SNDT Women's University
Usha Mittal Institute of Technology
Juhu Tara Road, Santacruz (W), Mumbai – 400 049

NAAC ACCREDITED

एस एन डी टी महिला विद्यापीठ
उषा मित्तल इन्स्टिट्यूट ऑफ टेक्नॉलॉजी
जुहू तारा रोड, सांताक्रूझ (पश्चिम), मुंबई – ४०० ०४९

Invitation for Quotations for Implementation of Campus Wi-Fi @ UMIT Building

Ref No:UMIT/Purchase/2024-25/166   **Date: June 21,2024**

Sealed Quotations are invited for Implementation of campus Wi-Fi to be required at Usha Mittal Institute of Technology at **Juhu campus**. The suppliers are advised to study all technical and commercial aspects, instructions, terms and conditions carefully in the document. Failure to furnish all information required in the quotation may result in the rejection of the quotation. The University reserves the right to reject the quotation in whole without assigning any reason thereof.

Name of Item	**Implementation of Campus Wi-Fi**
Venue of Submission	**Usha Mittal Institute of Technology, SNDT Women's University, Juhu Road, Santacruz (West), Mumbai 400049**
To be Addressed to:	**Principal, Usha Mittal Institute of Technology, SNDT Women's University, Juhu Road, Santacruz (West), Mumbai 400049**
Contact Telephone	**022 – 2660 6040, 2660 5183, 9766642228**
Deadline of submission	**2nd July 2024 up to 5.00 pm**

Instructions:

Dates mentioned here, are scheduled dates for the University Activities. Any changes in dates of submission and processing shall be notified in 'Tenders/Quotations' section on the University website (sndt.ac.in) below the respective quotation.

To view Quotation Notice, kindly visit following website of **SNDT Women's University, Mumbai**: sndt.ac.in

Quotations should clearly mention all Technical Specifications mentioned in this document.

The quotations are invited for the following products:

Implementation of Campus Wi-Fi @ UMIT Building

The quotations are invited in two parts under Three Envelop System. Technical envelop shall be enclosed and sealed in envelop No.1. Schedule of Rates shall be filled in and enclosed in Envelop No.2. Both the sealed envelopes shall be kept in Envelop No.3 which shall be big enough to contain two envelopes. On each envelop name and address along with contact number of bidder shall be written. On the top of it envelop name of the bidder should be mentioned.

Envelop No.1:

The envelope must contain:

1. Covering letter with details of bidders: address, name of proprietor, telephone number and/or mobile number, email ID, name, signature and seal. In case of partnership firm - name and address of the partners and copy of Partnership Deed.
2. Type of business entity: manufacturer/authorized dealer/reseller, any other (to be specified)
3. Certified copy of GST registration
4. PAN Card No
5. List of main clients (minimum 3)
6. Work experience Certificate/ Delivery Challan (at least from one client)
7. Vender should be based in Mumbai, (Property Tax / Electricity Bill / Telephone Bill / Registration agreement) for Service Centre in Mumbai.
8. All passive components, Wi Fi and Switches from same OEM
9. ISO 9001:2015 Certificate
10. MAF from OEM is Mandatory
11. Bidder required to be furnished the Manufacturers Authorization Form (MAF)/Certificate along with the bid. MAF require from OEM corporate headquarters with OEM details such as name, designation, address, e-mail Id and Phone No.
12. OEM should have direct sales office, direct service center in Mumbai. Submit Service Center Registration Copy, (Property Tax / Electricity Bill / Telephone Bill / Registration, agreement)
13. OEM should have Indian based operation at least for a period of 10 years or higher. Incorporation certificate to be submitted.
14. Manufacturer should have ISO 9001:2015 Certification for Quality Management System and ISO 14001:2015 Certification for Environmental Management System. Submit Valid ISO 9001 and ISO 14001 Certificates.
15. The details about technical specifications of product should submitted in the prescribed format as follows on the letterhead of the bidder or with the bidder's seal and signature:

Name of Item And Required Technical Specification and Standards	Bidder's Technical Specification And Standards, Brand Names and Mode Numbers wherever applicable (Mentioned in Yes or No)
Cat 6 UTP Cable	
Features	
Category 6 Unshielded Twisted 4 pair shall be compliant with ANSI/TIA/EIA-568-C.2 and ISO/IEC 11801 Class E.	
It Should support 1000BASE-T (1 Gigabit Ethernet) standard.	
Category 6 should operate on bandwidth up to 250MHz as per standard.	

Category 6 cable should have UL listed / ETL verified.	
Construction Characteristics	
The Conductor should be 23 AWG solid bare copper.	
The conductors should be twisted in pairs with four pairs contained in FR-PVC jacket.	
The Conductor Insulation material should be HDPE.	
Four twisted pairs separated by internal X shaped, full separator. Half shall not be accepted.	
The Cable outer diameter should be 6.1 mm nominal.	
The Pulling force should be 11.5Kg.	
The Sheath material should be FR-PVC.	
Electrical Properties	
The Conductor Resistance should be $\leq 9.38\Omega/100m$	
The Mutual Capacitance should be < 5.6nF/100m	
The Resistance Unbalance should be 5% Max	
The Delay Skew should be < 45nS	
The Capacitance unbalance should be 330pF/100m	
The NVP should be 69%	
Other Characteristics	
Printing: Each meter printed with sequential Length Counter	
Temperature Range -20° to +70°C	
Unshielded Twisted Pair Category 6 Keystone Jack	
Features	
Category 6 keystone jacks are RJ45, 8 position 8 contact socket.	
Category 6 keystone jacks are suitable for 22-26 AWG stranded and solid wire.	
Category 6 keystone jacks are compatible with both 110 & Krone punch down tools.	
The Category 6 keystone jacks shall be backward compatible with Category 5e, 5 and 3 cords and cables.	
Color of Keystone Jack: White	
Category 6 keystone jacks compliance with ANSI/TIA/EIA 568 C.2 standard.	
The Category 6 keystone jacks shall be of a universal design supporting T568 A & B wiring.	
Mechanical Characteristics	
Category 6 keystone jacks housing made from PC, UL 94V-2 material.	
RJ45 Jack contact material should be phosphor bronze with nickel plated. Finished with 50 micro-inch gold plated on plug contact area.	
It Should have IDC CAP and material of IDC Cap should be PC, UL 94V-2.	
IDC Housing made from PC, UL 94V-2. Terminal material should be Phosphor bronze with tin plated.	
Performance Characteristics	
Life of Jack should be 750 cycles minimum (ISO/IEC 11801 /	

IEC 60603-7-4).	
Current rating should be 1.5A.	
Operating Temperature should be -10° Celsius to 60° Celsius.	
Wireless controller to manage the Access Points	
Management features of controller	
The Software based controller must support for management of IEEE 802.11a, IEEE 802.11b, IEEE 802.11g,IEEE 802.11n and 802.11ac and 802.11ax Access points.	
Support for management of atleast 100 Access points without any license upgrade	
Support for automatic channel and output power adjustment based on surrounding RF enviroment.	
The Controller must be accessable from a Web-based user interface.	
Must be able to manage an access point in a remote location(not in the same location and network as that of the controller).	
Access point management features	
The controller must support L2 roaming across managed access points.	
The controller must support Bandsteering for managed access points.	
The controller must be able to detect Rogue Access Points in the wireless network.	
The controller must be able to update the firmware of the managed access points.	
The access point must provide Monitoring of connected clients giving information of each client for the connected SSID, RSSI value, MAC address, IP address.	
The controller must have an inbuilt network topology visulization tool that gives an overview of the connected devices in the network.	
Support for Web based authentication via captive portal.	
Support for creation of multiple SSID's per Access Point.	
The controller must be able to manage the bandwidth of the Wireless network and have option to limit the Uplink and downlink bandwidth on a per user or per SSID basis.	
The configuration should have an option for scheduled update at a defined time and date.	
The controller must support for mapping a VLAN to a particular SSID.	
Through controller AP's able to support Port based VLAN.	
Wi-Fi 6 PoE Wireless Indoor Access Point	
Standards	
Support for IEEE 802.11a/b/g/n/ac/ax Wi-Fi 6 wireless.	
Wi-Fi datarae up to 1200Mbps on 5GHz and 574Mbps on 2.4GHz.	

Should support 802.3u and IEEE 802.3ab.	
All the Access points supplied should support IPv6 & IPv4 from day one.	
PoE port compliance with IEEE 802.3at for providing PoE based power to AP.	
Interface	
At least 1 x 1 Gbps Ethernet LAN (PoE) and 1 x 1Gbps Ethernet RJ 45 console port	
Should have a hardware reset button.	
Should have Power LED Indicator.	
Should have power jack.	
Features	
Access point should have Internal Omni directional antennas.	
Minimum antenna gain of 3.2dbi for 2.4 GHz and 4.3dBi for 5 GHz.	
support for MU-MIMO: 2x2	
The minimum transmit power of AP should be at least 23 dBm.	
Access point should support working in Stand-Alone Mode and in Managed Mode with a software wireless controller.	
Access Point should have an operating mode to act as a wireless bridge for point-to-point connectivity between two networks.	
The Transmit power of the AP should be manually adjustable.	
It should support Wi-Fi Multimedia (WMM) for QoS.	
The AP must be configurable as a DHCP server allocating IP addresses to the clients with a configurable lease time for the assigned IP addresses. Also, a static pool must be configurable where in some clients receive only a specific IP address.	
Wireless Schedule creation on a per SSID basis which defines the Days and time of the week when the particular SSID is enabled.	
Should support at least 8 configurable SSIDs.	
The AP must be able to detect intrusion attempts and classify AP's as Rogue and Valid.	
Web Redirection feature: For Captive portal Wireless client's redirection to this web site prior and after authentication.	
Security	
Support for SSID Broadcast Enable / Disable option to prevent detection of the AP network.	
AP should support WPA-PSK, WPA2 and WPA3-PSK security.	
64/128-bit data encryption using WEP for security.	
The AP must support an Internal RADIUS server.	

ARP spoofing prevention functionality must be supported.	
Support for LDAP, POP3 and external RADIUS server for authentication.	
MAC address access control (Filtering).	
Rogue and Valid AP Classification through continuous channel scanning.	
Access point Management & Maintenance	
Telnet, SSH/SSL, HTTP, and HTTPS based management.	
The AP Should have functionality to form a self-configuring group with one AP automatically pushing its configuration to other identical APs in the network.	
SNMP v1, v2 and v3 must be supported.	
Support for Network Time Protocol (NTP) for clock synchronization.	
Certifications	
FCC and CE Certified.	
Memory & Environmental conditions	
Minimum Flash memory of 128 MB and RAM of at least 512MB.	
Operating Temperature: 0 to 40°C.	
Operation Humidity: 0% to 90% (Non-condensing)	
Layer 2 PoE Manageable Gigabit Switch - 28 Port	
Switch Hardware Specification	
Switch with at least 24 X RJ-45 PoE Gigabit Ethernet Ports and additional 4 X Combo 1G Ports.	
Switching capacity should be 56Gbps or higher or non-blocking architecture.	
Switch packet forwarding rate should be 41Mpps or higher or non-blocking architecture.	
Switch MAC table should be at least 8K or higher.	
Switch should delivered 802.3at PoE+ and 802.3af PoE power to any of the PoE RJ-45 ports.	
The total power available for PoE switch should be 370W or higher.	
Switch should be standard 19 inch 1U rack mountable.	
Support for the Energy Efficient Ethernet (IEEE 802.3az) standard.	
Power input should be 100 to 240 V AC 50/60 Hz internal universal power supply	
Operating temperature should be -5 degree Celsius to +50 degree Celsius.	
Certification: CE, FCC, RoHS and UL.	
Switch Software Specification	
Should support Head of Line blocking prevention for lower latency and better performance.	

Support Jumbo Frame up to 10K Bytes or higher.	
Should support IGMP Snooping, Able to create 250 or more IGMP groups, IGMP snooping querier and require support for IGMP Snooping Fast Leave.	
Should support MLD Snooping, Able to create 250 or more MLD groups, Per VLAN MLD Snooping and require support for MLD Snooping Fast Leave.	
Should have 802.1D STP, 802.1w RSTP and 802.1s MSTP Spanning Tree Protocol.	
Should support Loopback detection (LBD) to detect the loop created by a specific port.	
Should support Multicast Filtering to filters or forward all unregistered groups.	
Switch should support IEEE 802.1Q VLAN tagging for Ethernet frames.	
Different type of VLAN like Port based, Auto Surveillance, Auto Voice, etc. should be available for configuration.	
Switch should support QoS (quality of service) IEEE 802.1P for traffic prioritization. It should support 8 queues per port.	
Different type of QoS priority like Strict Priority Queue and Weighted Round Robin.	
Port based ingress / egress rate limit function should be available with limit in increments as low as 16 Kbps.	
Switch should support Neighbor Discovery (ND) protocol for IPv6.	
Switch should support at least 4 nos. IPv4 / IPv6 IP Interfaces.	
Should support default routing and static routing with minimum 100 IPv4 static route entries and minimum 50 IPv6 static route entries.	
Support at least 700 access control entries. Each entry should be applied on single / multiple ports with permit / deny action.	
Switch should support safeguard engine for automatically throttles the impact of packet flooding into the switch's CPU.	
Should support port security to secures the access port based on MAC address.	
should have broadcast, multicast, and unicast storm control to prevents faulty end stations from degrading overall systems performance.	
Support Traffic Segmentation to restricted traffic flow from a single or group of ports, to another group of ports.	
Should have SSH and SSL for IPv4 and IPv6.	
Require prevention of DoS attacks, which include Land, Blat, TCP Null Scan, TCP Xmas Scan and TCP SYNFIN.	
Should support 802.1X port-based authentication.	
Should support ARP spoofing prevention.	
Should support DHCP snooping and DHCP server screening.	
Switch should able to create a binding table for IP + MAC + Port to prevents a malicious user from spoofing or to restrict the unauthorized users.	

Should support 802.1X RADIUS and local server database authentication.	
Should have option to check the status of copper cables using the cable-diagnostics time domain reflectometer (TDR).	
Able to manage trough Web-GUI, Compact CLI and Telnet.	
Should support SNMP v1, v2c, v3 and SNMP Traps and Remote Monitoring (RMON).	
Should have dual Image support to enhance the reliability of the switch.	
Switch should support dynamic host configuration protocol (DHCP) auto configuration of multiple switches through a boot server eases switch deployment.	
Switch should support surveillance switch mode for easy discovery of ONVIF compliance camera and NVR.	
Should have SNTP/NTP protocol for time synchronization.	
Switch should be IPv6 Ready Compliance.	
Should support Link Layer Discovery Protocol (LLDP) and LLDP-MED.	
Note	
Switch should be supplied with the all necessary components like Power cord, Rack-mount bracket, Installation Guide, etc. and necessary software image file to fulfil all above mention feature set from day 1.	

Please mention Brand/s and Model Number/s here: <u>Brand name:</u>

Envelop No.2:

The envelope must contain:

The financial bid may be submitted in the prescribed format as above on the letterhead of the bidder.

Item (Brand Name and Model Numbers)	Rate per unit (INR)	Taxes (INR)	Qty (total)	Total Estimated Cost (INR)
1.				

The rate must be inclusive of all charges. Taxes are to be mentioned clearly in the quotation.
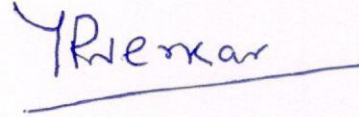
The final quantity may vary at the time of issue of purchase order.

Free delivery, installation is required at Usha Mittal Institute of Technology , SNDT Women's University, Juhu.

The rate validity will be up to 45 days from the date of submission deadline.

All necessary documents, manuals to be handed over to the concerned Department, Juhu campus.

Packing and transport charges, transit insurance will be inclusive in the quoted rate.

Principal
Usha Mittal Institute of Technology
SNDT Women's University,
Mumbai