INVITATION FOR QUOTATION

TEQIP-II/2016/UK2G02/Shopping/71 **27-Oct-2016**

Sub: Invitation for Quotations for supply of Goods

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

Sr. No	**Brief Description**	**Quantity**	**Delivery Period(In days)**	**Place of Delivery**	**Installation Requirement (if any)**
1	Students Hostel Computer Networking	12	30	GBPEC, PAURI-Garhwal	YES

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme[TEQIP]-Phase II** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.
3. Quotation,

   3.1 The contract shall be for the full quantity as described above.

   3.2 Corrections, if any, shall be made by crossing out, initialing, dating and re writing.

3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit price.

3.4 Applicable taxes shall be quoted separately for all items.

3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.

3.6 The Prices should be quoted in Indian Rupees only.

4. Each bidder shall submit only one quotation.
5. Quotation shall remain valid for a period not less than **45** days after the last date of quotation submission.
6. Evaluation of Quotations,

   The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

   6.1 are properly signed ; and

   6.2 confirm to the terms and conditions, and specifications.
7. The Quotations would be evaluated for all items together.
8. Award of contract:

   The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

   8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

   8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.
9. Payment shall be made in Indian Rupees as follows:

   Delivery and Installation - 100% of total cost

   Satisfactory Acceptance - 0% of total cost

10. All supplied items are under warranty of **12** months from the date of successful acceptance of items.
11. You are requested to provide your offer latest by **15:00** hours on **15-Nov-2016 .**
12. Detailed specifications of the items are at Annexure I.
13. Training Clause (if any) **yes**
14. Testing/Installation Clause (if any) **Yes**
15. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
16. Sealed quotation to be submitted/ delivered at the address mentioned below,

    G.B Pant Engineering College, Vill & Post Office - Ghurdauri, Distt : Pauri-Garhwal, Uttrakhand
17. We look forward to receiving your quotation and thank you for your interest in this project.

(Authorized Signatory)

Name & Designation

Annexure I

Sr. No	**Item Name**	**Specifications**
1	Students Hostel Computer Networking	G.B Pant Engineering is having a Existing Campus Wide Networking which include Core Switch, Wireless Controller, L3 Switch and Wi-Fi Access Point in the department. We want to extend these facilities in the Hostels , Library, Auditorium. The Project will be turnkey project which include the laying of Fibre between the hostel, installing of 24 Port Switch-08 , Access point - 40, support all the function of wireless controller networking of Wi-Fi Internet. The details of the product Quantity & specifications are enclosed in Annexure- 1

G.B PANT ENGINEEING COLLEGE, PAURI

IT INFRASTRUCTURE OF THE HOSTELS.

Annexure – "A"

Brief Description of Products & Specification

S.No	Name of the Item	Specification
1.	Wireless Controller	• Supports up to 250 APs in HA mode and shall be provisioned with 72 AP License on Day 1; only one controller need to be provided on day 1 -4x 1Gbps Interfaces for data plane - 1x 1Gbps Interfaces Dedicated Management port **Architecture** • The system architecture should provide all of these topologies • - a) Routed at controller: The WLAN controller acts like a L3 router forwarding the WLAN traffic into the LAN - b) Bridged at controler: The WLAN controller acts as a L2 Switch forwarding the WLAN traffic into the LAN using specific VLANs - c) Bridged at Access Point: WLAN traffic is forwarded directly at the LAN Entry port of the AP using specific VLANs. • All offered access point models must be able to support these topologies simultaneously. • The system must be abe to change the topologies for each client after authorization • Each authentication session must be controlled by: - individual access rule sets - VLAN Assignment Qos per User or application with bandwidth limitation in and outbound • Security architecture compliant to IEEE 802.1x for WLAN Clients • Radius-Support with PreAuthentication and Pairwise Master Key (PMK) Caching providing roaming transition < 50 ms • Support of X.509 Certificates • The controller architecture allows meshing of multiple controllers. • VPN, Video and VoIP support with Fast Roaming and minimum five Qos Profiles for L2/L3 • Call Admission Control (CAC) controlled approval of new voice streams • Support for Client Loadbalancing across neigbour AP's • Multicast limitation per Wi-Fi service set, Bonjour support

		• Supports Application based recognition of user traffic in distributed and centralized mode of deployment • Supports Application based recognition to allow and drop traffic at AP when configure in policy • Supports Application based recognition upto 3000 applications signatures • Supports also 3rd part Security to quarantine WLAN clients violating predefined Access policies (Patchlevel, undesirable applications, virus sigantures) • Supports QBSS (Providing actual load situations to the client to enable intelligent roaming) • Supports UAPSD (Unscheduled Automatic Power Save Delivery) • Flexible Client Access to enhance throughput of 802.11n clients • Supports Location-Based-Services (EKAHAU , Aeroscout) • Supports Access Point Load-Balancing for optimized client distribution. • Supports Energy Save Mode to reduce the AP's power consumption while no client is associated • Supports Band Preference to move clients into the less used 5GHz band. • Supports Link Aggregation for load balancing and redundancy **Guest portal** • Integrated Guest access System: - customizable log in page - Ticket-Templates - local account management - Ticket adminstration portal • Guest access via Captive Portal authentication and limited access for unauthorized clients - Walled Garden • HTML-Editor for portal customization **Configuration** • Wizard for guided basci setup, high availability and WLAN services • AP configuration and operation in L2 and L3 topologies • Support of Rulesets per User,SSID, Interface and AP in all topology variations. • Opportunistic Key Caching (OKC) for secure and fast roaming • Supports Wireless Distribution System (WDS) • Supports Dynamic Meshing to establish load balanced WDS structures • Diagnostic Tools: Network Use statistics Client Association, client statistics WLAN and LAN interface statistics • Reports can be accessed via GUI and exported via HTML and accessed

		via SNMPv2 • Administrative access must be secured via RADIUS. • Controller independant management of Interference detection per channel, automatic channel switch , interference reaction and channel release after interference situation is cleared • Detection and compensation of insufficient coverage or AP failure by automatic power control. • MAC-Blacklist/Whitelist **Management** • Full management of all featurs via: - Webinterface (HTTP/HTTPs) - SNMP V1, V2.c,V3 - CLI (Telnet / SSH) • IPv4 and v6 support • Supports encrypted communication between AP and controller using IPSEC, IKEv2, AES and Diffie-Hellman protocols. • Packet Encapsulation via CAPWAP Tunnelling Protocol • Automatic initial configuration (Zero Touch) • New APs must be approved by the admin before integration. • Suport definition of virtual network services with several RADIUS based authentication methods and rule sets • Site specific assignment of APs, network services ans rulesets • Inter WLAN-Client Traffic blocking option. • Supports autonomous routed IP subnet with separate DHCP service • Optional support of 3rd party AP via dedicated port. • Rogue Accesspoint Detection and Prevention • Integration in unified LAN/WAN Management with patch management, automatic config backup/restore and ruleset roll-out • Supports 802.11 real time capture in wireshark format • Supports RFC-3580 tunnel-id adaption into filter rule sets • **Availability** • High availability by controller pairing redundancy with short poll cycles • High availabity with LAN using OSPF dynamic routing • If one controller fails, the backup must be capable of covering all APs • Fast Failover without loss of voice- or data connections • Access Points are capable to operate without controller (local L2-Bridging) • Without controller, an AP can redirect authenticating requests to a local RADIUS Server.
2.	Access Point	Access Point (AP) with two integrated, independant radio units 802.11 a/b/g/n/ac and Integrated or External Antenna

		Include Wall mounting and Ceiling mounting Bracket as per requirement AP should have Kensigton Slot or equivalent to improve physical security of the device; AP shall not be configurable to work independent of controller to reduce incentives to theft of the device 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM with OFDM 802.11ac Packet aggregation: A-MPDU, A-MSDU 802.11ac Very High-Throughput (VHT): VHT20/40/80 802.11ac Advanced Features: LDPC, STBC, Maximum Likelihood (ML) Detection 802.11n: BPSK, QPSK, 16QAM, 64QAM with OFDM 3x3 MiMO , Minimum 3 X Spatial Steam supporting upto 1.3Gbps Data Rate on 5Ghz and 450 Mbps Data rate on 2.4Ghz 2x 10/100/1000BaseTX Ethernet Port; should support LACP on 2 ethernet ports to create 2 Gbps link to switching infrastructure AP should be plenum rated Simultaneous backward compatible Dual-Band Transmit Power Maximum Supported upto EIRP of 26dbm as per GOI regulation Supports Transmit-Beamforming for high reliability and performance for voice / video / data Supports LDPC to minimize WLAN Overhead Supports STBC to optimize signal consistence Multicast to unicast Conversion on AP Real time RF management of interference detection per channel, automatic channel switch , interference reaction and channel release after interference situation is cleared Must support optional manual TX power setup in 3db steps per frequency band. Video und Voice-over-IP support with roaming Roaming and minimum five Qos Profiles according to IEEE 802.11e. Pre standard Legacy applications and clients must be also prioritized. Packet Encapsulation via CAPWAP tunnelling protocol Centralized and automatic configuration and Management in L2- and L3 environments Supports min. 16 SSID per AP Identification, containment and control for protocols like Bonjour,LLMNR,UPnP Onboard Encryption supports Wired Equivalent Privacy (WEP), WPA (WiFi Protected Access) and WPA2 (IEEE 802.11i, AES), IPSec, IKEv2 Security architecture compliant to IEEE 802.1x for WLAN Clients Radius-Support with PreAuthentication and Pairwise Master Key (PMK) Caching providing roaming transition < 50 ms Support for Opportunistic Key Caching Support of X.509 Certificates Supports VoWLAN with SVP,WMM, 802.11e

		User based and Rule based Rate limit SSID based Traffic prioritization Supports layer3 roaming day 1 Supports feature set and power save mode of VoWLAN Phones Supports optimized roaming by defined disassociation of VoWLAN phones based on bandwidth thresholds. Supports branch office mode: APs can act controller independant as local Bridges with up to 4K VLAN IDs Supports Access lists on the AP IEEE 802.11h DFS and TPC Support Upgradeable for future standards as far as the requirements are met by hardware. Simultanous bridging at AP and tunnelling into the controller an the same SSID Supports per client session access control Supports IPv6 Detects and classifies RF interference (Spectrum Analysis & Fingerprinting of interfering frequencies such a bluetooth, microwave etc) without impact to packet forwarding Integrated WIDS and WIPS function without impact to packet forwarding Client Load Balancing between AP's Support Airtime fairness and Application based Filtering natively on Access Points
3.	Switch	Minimum of 24 ports of 10/100/1000 Base T with 4 X shared 100/1000BASE-X unpopulated SFP Support 1000SX, 1000 LX, 1000BX, 10G SR/LR, and 100 FX interfaces Switch should support 2x 1/10Gbps SFP+ in additional and exclusive to above required ports which can be upgraded with License to use 10G if required Switch should support 802.3 at poe+ Standard on all Base T ports with 380W PoE Power Budget Should have USB port for Image backup and storage should have dedicated and Exclusive stacking ports with stack bandwidth of 40 GBPS and minimum 8 units per stack support, any license or cables to be required needs to be provided on day 1 have Redundant Power Supply support and variable speed fan to adjust to varying weather conditions in campus Each switch should have 128 Gbps or more with non blocking architecture and Forwarding rate of 95 Mpps Should be equipped with minimum 1Gb RAM and 1Gb flash Should have LED indicator for per port status , FAN, PSU and Management Status Hardware and software configuration have for IPv6 from day one Should have 16 K MAC Address, 4 K active Vlans

		802.1D spanning Tree and PVST+, 802.1w, 802.1s , Should have BPDU Guard feature on edge port Should have Port based VLAN, MAC based VLAN, private vlan and MVR Should have Both Local and Remote port mirroring Should have Layer2 ping, layer2 traceroute and Multicast Traceroute for Fault Diagnostics Should have 8 Hardware QOS Queues per port Should have traffic rate limiting with Configurable bandwidth granularity of 8 KBps Should have Link Layer Discovery Protocol (802.1ab) to allow auto recognition of third party network devices and LLDP MED for auto confifguration Should have MAC address tracking and notification for mac address addition , delete or movement in the Network Should have minimum 250 Static routes Should be upgradeable to support L3 routing protocols like OSPF , RIP Should have Configurable multicast session limit per port Local authentication database for RADIUS Authentication for 802.1x login Should have MAC security – Lockdown & Limit and MAC address tracking with syslog & snmp notification Should have SSH-2, SCP, SFTP for secure management Should have dynamic arp inspection , DHCP snooping Should have ASIC based traffic flow analysis based on Netflow/ sFlow/ Ipfix Should have minimum 1 K ACL entry support Should have scheduled archiving / uploading of configuration and system log to a central server Telnet server , ssh server, Ping and traceroute over Ipv6 Should have L2 Traceroute, L2 Ping and Multicast Traceroute Web, Console and CLI management Dual firmware and configuration rollback Inbuilt Web based bandwidth utilization monitoring Dedicated Out of Band Ethernet management Port OEM should have 24x7 TAC support with NBD shipment of replacement hardware inlcuded in the offer OEM should have atleast 2 supply depots in India
4	1 G Module	**Vendor should provide a transceivers meeting the following requirements as a minimum:** Transceiver shall support Multimode/Singlemode 1Gbps communication Must be from the same OEM for swiching solution Temperature: -40° C to 70° C Relative Humidity: 10% to 95% Shock: 180 m/s2 (18g), 6ms Random Vibration: 5 – 20 Hz @ 1.0 ASD w/-3dB/oct. from 20 – 200 Hz Drop: 42” (105cm) EN 300 019-2-3 v2.1.2 (2003-04), Stationary Use, Class 3.1e

		EN 300 019-2-2 v2.1.2 (1999-09), Public Transportation, Class 2.3 WEEE Compliant, RoHS 6 Compliant EN60825-1:1994, A11:1996, A2:2001
5	Passive Component	CAT -6 UTP Cable
		CAT -6 UTP 24 Port patch panel
		CAT6 UTP mounting cord
		AT6 UTP Information outlets with SMB/Face Plate including Gang Box
		Six core outdoor type single mode Fibre Cable.
		6 Port Rack Mount Single mode Fiber Patch Panels loaded with SC Pigtails Single mode, duplex SC Adapter plates and Splice Tray
		12 Port Rack Mount Single mode Fiber Patch Panels loaded with SC Pigtails Single mode, duplex SC Adapter plates and Splice Tray
		24 Port Rack Mount Single mode Fiber Patch Panels loaded with SC Pigtails Singlemode, duplex SC Adapter plates and Splice Tray
		SC-LC ,Single mode Fibre Patch Cord.
		Laying of indoor UTP cable through PVC Conduit/Casing/capping/Cable Tray
		Fixing of 1" PVC Conduit/Casing/capping on surface
		Fixing and termination of 24 port Jack Panel
		I/O termination and Face Plate Fitting, Ferruling, testing & Labeling at both end
		Installation of 9U Rack including cable dressing
		Laying of Fiber through HDPE/GI pipe
		Laying of HDPE pipe
		Digging, Laying of HDPE/GI PIPE in Soft/Hard Soil & Refilling
		Installation of Fiber LIU With accessories
		Fiber Splicing per Core

FORMAT FOR QUOTATION SUBMISSION

(In letterhead of the supplier with seal)

Date: _____

To:

_____

_____

Sl. No.	Description of goods (with full Specifications)	Qty.	Unit	Quoted Unit rate in Rs. (Including Ex Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
1.	**TURNKEY PROJECT for IT INFRATRUSTURE OF HOSTELS**	**12**					
Total Cost							

Gross Total Cost (A+B): Rs. _____

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. ———————— (Amount in figures) (Rupees ————————amount in words) within the period specified in the Invitation for Quotations.

We confirm that the normal commercial warranty/ guarantee of ——————— months shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the Invitation Letter.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Signature of Supplier

Name: _____

Address: _____

Contact No: _____