point Hand-off - the wireless controller signals a client to switch to another access point. b) Frequency Hand-off - the wireless controller monitors the usage of 2.4GHz and 5GHz bands, and signals clients to switch to the lesser-used frequency automatically.	
27	The wireless controller should include the following features.	
28	Wireless guest management, Captive portal support for user login	
29	Content security and filtering	
30	RF Management a) Having Automatic Channel Allocation b) Having Automatic Power Control c) Supporting Neighbourhood scanning of RF environment to minimise neighbouring AP interference and leakage across floors. d) Having Coverage Hole Detection e) Providing alerts when APs are down or compromised RF environment is detected f) Having Self healing - Automatic neighbouring AP power increase to fill in for coverage losses g) Rogue AP detection and Blocking h) Should support Spectrum Analysis	
31	Solution supply with OEM 24x7 support and warranty and require licences from 1.	
32	Controller should have CE, FCC, IEC 60950, TEC, and BIS certificates.	
33	OEM should have ISO-9001:2015, ISO-14001:2015, ISO-20000-1:2018, ISO-27001:2013, ISO-45001:2018, ISO/IEC 15408 and CMMi Level 3 certificates.	
34	Controller must be supplied with a comprehensive warranty for a minimum period of three (3) years.	

B.3) 24 Ports PoE Switch

24 Port PoE Switch		
Make:		
Model:		
SN	Technical specification	Compliance (Yes/No)
1.	Manageable switch should have minimum 24 x 2.5/1 GE RJ45 POE ports and 4x 10GE SFP+ ports	
2.	The form factor of the proposed switch should be 1 RU Rack-Mount Appliance	
3.	Switching capacity of the proposed switch should be minimum 200 Gbps	
4.	Packet per second capacity of the switch should be minimum 300 Mpps	
5.	Proposed Switch should support minimum 32K MAC address storage	
6.	Proposed switch latency < 1µs. Must be available in public document of OEM	
7.	Proposed switch should support 4000 VLANs ID	
8.	Proposed switch must have minimum 750W POE power budget	
9.	Should support min 1GB memory , maximum to be specified	
10.	Should support Jumbo frames and link auto-negotiation	
11.	Should support Spanning Tree Protocol MSTP native, and backwards compatible with RSTP, STP and STP Root Guard	
12.	Should support Edge Port / Port Fast	

Additional Terms & Conditions (ATC)

13.	IEEE 802.1AX Link Aggregation IEEE 802.1q VLAN tagging, Private VLAN, Voice VLAN	
14.	should support Unicast/Multicast traffic balance over trunking port for dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac	
15.	Should support IEEE 802.3x Flow Control	
16.	Admin Authentication Via RFC 2865 RADIUS	
17.	Should support 802.1x port-based authentication	
18.	Should support 802.1x MAC-based authentication, IEEE 802.1x MAC Access Bypass (MAB)	
19.	Should support IEEE 802.1x Dynamic VLAN Assignment, MAC-IP Binding	
20.	Should support Radius CoA (Change of Authority) and Radius Accounting	
21.	Switch should support local user database and can integrate with LDAP, RADIUS, TACACS+ servers	
22.	should support Storm Control, LoopGuard	
23.	Should support IGMP snooping, DHCP snooping (entry limit per port) and Dynamic ARP Inspection	
24.	Should support Port mirroring, sFlow, TDR (time- domain reflectometer)/cable diagnostics.	
25.	Switch should support 512 ACL entries	
26.	Switch should support Policy Control of Users and Devices	
27.	Should support IEEE 802.1p Based Priority Queuing	
28.	Should support IP TOS/DSCP Based Priority Queuing	
29.	Should support Telnet,SSH, HTTP,HTTPS with IPv4 and IPv6 Management	
30.	Switch should support SNMP v1, v2c and v3	
31.	Software download/upload: TFTP/FTP/GUI	
32.	Proposed switch should be managed via both, GUI and CLI	
33.	MUST support multiple configuration files with Dual-firmware image support	
34.	Switch should support IP conflict detection and notification	
35.	Switches shall inbuilt packet capture feature in both GUI and CLI	
36.	Power Required :100–240V AC, 50–60 Hz	
37.	Operating Temperature :0–45°C	
38.	Humidity: 10–90% non-condensing	
39.	Solution must be offered with required security subscriptions and OEM 24x7 warranty support	
40.	MUST support multiple configuration files with Dual-firmware image support	
41.	Switch should support IP conflict detection and notification	
42.	Switches should manage from the proposed switch controller	
43.	Power Required :100–240V AC, 50–60 Hz	

Additional Terms & Conditions (ATC)

B.4) 12U Wall Mount Rack

Wall Mount 12U Rack		
Make:		
Model:		
S.NO.	Specifications	Compliance (Yes/No)
1	Rack Size	
2	Wall Mount 12U - 550W x 600D.	
3	Features:	
4	Conforms to DIN 41494 OR equivalent ISO Standards	
5	Adjustable 19" equipment mounting verticals provide the better mounting flexibility maximizing the usable mounting space	
6	Top and bottom Panel with ventilation and cable entry facility	
7	Provision to mount the cooling fans on the top panel	
8	Powder coated finish with pretreatment process meeting all industry standards	
9	Depth adjustable mounting slots.	
10	Grounding and Bonding Options 100% assured compatibility with all equipment conforming to DIN 41494. General industrial standard for equipment	
11	Construction: Welded Frame	
12	Front Door: Lockable Front Glass Door (tinted, Toughened) with Lock & Key, 2 pairs of 19" Mounting Rails with U-Marking.	
13	Equipment Mounting: DIN Standard 10mm Sq. Slots.	
14	Mounting Angle: 19" Mounting angles made of formed steel	
15	Top and Bottom Cover: Welded to Frame, Vented and Field Cable entry exit cut outs	
16	Standard Color: Grey	
17	Accessories: Power Distribution Units (6 Socket 5/15 Amp. Power Distribution Unit (1 No), Cable Manager, Fans and Fan Modules (Roof Mounted Fan Unit / 90 CFM /230V AC (1 Nos), Hardware Packet etc.	
18	Static Load: - 40KG	

Additional Terms & Conditions (ATC)

B.5) 24 Ports CAT6 Loaded Patch Panel

Unshielded Twisted Pair Category 6 Loaded Patch Panel - 24 Port	Compliance (Yes/No)
Make:	
Model Number:	
Features	
Category 6 24 port Patch Panel should be 24 Port 1U Size loaded with 24 port RJ-45 IO.	
Mounts in standard 19 inch racks.	
Patch panel should have cable manager for improvement management.	
Patch panel suitable for Category 6 keystone.	
Panel material should have SPCC and Black Color.	
Rear support bar material should have SPCC and Black Color.	
RJ-45 jack housing should be PBT + Glass fiber UL94V-O and Contact brackets should be PBT + Glass fiber UL94V-O.	
Rj-45 contact material should be phosphor bronze with nickel plated and plug contact area finish with 50 micro-inches Gold plated.	
Contact resistance should be maximum 20 miliohm.	
Operating Temperature should be -10° Celsius to 60° Celsius.	
Life of RJ-45 Jack should be 750 cycles minimum @ 500 VDC.	

B.6) CAT6 Patch Cord

Unshielded Twisted Pair Category 6 Patch Cord - 1 Mtr	Compliance (Yes/No)
Make:	
Model Number:	
Features	
Category 6 patch cords with four pair twisted cable terminated with RJ45 modular plugs at both the ends.	
Patch Cord should have TIA/EIA 568C.2 standard.	
Category 6 patch cord should be 100% factory made and performance tested.	
Category 6 patch cord length requires – 1 meter.	
Color code for Patch Cord: Grey/Blue/Green	
UL Application - PC UL94-V-0	
Performance Characteristics	
Patch cord conductor should be 24 AWG, multi-strands.	
Patch cord conductor metal should be made from bare copper.	
Insulation material should be high density polyethylene, material used should be FRPVC	
Insertion cycle- 750 Times.	
Dielectric voltage- 1000V DC/Min <05A	
Insulation Resistance - >500M Ohm, 1000DC/Min	
Modular Connector/Plug Characteristics	
Patch cord plug should be gold plated.	
Patch cord should support heat resistance max 75 degree C	
Contact blade of plug should be made from copper alloy.	

Additional Terms & Conditions (ATC)

B.7) CAT6 Cable

Unshielded Twisted Pair Category 6 Cable	Compliance (Yes/No)
Make:	
Model Number:	
Features	
Category 6 Unshielded Twisted 4 pair shall be compliant with ANSI/TIA/EIA-568-C.2 and ISO/IEC 11801 Class E.	
Should support 1000BASE-T (1 Gigabit Ethernet) standard.	
Category 6 should operate on bandwidth up to 250MHz as per standard.	
Construction Characteristics	
Conductor should be 23 AWG solid bare copper.	
Conductor Insulation material should be HDPE.	
Four twisted pairs separated by internal X shaped, full separator. Half shall not be accepted.	
Sheath material should be FR-PVC.	
Cable outer diameter should be 6.1 mm nominal.	
Cable weight should be 13.6Kg/Box.	
Electrical Properties	
Conductor Resistance: $\leq 9.38\Omega/100m$	
Mutual Capacitance: $< 5.6nF/100m$	
Resistance Unbalance: 5% Max	
Delay Skew: $< 45nS$	
Capacitance unbalance: 330pF/100m	
NVP: 69%	
Other Characteristics	
Each meter printed with sequential Length Counter	
Temperature Range -20° to +70°C	
Approval : UL Listed & ETL Verified	
OEM Should be International certification for the ISO 45001 Health and Safety Management System, ISO 9001 Quality Management System, ISO 14001 Environmental Management System, and ISO 14064-1 Greenhouse Gas Inventory Standards.	
OEM for the cable Box and all copper Accessories should be from same OEM.	

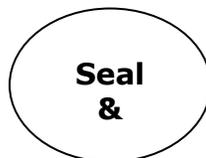
Note- Parties must mention make and model no. of the equipment offered by them, with detailed specification (on separate sheet). Otherwise, their tender will not be accepted.

Please Note:

1. In all above system specifications, equivalent or higher specifications can be allowed.
2. OEM have to provide written undertaking for complying above requirements

Date:

Place:



**Authorized Signatory
Name:**

Designation: