



PALAMURU UNIVERSITY :: MAHABUBNAGAR :: 509 001

TENDER NOTICE NO. 77/E-TENDERS/ADMN/WIFI/PU/2nd Call, DATED 28-06-2022.

E-TENDER NOTIFICATION FOR PROVIDING AND FIXING OF WI-FI ACCESS POINTS AND NETWORKING WORK , INSTALLATION OF CCTV CAMERAS AND INSTALLATION OF BIOMETRIC DEVICES AT PALAMURU UNIVERSITY CAMPUS AND BIOMETRIC DEVICES AT ITS PG CENTRES

Online e-Procurement tenders are invited from Firms/Contractors for Providing and fixing of Wi-fi Access Points and Networking work, Installation of CCTV Cameras and Installation of Biometric devices at Palamuru University Campus and Biometric Devices at its PG CENTRES. The online Tender shall consist of two parts (i) Technical bid (ii) Commercial bid. The details of tender conditions and terms can be downloaded from the electronic procurement platform of Government of Telangana i.e., <https://tender.telangana.gov.in>. The Bidders need to register on the electronic procurement market place of Government of Telangana i.e., <https://tender.telangana.gov.in>. On registration on the e-Procurement market place they will be provided with a *User Id and Password* by the system using which they can submit their bids online. The University will not accept any bid submitted in the paper form. The bidders who are desirous of participating in 'e' procurement shall submit their Technical Bids etc., in the standard formats prescribed in the Tender documents displayed at 'e' market place. The bidders should upload the scanned copies of all the relevant certificates, documents etc., in the 'e' market place in support of their Technical bids. The bidder shall sign on all the statements, documents, certificates uploaded by him/her owning responsibility for their correctness / authenticity. The Department shall carry out the Technical Bid evaluation solely based on the uploaded certificates / documents, DD towards EMD in the e-procurement system and open the price bids of the responsive bidders. The bidder is solely responsible for the correctness of the particulars furnished in the online bid form. The bid document can be downloaded from 28-06-2022 @ 06.00 PM to 06-07-2022 @ 02.00 PM Time and date of opening of tenders: (a) Technical Bid (PQ Stage) 06-07-2022 @ 02.01 PM followed by opening of commercial bid. Under no circumstances, they will be relaxed unless otherwise extended by an official notification. The Bidders need to contact Office of the Registrar, Administrative Building, Palamuru University Campus, Telangana State – 509001, for information on e-Procurement tender. Email: registrar@palamuruuniversity.ac.in , Contact No.: 7989731204

The detailed tender documents can also be downloaded from the University's website www.palamuruuniversity.ac.in. Please note that the Application fee should be remitted through **Demand Drafts drawn in favour of the Registrar Palamuru University** and uploaded along with the e-tender bid. However original DD's must be handover to The Registrar, Palamuru University, on or before the last date and time. Bids not accompanied with the tender document fee are liable to be rejected. ***The EMD should be paid online in form of e-challan or net banking or Demand Draft.***

Sd/-
REGISTRAR,



PALAMURU UNIVERSITY : MAHABUBNAGAR :: 509 001

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E-TENDER NOTIFICATION FOR PROVIDING AND FIXING OF WI-FI ACCESS POINTS AND NETWORKING WORK , INSTALLATION OF CCTV CAMERAS AND INSTALLATION OF BIOMETRIC DEVICES AT PALAMURU UNIVERSITY CAMPUS AND BIOMETRIC DEVICES AT ITS PG CENTRES

Sub: Palamuru University – Providing and Fixing of Wi-fi Access Points and Networking work, Installation of CCTV Cameras and Installation of Biometric Devices at Palamuru University Campus and Biometric Devices at its PG Centres - Tender Notification – Regarding.

Palamuru University hereby invites e-procurement tenders from contractor/firms for Providing and Fixing of Wi-fi Access Points and Networking work, Installation of CCTV Cameras and Installation of Biometric devices at Palamuru University Campus and Biometric Devices at its PG CENTRES, Mahabubnagar - 509001.

Part – I **TENDER SCHEDULE**

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|--|---|
| 1. Name of the Tender | : Providing and fixing of Wi-fi Access Points, Networking work, Installation of CCTV Cameras and Installation of Biometric Devices at Palamuru University Campus and Biometric Devices at its PG Centres |
| 2. Sale of Tender Schedule | : From 28-06-2022 to 06-07-2022 at e-procurement website |
| 3. Closing date and time
(For receiving duly filled in tender bids) | : 06-07-2022 by 02.00 P.M. |
| 4. Submission of Tender bids | : e-tenders in two parts (i) Technical bid (Annex-I) and (ii) Commercial bid (Annex-II) should be 3 submitted at e-procurement tenders |
| 5. Date & Time of opening | : 06-07-2022 at 02.01 P.M on E-procurement Website |
| 6. Earnest Money Deposit (EMD) | : EMD of Rs. 5,00,000/- (Rupees Five Lakh only)
Payable through online mode of payment / DD in favour of Registrar, PU. The Tenders without accompanying EMD will not be considered and will be summarily rejected. |
| 7. Application Cost | : Application cost of Rs. 20,000/- (Twenty Thousand only) should be payable in favor of the Registrar, PU and should submit on or before last date and time |
| 8. Security Deposit | : 5 % of the total cost of the product in the Form of Bank Guarantee in favour of The Registrar, Palamuru University, payable at Mahabubnagar from any Nationalized Bank, after award of the contract for a period of 5 Years |
| 9. Warranty Period | : Onsite Warranty of the products installed should be 5 Yrs. |
| 10. Payment Terms | : No advance payment will be made. Payment will be arranged in accordance with the satisfactory completion of work. |
| 11. Agreement | : Agreement should be executed by the successful bidder upon issue of work order. However, EMD will be retain till the submission of Bank Guarantee. |

Sd/-
Registrar, PU.

Annexure-I
TECHNICAL SPECIFICATIONS

WI-FI ACCESS POINTS

S. No	Description		Qty.
	ACCESS POINT		
1.	Physical Interfaces	One 100/1000/2.5GBASE-T Gigabit Ethernet (RJ-45) ports with Auto Uplink™ (Auto MDI-X) supporting IEEE 802.3af or 802.3at Power over Ethernet (PoE)	21 No's
		Internal gain 3.6/4.4dBi (2.4GHz/5GHz)	
		Four (4): Power and Cloud connection; LAN speed; 2.4GHz status; 5.0GHz status	
	Standards	IEEE 802.11ax, IEEE 802.11ac	
		WMM - Wireless MultiMedia Prioritization	
		WDS- Wireless Distribution System	
		Power over Ethernet (PoE) IEEE 802.3af/802.3at	
		should be IP55 rated	
	Security	Wi-Fi Protected Access (WPA, WPA2, WPA3), 802.11i	
		VLAN Support	
		Wireless access control to identify authorized wireless network devices	
		MAC address filtering with access control	
		Security Socket Layer (SSL) remote management login	
	Network Management	Remote configuration and management through Web browser, SNMP or Telnet	
		SNMP management supports SNMP	
	Manageability	As standalone	
		Cloud manageability with License	
	Advanced Wireless Features	Wireless Distribution System (WDS)	
		Bridge mode: Point-to-point wireless WDS mode	
		Bridge mode: Point-to-multipoint wireless WDS mode	
		Repeater mode	
		AirQual feature enables spectrum analysis and interference identification	
		Free Roaming	
		Adjustable Transmit Power Control (TPC)	
		Operate in router or access point modes for flexibility in deployment options	
		PoE power consumption: 16.1 Watts maximum	
	Other Specifications	Band steering	
		Support OFDM and OFDMA	
		Business class with superior 802.11ax performance (up to 1.8Gbps)	
		Block SSID Broadcast	
		Wall mounting/Pole Mount	
		2 x 2 MU-MIMO support	
		Deployment Options: Standalone, Cloud Management	
		PoE power consumption: 16.1 Watts maximum	
	Environmental Specifications	-10° to 50°C (10° to 122°F)	
	Warranty and Support	5 Year Comprehensive Hardware Warranty.	
	Preferred Make	CISCO/NETGEAR/ RUCKUS	

S. No	Description		Qty.
2	24 PORT Managed Switch (AT ADMIN OFFICE -CONTROL PANEL)		2 No
	Physical Interfaces	12 # 1/10G Base-X Fiber SFP+ Ports	
		12 # 1/10G Base-T Copper Ports	
		Ethernet: Out-of-band 1G port (Front)	
		Console: RJ45 RS232 (Front)	
		Console: Mini-USB (Front)	
		Storage: USB (Front)	
		Half-width 1-unit 1U rack mount	
	CPU/ Memory	CPU: 800 MHz	
		RAM: 1 GB	
		Packet buffer memory: 32 MB	
		Flash: 256 MB	
	Performance Summary	Stack height: 8 switches	
		Switching fabric: 480 Gbps Line-Rate (non blocking fabric)	
		Throughput: 357 Mpps	
		Forwarding mode: Store-and-forward	
		Address database size: 16,000 MAC addresses (48-bit MAC address)	
		Number of VLANs: 4,093 (IEEE 802.1Q) simultaneously	
		Number of multicast groups= 2K IPv4	
		Number of multicast groups= 2K IPv6	
		ARP/NDP= 2K	
		Number of LAGs (802.3ad): 128 LAGs with up to 8 ports per group	
		Number of hardware queues for QoS: 8 (Standalone)	
		Number of routes: 512 IPv4 Unicast routes	
		Number of routes: 256 IPv6 Unicast routes	
		Jumbo frame support: up to 9K packet size	
		Mean time between failures (MTBF): 196,120 hours (~22.4 years)	
		sFlow=416 samplers, 416 pollers, 8 receivers	

	L2 Services	Protocol based VLAN, IP Subnet IPX ARP Subnet based VLAN MAC based VLAN Voice VLAN Private Edge VLAN Private VLAN Guest VLAN Double VLAN Tagging (QoQ) GARP with GVRP/GMRP MVR (Multicast VLAN Registration) Multiple Registration Protocol (MRP) Multicast VLAN Registration Protocol (MVRP) LAG Hashing LAG Member Port Flaps Tracking UDLD support Distributed Link Aggregation Storm Control Link Dependency Spanning Tree Protocol Per VLAN STP (PVSTP) with FastUplink and FastBackbone Per VLAN Rapid STP (PVRSTP) STP Loop Guard STP Root Guard BPDU Guard STP BPDU Filtering STP BPDU Flooding IGMP v2/v3 Snooping support MLD v1/v2 Snooping support Expedited Leave Function Static L2 Multicast Filtering MLDv1/2 Snooping Support IGMPv2/3 Snooping Support	
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	L3 Services	IGMP Proxy MLD Proxy Any Source Multicast (ASM) Source Specific Multicast (SSM) Multicast streams routing between subnets, VLANs Multicast Static Routes (IPv4, IPv6) DVMRP Neighbor discovery (IPv4, IPv6) PIM-DM (IPv4, IPv6) PIM-SM (IPv4, IPv6) PIM multi-hop RP support IPMC replication (hardware support) DHCP Client (IPv4, IPv6) DHCP Server (IPv4, IPv6) DHCP Snooping (IPv4, IPv6) DHCP options 66, 67, 150, and 55, 125 Static Routing (IPv4, IPv6) Port based Routing ECMP Static Routing Port Based Routing VLAN Routing RIP v1 and v2 OSPF v2 and v3 OSPF Flood Blocking Route Redistribution VRRP VRRP Route/Interface Tracking Loopback Interfaces Tunnel interfaces Router Discovery IP Helper IP Source Guard IP Event Dampening ECMP Proxy ARP Multinetting ICMP v4 and v6 IPv4/IPv6 DNS v4 and v6 IPv6 Routing Configured v6-over-v4 tunnels Automatic (6to4) tunnels	
	QoS	IEEE 802.1p CoS DiffServ QoS WRED (Weighted Deficit Round Robin) Single Rate Policing Strict Priority queue technology Auto-VoIP iSCSI Flow Acceleration IP DSCP IP Precedence IP TOS	

		L3 IPv6 Flow Label Interface Traffic Shaping PHB Support Minimum Bandwidth per-interface	
	Security	Broadcast, Multicast and Unicast Network Storm Protection CPU Protection DoS attack protection ICMP throttling Management ACL Radius accounting TACACS+ L2/L3/L4 Access Control List (ACL) MAC, IPv4, IPv6, TCP, UDP ACL Protocol based ACL ACL over VLAN Dynamic ACL IEEE 802.1x Radius Port Access Authentication 802.1x MAC Address Authentication Bypass (MAB) Port Security Dynamic ARP Inspection MAC Filtering Port MAC Locking	
	IEEE Network Protocols	IEEE 802.3 10Base-T IEEE 802.3 Ethernet IEEE 802.3i 10BASE-T IEEE 802.3u 100BASE-T IEEE 802.3ab 1000BASE-T IEEE 802.3z Gigabit Ethernet 1000BASE-SX/LX IEEE 802.3ae 10-Gigabit Ethernet IEEE 802.3ad Trunking (LACP) IEEE 802.1AB LLDP with ANSI/TIA-1057 (LLDP-MED) IEEE 802.1D Spanning Tree (STP) IEEE 802.1s Multiple Spanning Tree (MSTP) IEEE 802.1w Rapid Spanning Tree (RSTP) IEEE 802.1p Quality of Service IEEE 802.1Q VLAN tagging IEEE 802.1v protocol-based VLAN IEEE 802.1X Radius Network Access Control IEEE 802.3x flow control GMRP — Dynamic L2 multicast registration GVRP — Dynamic VLAN registration GARP -Generic Attribute Registration Protocol	
	Management	ISDP (Industry Standard Discovery Protocol) Out of band Management 802.1ab LLDP and LLDP-MED SNMP v1, v2 and v3 RMON 1, 2, 3, 9 sFlow Command Line Interface (CLI) Web-based graphical user interface (GUI) Admin access control via Radius and TACACS+ Telnet IPv6 Management Dual Software (Firmware) images	

		Dual Configuration file (Text-based) Radius accounting Malicious Code Detection SNTP XMODEM Port Mirroring Cable Test Utility SSH v1/v2 SSL/HTTPS and TLS v1.0 for web-based access File Transfer (uploads, downloads) through TFTP/HTTP SCP/ SFTP/ HTTPS Syslog Non disruptive Config Management Remote Port Mirroring (RSPAN) OpenFlow 1.3 Persistent log supported	
	Network Traffic	Access Control Lists (ACLs) L2 / L3 / L4 Time-based ACLs ACL over VLANs IPv6 RA Guard Stateless Mode Network Authentication Successive Tiering 802.1x MAC Address Authentication Bypass (MAB)	
	LEDs	Per port: Speed, link, activity Power, Fan, Stack Master, Stack ID	
	Environmental	Operating Temperature: 32° to 122°F (0° to 50°C) Operating Humidity: 90% maximum relative humidity, non-condensing Storage Temperature: – 4° to 158°F (–20° to 70°C) Storage Humidity: 95% maximum relative humidity, non-condensing	
	Certifications	CE mark, commercial FCC Part 15 Class A, VCCI Class A Class A EN 55022 (CISPR 22) Class A Class A C-Tick EN 50082-1 EN 55024 CSA certified (CSA 22.2 #950) UL listed (UL 1950)/cUL IEC 950/EN 60950	
	Warranty	Lifetime Hardware Warranty	
	Preferred Make	CISCO/NETGEAR/ RUCKUS	

S. No	Description		Qty.
3	16-port 1000base-T Gigabit PoE Smart Switch		4 No's
	Physical Specifications	16 # 10/100/1000 Base-T auto-sensing PoE+ ports and 2 dedicated 100/1000 Base-X Fiber SFP ports	
	Performance Specification	Bandwidth: 36 Gbps non-blocking or above	
		MAC Address database size: 16,000 media access control (MAC) addresses	
		VLAN: 64 or above	
		Multicast groups : 256 or above	
		DHCP snooping binding : 256 or above	
		Packet buffer: 1.5 MB or above	
		Jumbo frame: 9216	
		PoE budget: 300W	
	IEEE Network Protocols	IEEE 802.3 af (PoE)	
		IEEE 802.3 at (PoE+)	
		IEEE 802.1X Radius network access control	
	Network Security and Traffic	RADIUS based VLAN assignment via .1x	
		MAC-based .1x	
		Network Storm Protection	
		Broadcast, Unicast, Multicast Protection	
		Access Control Lists (ACLs) L2 / L3 / L4	
		IP ,MAC, TCP/UDP -based ACL	
		MAC lockdown	
		IEEE 802.1x Radius Port Access Authentication	
	L2 Services	IEEE 802.1Q VLAN Tagging	
		Should support STP, MSTP, RSTP	
		IEEE 802.3ad - LAGs - LACP (8 LAGS with max. of 8 members in each LAG)	
		Broadcast Storm Control , LLDP-MED	
		IGMP Snooping (v1, v2 and v3) , IGMP Snooping queriers	
		DHCP Client, DHCP Snooping	
	Network Monitoring and Discovery Services	802.1ab LLDP	
		SNMP V1, V2, V3	
		RMON 1,2,3,9	
	Quality of Service(QoS)	Access Lists	
		Egress rate limiting	
		Diff ServQoS, IEEE 802.1p COS, WRR (Weighted Round Robin)	
		Strict Priority queue technology`	
		Port Mirroring , Many to One Port Mirroring	
	Management	Configurable Management VLAN	
		Admin access control via Radius and TACACS+	
		Web-based graphical user interface (GUI)	
		RMON 1,2,3,9	
	Environmental Conditions	Operating Temperature: 32° to 122°F (0° to 50°C)	
		Operating Humidity: 95% maximum relative humidity, non-condensing	

	Certifications	CE mark, EN 55024 ,CCCUL listed (UL 1950)/cUL IEC 950/EN 60950, RoHS	
	Warranty	Limited Life-Time hardware replacement warranty	
	Preferred Make	CISCO/NETGEAR/ RUCKUS	
S.NO	Description	Qty.	
4	SFP MODULE-AXM762 Compatible 10GBASE-LR SFP+ 1310nm 10km DOM LC SMF Transceiver Module Preferred Make: Netgear/Cisco/RUCKUS	24 No's	
5	CAT 6a UTP CABLE CAT 6a Cable, Category 6A Enhanced Premise Horizontal Cable (650MHz), 4-Pair, 23 AWG Solid Bare Copper conductors, S/FTP, Foam Polyethylene insulation, LSZH jacket, Horizontal and building backbone Cable. Support current and future category 6A and 6 applications: such as 10GBase-T (10 Gigabit Ethernet), 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T,ISDN, ATM as well as PoE application etc Make: Belden/Legrand	1850 Mtrs	
6	POWER BACKUP: 3 KVA (1 Phase Input- 1 Phase Output) pure sine wave (72 Vdc) Online With 06 No's. of 12V - 65 AH SMF batteries along with battery rack, connecting cables and installation Make: Numeric/APC Battery : Exide/Amaraja /Amaron	4 No's	
7.	ELECTRICAL CABLE: 1.5 sq mm ,Core 3 Core,Copper Conductor ,PVC,Current Rating AC 15 Amp Resistance (Max.) per Km at 20° C 13.3 ohm Certification IS-694:2010 Preferred Make: Finolex/Equivalent	400 Mtrs	
8.	32 U Network Racks: 32U Rack Frame/600x1000/Steel/ Welded/Casters Type 2, Glass Door/600/32U/NRS1, Side Panels/1000/32U/Vented,Horz. Cable Organiser/1U/ Channel On Front, Shelf/Key Board/19"Rty/1000, Server /IT Rack mount power distribution unit, 1Ph, 230V, 16A, 50/60Hz, 2U standard with 6 X Indian Round Pin 5/15A, Inlet Plug type 16A Indian Round Pin, 16A MCB - PDU Rating 3.6KVA/Side feed-1.5Mt/ Black, ITE / Server Rack Air Circulation module/Tower Mount/360CFM, Mounting HardwareCR (Pack of 20) Plus 3.8kW Single-Phase 120-240V Basic PDU, 14 Outlets (12 C13 & 2 C19), C20 with 5 Preferred Make: Valrack/APW President/Netrack	1 No	
9.	RACK AT REMOTE LOCATION : Wall mounted rack 6 U for Contril room 6U/500 Rack/ Welded/WM, Glass Door/6U/WM, Cantilever Shelf/Type2/1U, Horz. Cable Organiser/1U/Loop & Server /IT Rack mount power distribution unit, 1Ph, 230V, 5A, 50/60Hz, 1 U standard with 4 X Indian Round Pin, 5A, Inlet Plug type 6A Indian Round Pin, 5A Fuse - PDU Rating 1.2KVA Preferred Make: Valrack/APW President/Netrack	4 No's	
10	Protection Cabinet for Access Point: Wall mounted rack protection box with powder coated & brackets.	19 No	
11	RJ 45 CONNECTOR: RJ 45 connector for Cat 6 Cable, NPG5B1TRA031-100 Make: D-link/TP Link	1 No	
12	INTERFACE BOX: CCTV Box	19 No's	
13	CONDUIT: 25 mmx1.5mmPVC Electrical conduit for IP & electrical transmission wire with all accessories like Flexible conduit,bends holding bracket as per the site requirment. (The PVC Pipe Size May very as per Site requirement & will be decided during the integration) Make: VIP/Sudhakar/Astro	780 Mtrs	
14	6F OPTICAL SPLITTER : 6F Optical Cable with Single Jacket Embedded FRP Cables are multipurpose cables designed for diverse needs .This is a central tube cable using optical fibers presented in tube filled with a thixotropic gel ,and is enclosed in a polyethylene sheath. OEM: Strellite or Equivalent/Finolex/Scientific	3500 Mtrs	
15	24 Port FDMS : 24 PortFibre Distribution Management System (FDMS/LIU)	1 No	
16	TERMINAL BOX : Fibre optics termination box	4 No's	
17	Fibre Optics patch cord 750mm FC to LC	24 No's	
18	Connectivity from Core Switch to distribution switch should 12/6 core fiber	1 Job	

	OVERHEAD Cable as per requirement	
19	PROFESSIONAL SERVICES : Professional services : Project management charges Plus installation/Configuration/ commissioning & AT: It should be noted that the miscellaneous material for integrating the project required (Like PVC insulated Tape, Cable Tie, Feruls, Flexiable conduits etc.) are included in the commercial.	1 Job
20	AMC Post Integration Support for 5 years including quarterly preventative maintenance and 5 years Comprehensive Warranty	1 Job
21	Development of Mobile app for various complaints (CCTV/Internet/Wifi/Biometric)	1 Job

CCTV SURVEILLANCE

S. No	Particulars/Description		Qty.
	32 Channel NVR		
1.	IP Video input	32-channel	3 No's
	Processor	Quad-core embedded processor	
	Two-way Talk	1 channel Input, 1 channel Output, RCA	
	Video Recording	Max 320Mbps	
	Video Output Resolution	HDMI1: 3840 × 2160 , 1920 × 1080 , 1280 × 1024, 1280 × 720 , 1024 × 768 VGA1: 1920 × 1080 , 1280 × 1024, 1280 × 720 , 1024 × 768 ; HDMI2/VGA2: 1920 × 1080	
	Motion Detection	MD Zones: 396(22×18).	
	Recording Resolution	Max 320 Mbps, 8MP/6MP/5MP/4MP/3MP/1080P/ 720P/ D1&etc.	
	Compression	H.265+,H.265, H.264, MPEG etc.,	
	Live view/ Playback	Upto 12MP, 12MP/8MP/6MP/5MP/4MP/3MP/1080p/960p/720p/D1/2CIF/CIF	
	Hard Disk - SATA	Support 4 SATA HDDs up to 32TB,1 eSATA Port.	
	Network Interface	2RJ45 (10/100/1000Mbps).	
	Network Function	HTTP, HTTPS, TCP/IP, IPv4/IPv6, UPnP, SNMP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, FTP, Alarm Server, IP Search , ONVIF 2.4, SDK, CGI	
	Interface	2 HDMI, 1 VGA, 3 USB, 1 RS485, 1 RS232.	
	Features	MD,Tripwire,Intrusion detection,video loss etc	
	Supported Standard	IEEE 802.3af/at	
	Working Temperature	-10° C ~ + 55° C (+14° F ~ +131° F)	
	Working Humidity	10% ~ 90%	
	Alarm Input	16 Channel, Low Level Effective, Green Terminal Interface	
	Alarm Output	6 Channel, NO/NC Programmable, Green Terminal Interface	
	Certificates	CE,FCC,RoHS,UL,BIS	
	Smart Phones support	iPhone, iPad, Android Phone	
	General features	NVR shall support multi brand network cameras	
		NVR shall have backup mode through USB, Ethernet and SATA	
		NVR shall come with embedded real-time operating system installed in the Hardware memory	
		NVR shall provide user authentication and support for different level user privileges based on user Login-ID.	
		NVR shall have intelligent search function for Date/Time, Alarm, Smart search	
		NVR shall support H.265,H.264/MPEG multi format	

		NVR shall be able to do	
		Setup cameras	
		Define recording programs and schedules	
		Define Live viewing, recording rates	
		View Live video in single or multi views	
		Search and playback recorded video	
		Download selected recorded video	
		Multiple monitoring through Web viewer @ Smart Phone	
	CMS	Support	
	Make	CP PLUS/Axis/Honeywell	
	DOME CAMERA		
2.	Camera	4MP weather proof IP Vandal Dome Camera with IR LED for Day and Night vision with starlight function supports.	30 No's
	Image Sensor	The camera should be equipment with a minimum 1/3" CMOS sensor applying progressive scan technology ,low illuminance and high image defination.	
	Minimum Illumination	0.01Lux/F1.6	
	Shutter Speed	Auto/Manual, 1/3~1/100000s	
	White Balance	Auto/Natural/Street Lamp/Outdoor/Manual	
	Gain Control(AGC)	Auto/Manual	
	Lens	2.8mm fixed(3.6mm optional)	
	Back Light Compensation	BLC/ HLC/ WDR(120dB)	
	Smart Detection	Tripwire, Intrusion	
	S/N Ratio	More than 50dB	
	Video Compression	H.265+/H.264	
	Video Streaming	Main stream: 2688 × 1520 (1 fps-20 fps) 2560 × 1440 (1 fps-25/30 fps)Sub stream: 704 × 576 (1 fps-25 fps) 704 × 480 (1 fps-30 fps)	
	Resolution	4MP (2688 × 1520) 4MP(2560 × 1440) ; 3MP(2304 × 1296); 2MP (1920 × 1080); 1.3M P(1280 × 960); 720P (1280 × 720); D1 (704 × 576/704 ×480); VGA (640 ×480); CIF (352 × 288/352 × 240)	
	Privacy Mask, ROI & MD	Off / On (4 Zone, Rectangle)	
	ICR	Auto(ICR)/Color/B/W	
	Protocol	HTTP;HTTPs;TCP;ARP;RTSP;RTP;UDP;SMTP;FTP; DHCP;DNS;DDNS;PPPOE;IPv4/v6;QoS;UPnP;NTP; Bonjour;802.1x;Multicast;ICMP;IGMP;SNMP, ONVIF, PSIA, CGI	
	Ethernet	RJ-45 (10/100Base-T)	
	User Account	20 Users	
	Smart Phone	iPhone, iPad, Android	
	SD Card	256GB support	
	IR	IR Range of 30 Mtr, SMART IR	
	Features	MD,Tripwire,Intrusion,Storage Abnormal,ROI	
	Operating Temperature	-30°C~+60°C, Less than 95% RH	
	Power Source	DC12V, PoE (802.3af)	
	Power Consumption	<5.1 W(IR on)	
	Weatherproof Standard	IP67 & IK10	
	Certification	CE, FCC,RoHS,UL,Onvif(S,G,T),BIS	

	Make	CP PLUS/Axis/Honeywell	
	BULLET CAMERA		
3.	Camera	4MP weather proof IP Bullet Camera with IR LED for Day and Night vision with starlight function supports.	50 No's
	Image Sensor	The camera should be equipment with a minimum 1/3" CMOS sensor applying progressive scan technology ,low illuminance and high image defination.	
	Minimum Illumination	0.01Lux@F1.6(Color)/0.001Lux@F1.6(B/W), 0 lux with IR on	
	Shutter Speed	Auto/Manual, 1/3~1/100000s	
	White Balance	Auto/Natural/Street Lamp/Outdoor/Manual	
	Gain Control(AGC)	Auto/Manual	
	Lens	6mm Lens (3.6mm, 2.8mm, 8mm, 12mm optional) , DC Drive	
	Back Light Compensation	BLC/ HLC/ WDR(120dB)	
	Smart Detection	Tripwire, Intrusion	
	S/N Ratio	More than 50dB	
	Video Compression	H.265+/H.264	
	Frame Rate	2560 x 1440@25fps, 704 x 576@25fps, 704 x 480@30fps	
	Resolution	4MP (2688 x 1520) 4MP(2560 x 1440) ; 3MP(2304 x 1296); 2MP (1920 x 1080); 1.3M P(1280 x 960); 720P (1280 x 720); D1 (704 x 576/704 x480); VGA (640 x480); CIF (352 x 288/352 x 240)	
	Privacy Mask, ROI & MD	Off / On (4 Zone, Rectangle)	
	ICR	Auto(ICR)/Color/B/W	
	Protocol	HTTP;HTTPs;TCP;ARP;RTSP;RTP;UDP;SMTP;FTP; DHCP;DNS;DDNS;PPPOE;IPv4/v6;QoS;UPnP;NTP; Bonjour;802.1x;Multicast;ICMP;IGMP;SNMP, ONVIF, PSIA, CGI	
	Ethernet	RJ-45 (10/100Base-T)	
	User Account	20 Users	
	Smart Phone	iPhone, iPad, Android	
	SD Card	128GB support	
	IR	IR Range of 50 Mtr, SMART IR	
	Features	MD,Tripwire,Intrusion,Storage Abnormal,ROI	
	Operating Temperature	-40°C to +60°C (-40°F to +140°F)	
	Operating Temperature	-40°C to +60°C (-40°F to +140°F)	
	Power Source	DC12V, PoE (802.3af)	
	Power Consumption	<5.1 W(IR on)	
	Weatherproof Standard	IP67,Metal body	
	Certification	CE, FCC,RoHS,UL,Onvif,BIS	
	Make	CP PLUS / Axis / Honeywell	
4.	CAT 6 UTP CABLE 305m ,CAT 6 Cable, Category 6 Enhanced Premise Horizontal Cable (650MHz), 4-Pair, 23 AWG Solid Bare Copper conductors, S/FTP, Foam Polyethylene insulation, LSZH jacket, Horizontal and building backbone Cable. Support current and future category 6A and 6 applications: such as 10GBase-T (10 Gigabit Ethernet), 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T,ISDN, ATM as well as PoE application etc Make: Belden / Legrand		4575 Mtrs
5.	8 PORT POE SWITCH : 10 Port 10/100/1000 Mbps AI PoE Switch CCTV Extend: 2-8 ports support 250 meters long distance power supply (should be use cat5e or cat6 cable) VLAN: Isolating ports 1-8 from each other, restrain network storms effectively and improve network performance QOS: Prioritize the identified video data to make video transmission smoother AI PoE: Automatic detection power of port, power off and restart the device Support IEEE802.3af/at standard PD device Support wireless access points (APs) and network surveillance cameras via Cat 5 cables Supports Auto MDI/MDIX With power circuit protection, protect the safety of PD Adopt store-and-forward exchange method		6 No's

	Preferred Make: CP Plus / Netgear	
6.	4 PORT POE SWITCH : 5 Port 10/100/1000 Mbps AI PoE Switch-AI Extend: 1-4 ports support 250 meters long distance power supply (should be use cat5e or cat6 cable)AI VLAN: Isolating ports 1-4 to each other can effectively suppress network storms and improve network performance AI PoE: Automatic detection power of port, power off and restart the device if find dead device Support wireless access points (APs) and network surveillance cameras via Cat 5 cables Support IEEE802.3af/at standard PD device Supports uplink port auto-flip (Auto MDI/MDIX) Adopt store-and-forward exchange mechanism With power circuit protection, it can protect the security of the back-end equipment Zero configuration feature power is automatically supplied to the adaptive device Support port no link power saving function No fan design to achieve energy saving and environmental protection Preferred Make: CP Plus / Netgear	12 No's
7.	STORAGE DEVICE: Surveillance Hard Drive (6TB) : Advanced Format technology, All Frame, Intelli Power, Intelli Seek, Time-Limited Error Recovery (TLER), surveillance system compatible, Supports up to 180 TB per year work load rate Prioritized write-operations for maximized surveillance performance Support for more than eight bays Tuned for write-intensive, low bit-rate, high stream-count applications typical to most surveillance applications TLER and ATA streaming support Tarnish-resistant components Make: Seagate/HP/Dell	6 No's
8	ELECTRICAL CABLE: 1.5 sq mm ,Core 3 Core, Copper Conductor ,PVC, Current Rating AC 15 Amp Resistance (Max.) per Km at 20° C 13.3 ohm Certification IS-694:2010 Make Finolex or Equivalent	2000 Meter
9	MONITOR: 43 Inches display Make: SAMSUNG/SONY/ Panasonic	3 No's
10	MONITOR: 75 Inches Display Make: SAMSUNG/SONY/Panasonic	1 No
11	RACK AT CENTRAL LOCATION: 12 U Network Racks: 32U Rack Frame/600x1000/Steel/ Welded/Casters Type 2, Glass Door/600/32U/NRS1, Side Panels/1000/32U/Vented, Horz. Cable Organizer/1U/ Channel On Front, Shelf/Key Board/19"Rty/1000, Server /IT Rack mount power distribution unit, 1Ph, 230V, 16A, 50/60Hz, 2U standard with 6 X Indian Round Pin 5/15A, Inlet Plug type 16A Indian Round Pin, 16A MCB - PDU Rating 3.6KVA/Side feed-1.5Mt/ Black, ITE / Server Rack Air Circulation module/Tower Mount/360CFM, Mounting Hardware-CR (Pack of 20) Plus 3.8kW Single-Phase 120-240V Basic PDU, 14 Outlets (12 C13 & 2 C19), C20 with 5 Adapters, 10 ft. (3.05 m) Cord, 1U Rack-Mount OEM: Net racks/APW President/Val racks	3 No's
12	RACK AT DISTRIBUTION TERMINALS: 6U/400 Rack/ Welded/WM, Glass Door/4U/WM, Cantilever Shelf/Type2/1U, Horz. Cable Organiser/1U/Loop & Server /IT Rack mount power distribution unit, 1Ph, 230V, 5A, 50/60Hz, 1 U standard with 4 X Indian Round Pin, 5A, Inlet Plug type 6A Indian Round Pin, 5A Fuse - PDU Rating 1.2KVA	18 No's
13	RJ 45 CONNECTOR: D link RJ 45 connector for Cat 6 Cable, NPG-5B1TRA031-100	300 No's
14	INTERFACE BOX: CCTV Box	80 No's
15	CONDUIT: 25 mmx1.5mmPVC Electrical conduit for IP & electrical transmission wire with all accessories like Flexible conduit, bends holding bracket as per the site requirement.	4500 Meter
16	HDMI INTERFACE : HDMI Cable 10m (Or as per the site requirement) for NVR to Monitor	1 No's
17	GI POLEP: Combination of 100 & 75mm GI pipe of 2.2 & 2.0 mm thick 5+ 3mtr with Bracket for CCTV cameras , Cement Concrete: M20 Grade cement concrete for a size 600mmX450mmX450mm (or To be installed as per site condition (By Clamping with Wall) to make the pole stable for withstanding a wind load of 120Kmph .)	8 No's
18	PROFESSIONAL SERVICES : Professional services : Consultancy & Project management charges Plus installation/Configuration/ commissioning & AT It should be noted that the mislinious material for integrating the project required (Like PVC insulated Tape, Cable Tie, Feruls, Flexiable conduits etc.) are included in the commercial.	1 Job
19	AMC Post Integration Support for 5 years including quarterly preventative maintenance and 5 years Comprehensive Warranty	1 Job

BIOMETRIC DEVICES

S. No	Description	Qty.
1	<p>a. Face and Finger Recognition Device for access control and time attendance. Should be a user friendly, high security & robust performance and first detection.</p> <ul style="list-style-type: none"> ➤ Attendance System Bioface ➤ Face – 1000 Users ➤ Finger/card-5000/5000 user ➤ Display: 2.4” TFT Screen ➤ Communication: TCP/IP, USB Host ➤ Desktop Software: Pay time standard Attendance <p>b. Mini UPS for Biometric</p> <ul style="list-style-type: none"> ➤ Voltage adjust 5v, 9v,12v ➤ Battery 18650 Lithim ion cell ➤ Input 5v2a, 9v1a, 12v1a ➤ Output 5v2a, 9v1a,12v1a ➤ Charging battery management system ➤ Over charged and discharged protection ➤ Over current and short circuit protection ➤ Charge may last 1.5 hours or above 	16 No's

PART – III
TERMS & CONDITIONS

1. The Firms should submit their tenders duly enclosing Demand Drafts towards Non-refundable application cost of **Rs. 20,000/- (Rupees Twenty Thousand only)** in the name of Registrar Palamuru University after going through the conditions laid down.
2. Only reputed contractors / firms who have the expertise in the similar field of execution of works pertaining to providing and fixing of Wi-fi Access Points and Networking work, Installation of CCTV Cameras and Installation of Biometric devices at Palamuru University Campus and Biometric Devices at its PG CENTRES. The bidders are advised to quote the prices plus taxes as applicable as per Government norms. The discretion is vested with the university to decide as per the requirements. However, the University shall invite the L-1 bidders for negotiations, if it feels the lowest prices quoted are on the higher side.
3. The firm should have a strong base and may give reference of their standing and orders for execution of similar works in any Government, Educational Institutions, Universities etc., during the past three financial years i.e. 2019, 2020 & 2021.
4. The Bidder shall strictly adhere to all the terms and conditions stipulated in the tender with regard to providing and fixing of Wi-fi Access Points and Networking Work, Installation of CC Cameras and Installation of CCTV Cameras at Palamuru University Campus and Biometric Devices at its PG CENTRES
5. The bidder shall, subject to the provision of the contract and with due care and diligence, execute and maintain the works in accordance with specifications stipulated in the tender as per the requirement of the University.
6. The University reserves the right to increase or decrease the quantity to be ordered.
7. Security requirements for the work shall be in accordance with the general requirements including provisions of this clause and the bidder shall conform to such requirements and shall be held responsible for the actions of all his staff, employees and the staff and employees of his sub-contractors. Further, any damages takes place in the process of execution of the said work, the bidder is solely responsible for such damages and have to bear the costs thereof.
8. *Time is the essence of the contract and the bidder should complete the entire work within **30 Days** of issue of work order or Letter of Intent on war foot basis.*
9. The following information has to be filled by the tenderer with evidence (Documentary proof to be enclosed). Mandatory Conditions
 - a) Registration Certificate
 - b) TSGST/CST/CGST Registration Certificate
 - c) Pan Card
 - d) Annual Turn Over for 30 Lakhs per annum for last three financial years (2018-19, 2019-20 and 2020-21)
 - e) Documents of in support of Technical Specification
 - f) Detailed profile of the firm
 - g) Original Equipment Manufacturer (OEM) Authorization Certificate (MAF) for all Equipments/item (Wi-Fi Access Points, CCTV and Biometric Devices)

- h) All Active component for Wi-Fi Networking like Switches, Access Points should be from same OEM
 - i) OEM should have direct service center in Telangana and should have tech support in India
 - j) Recent Work Orders of similar works in Government institution, Public undertaking and private institutions etc.
 - k) IT Returns of the last three financial years.
10. The offers must be in English. The rates should be indicated both in figures and in words against each item exclusive of taxes as applicable as per government norms.
 11. The rates shall be fixed and constant throughout the entire period of the Contract and will not be modified under any circumstances.
 12. Offers received after the bid closing date/time shall not be considered.
 13. Telex / Tele fax / E-Mail Tenders will not be accepted and the University takes no responsibility for delay / loss or non-receipt of tenders by post / couriers, online e tender only
 14. Any offer containing incorrect statement and incomplete information will be summarily rejected and no unsolicited correspondence shall be entertained.
 15. PRICE BID / FINANCIAL BID of only those bidders shall be opened who qualify in the technical evaluation.
 16. Palamuru University reserves the right to accept / reject any offer in full or in part or accept any offer other than the lowest without assigning any reasons thereof.
 17. All disputes or differences whatsoever arising between the parties relating to the contract shall be settled by the arbitration in accordance with the rules of arbitration of Indian Council of Arbitration and the Award made in pursuance thereof shall be binding on the parties. **The venue of arbitration shall be Mahabubnagar, and the Registrar, Palamuru University, Mahabubnagar – 509001, will make the appointment of the arbitrator on behalf of the University.**
 18. Before quoting the rate, the bidders are advised to do the physical survey of the site at Palamuru University Campus and its PG CENTRES and quote the price as per the requirement of the site.
 19. The E.M.D of the unsuccessful tenderers will be refunded without any interest.
 20. The firm must have valid TSGST/CST/CGST Registration Certificate. (Please attach copies of valid certificates).
 21. The security deposit shall be liable to be forfeited wholly or partly at the sole discretion of the University, if the tenderer either fails to execute the work as per the tender terms, or fails to fulfill the contractual obligations or fails to settle in full his dues to the Palamuru University.
 22. In case of premature termination of the contract, the Security Deposit will be forfeited and the Palamuru University will be at liberty to recover the loss suffered by it & if additional cost is to be paid, the same shall be recovered from the tenderer.
 23. The University is empowered to recover from the Security Deposit for any sum due and for any other sum that may be fixed by the University as being the amount or loss / losses / damages suffered by it due to delay in performance and / or non-performance and / or partial performance of any of the conditions of the contract and / or non-performance of guarantee obligations.

24. Failure to comply with the terms of security deposit shall result into cancellation of work order and termination of the contract without any further reference to the tenderer and the EMD shall be forfeited.
25. The University reserves the right to cancel the tender or terminate the contract with L-1 vendor without assigning any reasons thereof.
26. **Warranty:** All items supplied by the tenderer shall be guaranteed against any defects and the tenderer should provide time-to-time operational maintenance support for a period of 5 years (On Site comprehensive Warranty). The said warranty should cover all Hardware products & Software. The warranty and service shall be provided directly from the manufacturer. Necessary guarantee certificates shall accompany the supplies. The tenderer shall be liable to rectify any defects that may be found in the equipment supplied free of cost
27. Annual Maintenance Contract: The scope of work includes onsite maintenance of all the installed items (Wi-Fi Access points, CCTV Cameras and Biometric Devices) for 5 Years
28. Response Time: The Response time of the bidder to attend any complaint upon receipt of the complaint/information from the user should not be more than 24 hours for minor breakdown and not more than 72 hours for major breakdown
29. The University reserves the right to increase or decrease the quantities at the time of placing the order as per the requirement of the University. The bidders are bound to accept the orders accordingly.
30. The bidders should submit Documents in support of Technical Specifications of the items mentioned in Part-II.
31. Make / Brand of items offered shall be specified failing which offers are liable to be rejected. It shall be appreciated if one copy of detailed descriptive literature / pamphlets is enclosed along with the offer which may help technical evaluation. In case material offered is ISI marked / tested at any Govt. recognized test house copies of relevant certificates shall be furnished along with the offer.

**REGISTRAR,
PALAMURU UNIVERSITY**

List of Building for Installation of Wi-Fi Access Points and Networking in Palamuru University

S.NO	Department/Building
1.	P.G Boys Hostel, Palamuru University Campus
2.	Krishnaveni Women's Hostel, Palamuru University Campus
3.	New P.G Boys Hostel, Palamuru University Campus.
4.	Pharmacy Boys Hostel, Palamuru University Campus
5.	Administrative Building, Palamuru University Campus
6	Examination Branch, Palamuru University Campus

List of Building for Installation of CCTV Cameras in Palamuru University

S.NO	Department/Building
1.	P.G Boys Hostel, Palamuru University Campus
2.	Krishnaveni Women's Hostel, Palamuru University Campus
3.	New P.G Boys Hostel, Palamuru University Campus.
4.	Pharmacy Boys Hostel, Palamuru University Campus
5.	Administrative Building, Palamuru University Campus
6	Examination Branch, Palamuru University Campus

List of Buildings for installation of Biometric Device in Palamuru University

S.NO	Department/Building
1.	P.G Boys Hostel, Palamuru University Campus
2.	Krishnaveni Women's Hostel, Palamuru University Campus
3.	New P.G Boys Hostel, Palamuru University Campus.
4.	Pharmacy Boys Hostel, Palamuru University Campus
5.	Administrative Building, Palamuru University Campus
6.	Examination Branch, Palamuru University Campus
7.	University P.G College, Palamuru University Campus
8.	University College of Education, Palamuru University Campus
9.	University College of Pharmacy, Palamuru University Campus
10	P.G Centre Gadwal – Academic and Administrative Building
11	P.G Centre Gadwal - Girls Hostel
12	P.G Centre Gadwal Boys Hostel
13	P.G Centre Kollapur – Academic and Administrative Building
14	P.G Centre Kollapur – Girls Hostel
15	P.G Centre Kollapur – Boys Hostel
16	P.G Centre Wanaparthy- Academic and Administrative Building

Annexure - II
TECHNICAL BID

1. Name of Tendering Company/Dealer with :
Registration No. & Date issued by appropriate
authorities (Please enclose copy of certificate of
registration)
2. Name of Chairman/Managing Director/Manager :
3. Furnish following particulars of the Registered Office :
 - a. Complete Postal Address :
 - b. Telephone No. :
 - c. Fax. No. :
 - d. E-Mail Address :
4. Furnish following particulars of Registered office if :
different from Sl.No.4.
 - a. Complete Postal Address :
 - b. Telephone No. :
 - c. Fax. No. :
 - d. E-Mail Address :
5. PAN No. (Attach Attested Copy) :
6. GST No. (Attach Attested Copy) :
7. Service Tax Regn. No. (Attach Attested Copy) :
8. Financial turnover for the last three Consecutive financial :
Years Please attach copies of audited balance sheet and
IT returns for (2018-19, 2019-2020 and 2020-21), (Attach
separate sheet if space provided is insufficient)
9. Give details of the major clients – Govt. Departments, :
PSUs, Research Organizations (Copies of the Purchase
Orders / Indents should be attached for proof).
 - a. Sl. No :
 - b. Name& address of the client with details :
 - c. Name of the contact person, :
 - d. telephone no., Fax no., :
 - e. e-mail id :
10. Details of Earnest Money Deposit D.D. No. and Date &
Name of the Bank

TECHNICAL COMPLIANCE
Wi-Fi ACCESS POINTS AND NETWORKING

S.No.	Description of items		Qty.	Compliance Yes/No
1.	Physical Interfaces	One 100/1000/2.5GBASE-T Gigabit Ethernet (RJ-45) ports with Auto Uplink™ (Auto MDI-X) supporting IEEE 802.3af or 802.3at Power over Ethernet (PoE)	21 No's	
		Internal 3.6/4.4dBi (2.4GHz/5GHz)		
		Four (4): Power and Cloud connection; LAN speed; 2.4GHz status; 5.0GHz status		
	Standards	IEEE 802.11ax, IEEE 802.11ac		
		WMM - Wireless MultiMedia Prioritization		
		WDS- Wireless Distribution System		
		Power over Ethernet (PoE) IEEE 802.3af/802.3at should be IP55 rated		
	Security	Wi-Fi Protected Access (WPA, WPA2, WPA3), 802.11i		
		VLAN Support		
		Wireless access control to identify authorized wireless network devices		
		MAC address filtering with access control		
		Security Socket Layer (SSL) remote management login		
	Network Management	Remote configuration and management through Web browser, SNMP or Telnet		
		SNMP management supports SNMP		
	Manageability	As standalone		
		Cloud manageability with License		
	Advanced Wireless Features	Wireless Distribution System (WDS)		
		Bridge mode: Point-to-point wireless WDS mode		
		Bridge mode: Point-to-multipoint wireless WDS mode		
		Repeater mode		
		AirQual feature enables spectrum analysis and interference identification		
		Free Roaming		
		Adjustable Transmit Power Control (TPC)		
		Operate in router or access point modes for flexibility in deployment options		
	Other Specifications	PoE power consumption: 16.1 Watts maximum		
		Bandsteering		
		Support OFDM and OFDMA		
		Business class with superior 802.11ax performance (up to 1.8Gbps)		
		Block SSID Broadcast		

		Wall mounting/Pole Mount		
		2 x 2 MU-MIMO support		
		Deployment Options: Standalone, Cloud Management		
	Environmental Specifications	-10° to 50°C (10° to 122°F)		
	Warranty and Support	5 Year Comprahensive Hardware Warranty.		
	Preferred Make	CISCO/ NETGEAR / RUCKUS		
24 PORT Managed Switch (AT ADMIN OFFICE -CONTROL PANEL)				
2	Physical Interfaces	12 # 1/10G Base-X Fiber SFP+ Ports 12 # 1/10G Base-T Copper Ports Ethernet: Out-of-band 1G port (Front) Console: RJ45 RS232 (Front)	2 No's	
	CPU/ Memory	CPU: 800 MHz RAM: 1 GB Packet buffer memory: 32 MB Flash: 256 MB Storage: USB (Front) Half-width 1-unit 1U rack mount		
	Performance Summary	Stack height: 8 switches Switching fabric: 480 Gbps Line-Rate (non blocking fabric) Throughput: 357 Mpps Forwarding mode: Store-and-forward Address database size: 16,000 MAC addresses (48-bit MAC address) Number of VLANs: 4,093 (IEEE 802.1Q) simultaneously Number of multicast groups= 2K IPv4 Number of multicast groups= 2K IPv6 ARP/NDP= 2K Number of LAGs (802.3ad): 128 LAGs with up to 8 ports per group Number of hardware queues for QoS: 8 (Standalone) Number of routes: 512 IPv4 Unicast routes Number of routes: 256 IPv6 Unicast routes Jumbo frame support: up to 9K packet size Mean time between failures (MTBF): 196,120 hours (~22.4 years) sFlow=416 samplers, 416 pollers, 8 receivers		

	L2 Services	Protocol based VLAN, IP Subnet IPX ARP Subnet based VLAN MAC based VLAN Voice VLAN Private Edge VLAN Private VLAN Guest VLAN Double VLAN Tagging (QoQ) GARP with GVRP/GMRP MVR (Multicast VLAN Registration) Multiple Registration Protocol (MRP) Multicast VLAN Registration Protocol (MVRP) LAG Hashing LAG Member Port Flaps Tracking UDLD support Distributed Link Aggregation Storm Control Link Dependency Spanning Tree Protocol Per VLAN STP (PVSTP) with FastUplink and FastBackbone Per VLAN Rapid STP (PVRSTP) STP Loop Guard STP Root Guard BPDU Guard STP BPDU Filtering STP BPDU Flooding IGMP v2/v3 Snooping support MLD v1/v2 Snooping support Expedited Leave Function Static L2 Multicast Filtering MLDv1/2 Snooping Support IGMPv2/3 Snooping Support		
	L3 Services	IGMP Proxy MLD Proxy Any Source Multicast (ASM) Source Specific Multicast (SSM) Multicast streams routing between subnets, VLANs Multicast Static Routes (IPv4, IPv6) DVMRP Neighbor discovery (IPv4, IPv6) PIM-DM (IPv4, IPv6) PIM-SM (IPv4, IPv6) PIM multi-hop RP support IPMC replication (hardware support) DHCP Client (IPv4, IPv6) DHCP Server (IPv4, IPv6) DHCP Snooping (IPv4, IPv6) DHCP options 66, 67, 150, and 55, 125 Static Routing (IPv4, IPv6) Port based Routing ECMP Static Routing Port Based Routing VLAN Routing RIP v1 and v2 OSPF v2 and v3 OSPF Flood Blocking Route Redistribution VRRP VRRP Route/Interface Tracking Loopback Interfaces Tunnel interfaces Router Discovery IP Helper		

		IP Source Guard IP Event Dampening ECMP Proxy ARP Multinetting ICMP v4 and v6 IPv4/IPv6 DNS v4 and v6 IPv6 Routing Configured v6-over-v4 tunnels Automatic (6to4) tunnels		
	QoS	IEEE 802.1p CoS DiffServ QoS WRED (Weighted Deficit Round Robin) Single Rate Policing Strict Priority queue technology Auto-VoIP iSCSI Flow Acceleration IP DSCP IP Precedence IP TOS L3 IPv6 Flow Label Interface Traffic Shaping PHB Support Minimum Bandwidth per-interface		
	Security	Broadcast, Multicast and Unicast Network Storm Protection CPU Protection DoS attack protection ICMP throttling Management ACL Radius accounting TACACS+ L2/L3/L4 Access Control List (ACL) MAC, IPv4, IPv6, TCP, UDP ACL Protocol based ACL ACL over VLAN Dynamic ACL IEEE 802.1x Radius Port Access Authentication 802.1x MAC Address Authentication Bypass (MAB) Port Security Dynamic ARP Inspection MAC Filtering Port MAC Locking		
	IEEE Network Protocols	IEEE 802.3 10Base-T IEEE 802.3 Ethernet IEEE 802.3i 10BASE-T IEEE 802.3u 100BASE-T IEEE 802.3ab 1000BASE-T IEEE 802.3z Gigabit Ethernet 1000BASE-SX/LX IEEE 802.3ae 10-Gigabit Ethernet IEEE 802.3ad Trunking (LACP) IEEE 802.1AB LLDP with ANSI/TIA-1057 (LLDP-MED) IEEE 802.1D Spanning Tree (STP) IEEE 802.1s Multiple Spanning Tree (MSTP) IEEE 802.1w Rapid Spanning Tree (RSTP) IEEE 802.1p Quality of Service IEEE 802.1Q VLAN tagging IEEE 802.1v protocol-based VLAN IEEE 802.1X Radius Network Access Control IEEE 802.3x flow control GMRP — Dynamic L2 multicast registration GVRP — Dynamic VLAN registration GARP -Generic Attribute Registration Protocol		

	Management	ISDP (Industry Standard Discovery Protocol) Out of band Management 802.1ab LLDP and LLDP-MED SNMP v1, v2 and v3 RMON 1, 2, 3, 9 sFlow Command Line Interface (CLI) Web-based graphical user interface (GUI) Admin access control via Radius and TACACS+ Telnet IPv6 Management Dual Software (Firmware) images Dual Configuration file (Text-based) Radius accounting Malicious Code Detection SNTP XMODEM Port Mirroring Cable Test Utility SSH v1/v2 SSL/HTTPS and TLS v1.0 for web-based access File Transfer (uploads, downloads) through TFTP/HTTP SCP/ SFTP/ HTTPS Syslog Non disruptive Config Management Remote Port Mirroring (RSPAN) OpenFlow 1.3 Persistent log supported		
	Network Traffic	Access Control Lists (ACLs) L2 / L3 / L4 Time-based ACLs ACL over VLANs IPv6 RA Guard Stateless Mode Network Authentication Successive Tiering 802.1x MAC Address Authentication Bypass (MAB)		
	LEDs	Per port: Speed, link, activity Power, Fan, Stack Master, Stack ID		
	Environmental	Operating Temperature: 32° to 122°F (0° to 50°C) Operating Humidity: 90% maximum relative humidity, non-condensing Storage Temperature: – 4° to 158°F (–20° to 70°C) Storage Humidity: 95% maximum relative humidity, non-condensing		
	Certifications	CE mark, commercial FCC Part 15 Class A, VCCI Class A Class A EN 55022 (CISPR 22) Class A Class A C-Tick EN 50082-1 EN 55024 CSA certified (CSA 22.2 #950) UL listed (UL 1950)/cUL IEC 950/EN 60950		
	Warranty	Lifetime Hardware Warranty		
	Preferred Make	CISCO/NETGEAR/ RUCKUS		
	16-port 1000base-T Gigabit PoE Smart Switch			
3	Physical Specifications	16 # 10/100/1000 Base-T auto-sensing PoE+ ports and 2 dedicated 100/1000 Base-X Fiber SFP ports	4 No's	
	Performance Specification	Bandwidth: 36 Gbps non-blocking or above		
		MAC Address database size: 16,000 media access control (MAC) addresses		
		VLAN: 64 or above		
		Multicast groups : 256 or above		
		DHCP snooping binding : 256 or above		
		Packet buffer: 1.5 MB or above		

		Jumbo frame: 9216		
		PoE budget: 300W		
		IEEE Network Protocols		
	IEEE 802.3 af (PoE)			
	IEEE 802.3 at (PoE+)			
	IEEE 802.1X Radius network access control			
	Network Security and Traffic	RADIUS based VLAN assignment via .1x		
		MAC-based .1x		
		Network Storm Protection		
		Broadcast, Unicast, Multicast Protection		
		Access Control Lists (ACLs) L2 / L3 / L4		
		IP ,MAC, TCP/UDP -based ACL		
		MAC lockdown		
		IEEE 802.1x Radius Port Access Authentication		
	L2 Services	IEEE 802.1Q VLAN Tagging		
		Should support STP, MSTP, RSTP		
		IEEE 802.3ad - LAGs - LACP (8 LAGS with max. of 8 members in each LAG)		
		Broadcast Storm Control , LLDP-MED		
		IGMP Snooping (v1, v2 and v3) , IGMP Snooping queriers		
		DHCP Client, DHCP Snooping		
	Network Monitoring and Discovery Services	802.1ab LLDP		
		SNMP V1, V2, V3		
		RMON 1,2,3,9		
	Quality of Service(QoS)	Access Lists		
		Egress rate limiting		
		Diff ServQoS, IEEE 802.1p COS, WRR (Weighted Round Robin)		
		Strict Priority queue technology`		
		Port Mirroring , Many to One Port Mirroring		
	Management	Configurable Management VLAN		
		Admin access control via Radius and TACACS+		
		Web-based graphical user interface (GUI)		
		RMON 1,2,3,9		
	Environmental Conditions	Operating Temperature: 32° to 122°F (0° to 50°C)		
		Operating Humidity: 95% maximum relative humidity, non-condensing		
	Certifications	CE mark, EN 55024 ,CCCUL listed (UL 1950)/cUL IEC 950/EN 60950, RoHS		
	Warranty	5 Years Comprehensive Hardware Warranty		
Preferred Make	CISCO/NETGEAR/ RUCKUS			
4	SFP MODULE-AXM762 Compatible 10GBASE-LR SFP+ 1310nm 10km DOM LC SMF Transceiver Module Preferred Make: Netgear/Cisco/RUCKUS		24 No's	
5	CAT 6a UTP CABLE CAT 6a Cable, Category 6A Enhanced Premise Horizontal Cable (650MHz), 4-Pair, 23 AWG Solid Bare Copper conductors, S/FTP, Foam Polyethylene insulation, LSZH jacket, Horizontal and building backbone Cable. Support current and future category 6A and 6 applications: such as 10GBase-T (10 Gigabit Ethernet), 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T,ISDN, ATM as well as PoE application etc Make: Belden/Legrand		1850 Mtrs	
6	POWER BACKUP: 3 KVA (1 Phase Input- 1 Phase Output) pure sine wave (72 Vdc) Online With 06 No's. of 12V - 65 AH SMF batteries, along with		4 No's	

	battery rack, connecting cables and installation Make: Numeric/APC Battery : Exide/Amaraja /Amaron		
7	ELECTRICAL CABLE: 1.5 sq mm ,Core 3 Core,Copper Conductor ,PVC,Current Rating AC 15 Amp Resistance (Max.) per Km at 20° C 13.3 ohm Certification IS-694:2010 Preferred Make: Finolex/Equivalent	400 Mtrs	
8	32 U Network Racks: 32U Rack Frame/600x1000/Steel/ Welded/Casters Type 2, Glass Door/600/32U/NRS1, Side Panels/1000/32U/Vented,Horz. Cable Organiser/1U/ Channel On Front, Shelf/Key Board/19"Rty/1000, Server /IT Rack mount power distribution unit, 1Ph, 230V, 16A, 50/60Hz, 2U standard with 6 X Indian Round Pin 5/15A, Inlet Plug type 16A Indian Round Pin, 16A MCB - PDU Rating 3.6KVA/Side feed-1.5Mt/ Black, ITE / Server Rack Air Circulation module/Tower Mount/360CFM, Mounting HardwareCR (Pack of 20) Plus 3.8kW Single-Phase 120-240V Basic PDU, 14 Outlets (12 C13 & 2 C19), C20 with 5 Preferred Make: Valrack/APW President/Netrack	1 No	
9	RACK AT REMOTE LOCATION : Wall mounted rack 6 U for Contril room 6U/500 Rack/ Welded/WM, Glass Door/6U/WM, Cantilever Shelf/Type2/1U, Horz. Cable Organiser/1U/Loop & Server /IT Rack mount power distribution unit, 1Ph, 230V, 5A, 50/60Hz, 1 U standard with 4 X Indian Round Pin, 5A, Inlet Plug type 6A Indian Round Pin, 5A Fuse - PDU Rating 1.2KVA Preferred Make: Valrack/APW President/Netrack	4 No's	
10	Protection Cabinet for Access Point: Wall mounted rack protection box with powder coated & brackets.	19 No	
11	RJ 45 CONNECTOR: RJ 45 connector for Cat 6 Cable, NPG5B1TRA031-100 Make: D-link/TP Link	1 No	
12	INTERFACE BOX: CCTV Box	19 No's	
13	CONDUIT: 25 mmx1.5mmPVC Electrical conduit for IP & electrical transmission wire with all acessories like Flexible conduit,bends holding bracket as per the site requirment. (The PVC Pipe Size May very as per Site requirement & will be decided during the integration) Make: VIP/Sudhakar/Astro	780 Mtrs	
14	6F OPTICAL SPLITTER : 6F Optical Cable with Single Jacket Embedded FRP Cables are multipurpose cables designed for diverse needs .This is a central tube cable using optical fibers presented in tube filled with a thixotropic gel ,and is enclosed in a polyethylene shealth. OEM: Strellite or Equivalent/Finolex/Scientific	3500 Mtrs	
15	24 Port FDMS : 24 PortFibre Distribution Management System (FDMS/LIU)	1 No	
16	ERMINAL BOX : Fibre optics termination box	4 No's	
17	Fibre Optics patch cord 750mm FC to LC	24 No's	
18	Connectivity from Core Switch to distribution switch should 12/6 core fiber OVERHEAD Cable as per requirment	1 Job	
19	PROFESSIONAL SERVICES : Professional services : Project management charges Plus installation/Configuration/ commissioning & AT: It should be noted that the miscellaneous material for integrating the project required (Like PVC insulated Tape, Cable Tie, Feruls, Flexiable conduits etc.) are included in the commercial.	1 Job	
20	AMC Post Integration Support for 5 years including quarterly preventative maintenance and 5 years Comprehensive Warranty	1 Job	
21	Development of Mobile app for various complaints (CCTV/Internet/Wifi/Biometric)	1 Job	

CCTV SURVIELENCE

S. No	Particulars/Description		Qty.	Compliance Yes/No
	32 Channel NVR			
1.	IP Video input	32-channel	3 No's	
	Processor	Quad-core embedded processor		
	Two-way Talk	1 channel Input, 1 channel Output, RCA		
	Video Recording	Max 320Mbps		
	Video Output Resolution	HDMI1: 3840 x 2160 , 1920 x 1080 , 1280 x 1024, 1280 x 720 , 1024 x 768 VGA1: 1920 x 1080 , 1280 x 1024, 1280 x 720 , 1024 x 768 ; HDMI2/VGA2: 1920 x 1080		
	Motion Detection	MD Zones: 396(22x18).		
	Recording Resolution	Max 320 Mbps, 8MP/6MP/5MP/4MP/3MP/1080P/ 720P/ D1&etc.		
	Compression	H.265+,H.265, H.264, MPEG etc.,		
	Live view/ Playback	Upto 12MP, 12MP/8MP/6MP/5MP/4MP/3MP/1080p/960p/720p/D1/2CIF/CIF		
	Hard Disk - SATA	Support 4 SATA HDDs up to 32TB,1 eSATA Port.		
	Network Interface	2RJ45 (10/100/1000Mbps).		
	Network Function	HTTP, HTTPS, TCP/IP, IPv4/IPv6, UPnP, SNMP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, FTP, Alarm Server, IP Search , ONVIF 2.4, SDK, CGI		
	Interface	2 HDMI, 1 VGA, 3 USB, 1 RS485, 1 RS232.		
	Features	MD,Tripwire,Intrusion detection,video loss etc		
	Supported Standard	IEEE 802.3af/at		
	Working Temperature	-10° C ~ + 55° C (+14° F ~ +131° F)		
	Working Humidity	10% ~ 90%		
	Alarm Input	16 Channel, Low Level Effective, Green Terminal Interface		
	Alarm Output	6 Channel, NO/NC Programmable, Green Terminal Interface		
	Certificates	CE,FCC,RoHS,UL,BIS		
	Smart Phones support	iPhone, iPad, Android Phone		
	General features	NVR shall support multi brand network cameras		
		NVR shall have backup mode through USB, Ethernet and SATA		
		NVR shall come with embedded real-time operating system installed in the Hardware memory		
		NVR shall provide user authentication and support for different level user privileges based on user Login-ID.		
		NVR shall have intelligent search function for Date/Time, Alarm, Smart search		
		NVR shall support H.265,H.264/MPEG multi format		
		NVR shall be able to do		
		Setup cameras		
		Define recording programs and schedules		
		Define Live viewing, recording rates		
		View Live video in single or multi views		
		Search and playback recorded video		
		Download selected recorded video		
		Multiple monitoring through Web viewer @ Smart Phone		
	CMS	Support		
	Make	CP PLUS / Axis / Honeywell		

	Control(AGC)			
	Lens	6mm Lens (3.6mm, 2.8mm, 8mm, 12mm optional) , DC Drive		
	Back Light Compensation	BLC/ HLC/ WDR(120dB)		
	Smart Detection	Tripwire, Intrusion		
	S/N Ratio	More than 50dB		
	Video Compression	H.265+/H.264		
	Frame Rate	2560 × 1440@25fps, 704 × 576@25fps, 704 × 480@30fps		
	Resolution	4MP (2688 × 1520) 4MP(2560 × 1440) ; 3MP(2304 × 1296); 2MP (1920 × 1080); 1.3M P(1280 × 960); 720P (1280 × 720); D1 (704 × 576/704 ×480); VGA (640 ×480); CIF (352 × 288/352 × 240)		
	Privacy Mask, ROI & MD	Off / On (4 Zone, Rectangle)		
	ICR	Auto(ICR)/Color/B/W		
	Protocol	HTTP;HTTPS;TCP;ARP;RTSP;RTP;UDP;SMTP;FTP;DHCP;DNS;DDNS;PPPOE;IPv4/v6;QoS;UPnP;NTP;Bonjour;802.1x;Multicast;ICMP;IGMP;SNMP, ONVIF, PSIA, CGI		
	Ethernet	RJ-45 (10/100Base-T)		
	User Account	20 Users		
	Smart Phone	iPhone, iPad, Android		
	SD Card	128GB support		
	IR	IR Range of 50 Mtr, SMART IR		
	Features	MD, Tripwire, Intrusion, Storage Abnormal, ROI		
	Operating Temperature	-40°C to +60°C (-40°F to +140°F)		
	Operating Temperature	-40°C to +60°C (-40°F to +140°F)		
	Power Source	DC12V, PoE (802.3af)		
	Power Consumption	<5.1 W(IR on)		
	Weatherproof Standard	IP67, Metal body		
	Certification	CE, FCC, RoHS, UL, Onvif, BIS		
	Make	CP PLUS / Axis / Honeywell		
4.	CAT 6 UTP CABLE 305m ,CAT 6 Cable, Category 6 Enhanced Premise Horizontal Cable (650MHz), 4-Pair, 23 AWG Solid Bare Copper conductors, S/FTP, Foam Polyethylene insulation, LSZH jacket, Horizontal and building backbone Cable. Support current and future category 6A and 6 applications: such as 10GBase-T (10 Gigabit Ethernet), 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, ISDN, ATM as well as PoE application etc Make: Belden / Legrand		4575 Mtrs	
5.	8 PORT POE SWITCH : 10 Port 10/100/1000 Mbps AI PoE Switch CCTV Extend: 2-8 ports support 250 meters long distance power supply (should be use cat5e or cat6 cable) VLAN: Isolating ports 1-8 from each other, restrain network storms effectively and improve network performance QOS: Prioritize the identified video data to make video transmission smoother AI PoE: Automatic detection power of port, power off and restart the device Support IEEE802.3af/at standard PD device Support wireless access points (APs) and network surveillance cameras via Cat 5 cables Supports Auto MDI/MDIX With power circuit protection, protect the safety of PD Adopt store-and-forward exchange method Preferred Make: CP Plus / Netgear		6 No's	
6.	4 PORT POE SWITCH : 5 Port 10/100/1000 Mbps AI PoE Switch-AI Extend: 1-4 ports support 250 meters long distance power supply (should be use cat5e or cat6 cable)AI VLAN: Isolating ports 1-4 to each other can effectively suppress network storms and improve network performance AI PoE: Automatic detection power of port, power off and restart the device if find dead device Support wireless access points (APs) and network surveillance cameras via Cat 5 cables Support IEEE802.3af/at standard PD device Supports uplink port auto-flip (Auto MDI/MDIX) Adopt store-and-forward exchange mechanism With power circuit protection, it can protect the security of the back-end equipment Zero configuration feature power is automatically supplied to the adaptive device Support port no link power saving function No fan design to achieve energy saving and environmental protection Preferred Make: CP Plus / Netgear		12 No's	
7.	STORAGE DEVICE: Surveillance Hard Drive (6TB) : Advanced Format technology, All Frame, Intelli Power, Intelli Seek, Time-Limited Error Recovery (TLER), surveillance system compatible, Supports up to 180 TB per year work load rate Prioritized write-operations for maximized surveillance performance Support for more than eight bays Tuned for write-intensive, low bit-rate, high stream-count applications typical to most surveillance applications TLER and ATA streaming		6 No's	

	support Tarnish-resistant components Make: Seagate/HP/Dell		
8	ELECTRICAL CABLE: Finolex : 1.5 sq mm ,Core 3 Core, Copper Conductor ,PVC, Current Rating AC 15 Amp Resistance (Max.) per Km at 20° C 13.3 ohm Certification IS-694:2010	2000 Meter	
9	MONITOR: 43 Inches Display Make: SAMSUNG/SONY/Panasonic	3 No's	
10	MONITOR: 75 Inches Display Make: SAMSUNG/SONY/Panasonic	1 No	
11	RACK AT CENTRAL LOCATION: 12 U Network Racks: 32U Rack Frame/600x1000/Steel/ Welded/Casters Type 2, Glass Door/600/32U/NRS1, Side Panels/1000/32U/Vented, Horz. Cable Organizer/1U/ Channel On Front, Shelf/Key Board/19"Rty/1000, Server /IT Rack mount power distribution unit, 1Ph, 230V, 16A, 50/60Hz, 2U standard with 6 X Indian Round Pin 5/15A, Inlet Plug type 16A Indian Round Pin, 16A MCB - PDU Rating 3.6KVA/Side feed-1.5Mt/ Black, ITE / Server Rack Air Circulation module/Tower Mount/360CFM, Mounting Hardware-CR (Pack of 20) Plus 3.8kW Single-Phase 120-240V Basic PDU, 14 Outlets (12 C13 & 2 C19), C20 with 5 Adapters, 10 ft. (3.05 m) Cord, 1U Rack-Mount OEM: Net racks/APW President/Val racks	3 No's	
12	RACK AT DISTRIBUTION TERMINALS: 6U/400 Rack/ Welded/WM, Glass Door/4U/WM, Cantilever Shelf/Type2/1U, Horz. Cable Organiser/1U/Loop & Server /IT Rack mount power distribution unit, 1Ph, 230V, 5A, 50/60Hz, 1 U standard with 4 X Indian Round Pin, 5A, Inlet Plug type 6A Indian Round Pin, 5A Fuse - PDU Rating 1.2KVA	18 No's	
13	RJ 45 CONNECTOR: D link RJ 45 connector for Cat 6 Cable, NPG-5B1TRA031-100	300 No's	
14	INTERFACE BOX: CCTV Box	80 No's	
15	CONDUIT: 25 mmx1.5mmPVC Electrical conduit for IP & electrical transmission wire with all accessories like Flexible conduit, bends holding bracket as per the site requirement.	4500 Meter	
16	HDMI INTERFACE : HDMI Cable 10m (Or as per the site requirement) for NVR to Monitor	1 No's	
17	GI POLEP: Combination of 100 & 75mm GI pipe of 2.2 & 2.0 mm thick 5+ 3mtr with Bracket for CCTV cameras , Cement Concrete: M20 Grade cement concrete for a size 600mmX450mmX450mm (or To be installed as per site condition (By Clamping with Wall) to make the pole stable for withstanding a wind load of 120Kmph .)	8 No's	
18	PROFESSIONAL SERVICES : Professional services : Consultancy & Project management charges Plus installation/Configuration/ commissioning & AT It should be noted that the mislinious material for integrating the project required (Like PVC insulated Tape, Cable Tie, Feruls, Flexiable conduits etc.) are included in the commercial.	1 Job	
19	AMC Post Integration Support for 5 years including quarterly preventative maintenance and 5 years Comprehensive Warranty	1 Job	

S. No	Description	Qty.	Compliance Yes/No
1	<p>a. Face and Finger Recognition Device for access control and time attendance. Should be a user friendly, high security & robust performance and first detection.</p> <ul style="list-style-type: none"> ➤ Attendance System Bioface ➤ Face – 1000 Users ➤ Finger/card-5000/5000 user ➤ Display: 2.4" TFT Screen ➤ Communication: TCP/IP, USB Host ➤ Desktop Software: Pay time standard Attendance <p>b. Mini UPS for Biometric</p> <ul style="list-style-type: none"> ➤ Voltage adjust 5v, 9v,12v ➤ Battery 18650 Lithim ion cell ➤ Input 5v2a, 9v1a, 12v1a ➤ Output 5v2a, 9v1a,12v1a ➤ Charging battery management system ➤ Over charged and discharged protection ➤ Over current and short circuit protection ➤ Charge may last 1.5 hours or above 	16 No's	

Annexure – III
COMMERCIAL BID

S.No.	Description of items	Qty.	Total Amount
1.	Providing and Fixing of Wi-fi Access Points, Networking Installation of CC Cameras at Palamuru University Campus and Biometric Devices at its PG Centre as per Annexure - I	1 Job	
2.	Supply and Installation of CCTV Cameras in Palamuru University	1 Job	
3.	Supply and Installation of Bio-metric in Palamuru University Campus and its PG Centres	1 Job	
	Total		
	GST as Applicable		
	Total Amount incl. of GST		

CERTIFICATE OF ETHICAL PRACTICES

I / We assure the Institute/University that neither I / We nor any of my / our workers will do any acts which is improper / illegal during the execution in case the tender is awarded to us. Neither I / We nor anybody on my / our behalf will indulge in any corrupt activities / practices in my / our dealing with the Institute. I / We will have no conflict of interest in any of our works / contracts at the University.

Date:

SIGNATURE OF THE TENDERER

ANNEXURE-III

PERFORMANCE BANK GUARANTEE ON SECURITY DEPOSIT

This deed of Guarantee made on..... day of Month & Year by Name & Address of the bank (hereinafter called the "GUARANTOR") on the one part, on behalf of M/s Name & address of the Firm (hereinafter called the "FIRM") in favour of The Registrar, Palamuru University, Mahabubnagar, on the following terms and conditions.

Whereas the FIRM is entering into an agreement with PALAMURU UNIVERSITY for providing and fixing of Wi-Fi Access Points and networking in Palamuru University Campus and this guarantee is being made for the purpose of submission of Security money required to be deposited at the time of signing of the agreement between Palamuru University and FIRM.

Know all people by these presents that the GUARANTOR, hereby undertake to indemnify and keep Palamuru University indemnified up to the extent of Rs...../- Rupees in words..... only) during the validity of this bank guarantee and authorize Palamuru University to recover the same directly from the GUARANTOR. This bank guarantee herein contained shall remain in full force and effect till the expiry of its validity or till any extended period (if extended by the bank on receiving instructions from FIRM.). The liability under the guarantee shall be binding on the GUARANTOR or its successors.

Whereas the GUARANTOR further agrees that their liability under this guarantee shall not be affected by any reason of any change in the offer or its terms and conditions between the FIRM and Palamuru University with or without the consent or knowledge of the GUARANTOR.

Whereas the GUARANTOR further agrees to pay guaranteed amount hereby under or part thereof, on receipt of first written demand whenever placed by Palamuru University during the current period of this guarantee. The GUARANTOR shall pay Palamuru University immediately without any question, demure, reservation or correspondence.

Whereas the GUARANTOR hereby agrees not to revoke this guarantee bond during its currency period except with the previous consent of Palamuru University in writing.

Notwithstanding anything contained herein

- Our liability under this bank guarantee shall not exceed Rs..... (Rupees in words only)
- This Bank guarantee shall be valid up to Rs...../- (Rs. In words.....only).
- We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only and only against the written claim or demand on or before

Sealed with the common seal of the bank on thisday of (Month) and (Year).

Witness:

1.....

2.....

(Signature and seal of the bank)

SIGNATURE AND STAMP OF THE TENDERER