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**NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH**  
Taramani P.O., Chennai – 600 113.

(Government of India, Ministry of Human Resource Development)

Ref. No. NITTTR/Hostel WiFi/ 2016-17/

Date: 03-03-2017

To :

Delivery required by :

Dept. of Computer Science  
and Engineering, NITTTR  
Chennai 600 113

**QUOTATION DUE DATE**

(a) Please send your quotation within the due date on sealed envelope on or before:

**Date: 13.03.2017**

(b) Delivery required at : NITTTR, TARAMANI, CHENNAI -113

Sl.No.	Description of Items	Quantity
1.	<b>WLAN Access Points including Mounting Kit</b> <b>Specifications in Annexure - 1</b>	35 nos
2.	<b>Installation</b> <b>Specifications in Annexure - 2</b>	Lumpsum
<b>Note :</b> 1. Mention warranty period for the item 2. Indicate the Reference No. and the last date on the Envelope 3. Our Institute is exempted from Customs duty. 4. <b>TIN/TNGST/CST Registration No. must be furnished</b> (Enclose Pamphlets, if any)		

**Cover should be addressed to:**

Dr. V. Shanmuganeethi,  
Asst. Professor, Dept. of CSE  
National Institute of Technical Teachers Training and Research,  
Taramani P.O., Chennai – 600 113.

(For terms and conditions please see overleaf)

for DIRECTOR

## Terms & Conditions

1. The quotation must specify the period within which the supply could be effected from the date of receipt firm orders.
2. Quotation received after the due date mentioned on the reverse will not be considered.
3. Your quotations should be for materials strictly in accordance with the specifications shown. In case you are offering substitutes state clearly the exact specification etc, of the materials offered Drawing sketches or any other technical data should be submitted separately.
4. The prices quoted should clearly specify charges for delivery of the goods to destination indicated overleaf.
5. The prices quoted should include all packing costs and it will be assumed that packing materials (cases etc..) are non-returnable unless otherwise stated.
6. Sales tax or any other taxes if applicable should be shown separately giving the full rate of taxes for each items giving ex-incident of such levies.
7. The Director reserves the right to accept the whole or part of any quotation without assigning any reason and the lowest or any quotation will not necessarily be accepted, and the Director's decision shall be the final.
8. Samples must accompany the quotation when so specified or within two days when asked for later.
9. If it is discovered that the materials supplied are not exactly according to the specification, the entire stock will be rejected.
10. We reserve the right to inspect the goods offered at any stage of manufacture / supply at your premises.
11. Any dispute arising out of or relating to this Enquiry shall be deemed to have arisen in Madras and is subject to adjudication of the Madras Courts.
12. Rates quoted once will remain firm for that particular dealing.
13. The quotation should be kept valid for a period of 60 days from the date of opening for acceptance.
14. Payment will be made after confirmation on receipt of the materials in good condition at this Institute (normally within 30 days.) Advance payment will not be entertained at any circumstances.
15. Printed conditions of the firm sent along with the quotation form if any, shall not be binding on us.
16. In case of Printing the Proof should be got approved before final strike.
17. Materials should be supplied at this institute in good condition.
18. Price quoted by the suppliers accepted by the Director is final, and no deviation there from will be accepted without the Director's agreement in writing.
19. If the rates are under D.G.S. & D. Please specify the same clearly enclosing necessary documents.

## Annexure - 1

S. No.	Description	Compliance (Yes / No)
<b>General Requirement</b>		
1	The bidder submitting the offer should be OEM Vendor or Authorized Reseller / Partner of OEM Vendor for wireless Products. Authorized reseller	
2.	OEM should be in the leader quadrant of the latest Gartner report released	
3	HW controller/virtual controller, nms should be of same OEM	
<b>Architecture</b>		
1	WLAN Controller should be hardware/appliance-based controller OR software-based controller in which APs acts as a virtual controller.	
<b>Scalability</b>		
1	In case of hardware controller, controller shall be capable of supporting minimum of 125 AP's from day one for future scalability. In case of software-based controller, centralized management solution also shall be provided to manage software controllers.	
2	If customer requires need to show the reference of customer where 100 or more aps deployed in cluster	
<b>High Availability</b>		
1	High availability should be provided for controllers. In the event of a failure of the hardware/virtual controller, a standby controller shall automatically take over the master role.	
2	Virtual controller or Hardware controller should have VPN capabilities for the future expansion	
3	Virtual controller or Hardware controller should support cloud based solution for the future expansion	
<b>WLAN Features</b>		
1	Should support Band Steering feature that forces the dual-band capable clients to the 5 GHz band on dual-band access points.	
2	Should balance wireless clients across APs on different channels, based upon the client load on the APs.	
3	Should support internal DHCP server.	
4	WLAN Solution IEEE 802.11r roaming standard and shall support L3 mobility that allows a client to roam between APs on the same network but different client subnets, while preserving its IP address and existing data sessions.	
<b>Network Policy features</b>		
1	WLAN solution should be able to create access policies in order to allow or block packets for inbound traffic/outbound traffic.	
2	WLAN solution (either integrated or through external firewall) shall have a capacity to inspect all traffic from each user session and allow or deny any traffic that does not satisfy specified policies.	
3	WLAN solution (either integrated or through external firewall) shall provide identity-based controls to enforce application-layer security and prioritization. E.g You tube to be given defined bandwidth like 1 Mbps and some apps like Facebook to be denied or given defined bandwidth.	
4	WLAN solution shall be capable of controlling bandwidth per user.	

Spectrum scanning		
1	WLAN solution shall be capable enough to scan the 2.4 or 5GHz radio bands to identify sources of Wi-Fi and NON WI-FI interference sources, and make the results available locally and to a remote management solution.	
WLAN Security		
1	Should prevent students/users connecting to rogue AP and also prevent an outside user trying to connect to campus WLAN.	
2	Should prevent Ad-hoc connections (i.e. clients forming a network amongst themselves without an AP)	
3	Should prevent windows bridge (i.e. client that is associated to AP is also connected to wired network and enabled bridging between two interfaces)	
Indoor Access Points		
1	Access point should be 802.11ac.	
2	Dual radio, dual band capable of supporting 2.4 GHz & 5 GHz simultaneously.	
3	The Wireless AP should support 10/100/1000 Base-T PoE port.	
4	Ap should have 3*3:3 hardware, able to provide 1.3 Gbps on 5 Ghz	
4	The Wireless AP should be UL2043 Plenum rated.	
5	Access points shall have Kensington security slot.	

**Annexure -2  
Installation Details and Materials**

**The following equipments payment will be paid to *actual***

SI No	Description
1	9U Wall Mount Rack + 2 Fans + 1 Cable Manager + 1 Power Strip with spike arresters(makesAPW/RITTAL/ VALRACK only)
2	Cat6 Patch Cord – 2 Meters
3	Cat6 Cable
4	24 port LIU Fully Loaded (includes Jack Panel) with accessories
5	Cat 6 Information Outlet with Single face plate andback box
6	Fixing of LIU
7	Fixing of Racks
8	Conduits with all necessary accessories
9	Laying charges for CAT 6 cable
10	Laying Charges for Conduits
11	Installation with POE Switches and Complete commissioning of the WiFi Environment

## CAT 6 Cable

SI No	Type	Technical specification	Compliance (Yes / No)
1	Type	Unshielded twisted pair cabling system, TIA / EIA 568-C.2 Category 6 Cabling system	
2	Network support	Supports ultrahigh speed data networks such as Gigabit Ethernet (1000 Base-T and 1000 Base-TX) and beyond.	
3	IEEE 802.3ab	ETL verified	
4	Warranty	25-year systems warranty; Warranty to cover Bandwidth of the specified and installed cabling system, and the installation costs. Site certificate must be issued by OEM	
5	Performance characteristics to be provided along with bid	Attenuation, Pair-to-pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR for 4-connector channel	
6	Manufacturer	All passive cabling must be from same OEM ( UTP and Fiber)	
7	Conductors	23 AWG solid bare copper	
8	Insulation	Polyethylene	
9	Frequency tested up to	600 MHz minimum	
10	Impedance:	100 ± 15 Ohms	
11	Current Rating:	1.5 A Max	
12	Voltage:	150VAC	
13	Propagation delay:	535ns/100m @250MHz	

## Cat 6 DataGate Jack

SI No	Type	Technical specification	Compliance (Yes / No)
1	<b>Features and Benefits</b>		
		Patented Spring-Loaded Shutter: prevents incomplete mating protects from dust and contaminants	
		Patented IDC V-shaped contacts that flex not fatigue when terminated	
		Dual color-coding allows for 568 A/B wiring configuration	
		Can be terminated using industry standard punch-down tools	
		RJ-11 compatible	
		USOC Wiring Sequences Available	
2	<b>Dust Proof</b>	RJ45 Jack should be supplied with Cap or Shutter to avoid Dust	
3	<b>RJ45 I/O Compatibility</b>	2a. Individual Compatible RJ45 Jack	
		2b. Pointed IDC Tower on RJ45 Jack for easy termination	
		2c. Half Plugged Patch Cord should be spitted out if not properly plugged in	
4	<b>IDC Connector</b>		
	Plastic Housing:	Thermoplastic UL94V-0 rated or equivalent	
	Operating Life:	Minimum 20 determinations	
	Contact Material:	Copper Alloy	
	IDC Contact Plating:	Tin/Lead Plate	
	Wire Accommodation:	22-24 AWG solid	

## Wall plates

SI No	Type	Technical specification	Compliance (Yes / No)
1	<b>Features and Benefits</b>	The stylish unloaded Synergy Wall plates were designed specifically to accept the UTP Datagate Connector. The unloaded Synergy Wallplates are available in 1, 2 and 4 port variants, in five colours, to co-ordinate with any decor and any installation size.	

2	<b>Accommodates</b>	Accommodates UTP, STP Datagate jacks Accommodates Molex single bezel Fibre modules Accommodates Molex media configurable modules	
3	<b>Material</b>	VE10 ABS	

### 24 Port loaded Patch Panel 1U Height

SI No	Type	Technical specification	Compliance (Yes / No)
1	<b>Features and Benefits</b>	Available in 1U 24 Port and 2U 48 Port density Each port features the patented spring-loaded shutter: – prevents incomplete mating – protects from dust and contaminants Dual colour-coding allows for 568 A/B wiring configuration Front and rear port labelling (port sequence 1–480) as well as panel identification label 4 x 6 ganged jack configuration RJ45 port which is RJ-11 compatible	
2	<b>Rear Cable Manager</b>	Flat type metal with Perforated Rear Cable Manager to hold CAT6 UTP Cable with velcro cable ties	
3	<b>Dust Proof</b>	RJ45 Jack should be supplied with Cap or Shutter to avoid Dust	
4	<b>RJ45 I/O Compatibility</b>	2a. Individual Compatible RJ45 Jack 2b. Pointed IDC Tower on RJ45 Jack for easy termination 2c. Half Plugged Patch Cord should be spitted out if not properly plugged in	
5	<b>Jack Connector</b>		
	Plastic Housing:	Thermoplastic UL94V-0 rated or equivalent	
	Operating Life:	Minimum 750 insertion cycles	
	Contact Material:	Phosphor Bronze	
	Contact Plating:	50µ" Gold/100µ" Nickel	
	Contact Force:	100g minimum	
	Plug Retention Force:	11 lbf minimum	
6	<b>IDC Connector</b>		
	Plastic Housing:	Thermoplastic UL94V-0 rated or equivalent	
	Operating Life:	Minimum 20 reterminations	
	Contact Material:	Phosphor Bronze	
	IDC Contact Plating:	Solder Plate (60% tin/40% lead)	
	Wire Accommodation:	22-24 AWG solid	

### Cat 6 Patch cord

SI No	Type	Technical specification	Compliance (Yes / No)
1	Type	PowerCat 6 U/UTP End-to-End Solution and are designed to support data networks for 10/100BASE-T and 1000BASE-T applications.	
2	Conductor size:	24 AWG stranded copper wire	
3	Nom. O.D.:	5.9mm	
4	Bend radius:	4X O.D.	
5	RJ45 Plug Standard	ISO/IEC 60606-7-4 and FCC 47 Part 68	
6	Operating temperature range:	-20°C to 60°C	
7	Contact material:	0.35mm thick copper alloy	
8	Commercial Standards	ISO/IEC 11801:2002/Amd 2:2010 Cat 6-, TIA-568-C.2 Cat 6	
9	Standard length available	0.5mt to 10 mts	