भारतीय प्रौद्योगिकी संस्थान तिरुपति
Indian Institute of Technology Tirupati
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Tender No. IITT/CC/2022-23/18 **12th May 2022**

NOTICE INVITING TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF WIRED ACTIVE COMPONENTS

(E-PROCUREMENT MODE ONLY)

Indian Institute of Technology Tirupati (IIT Tirupati) invites online bids (e-tender) in Two bid system from eligible Class-I & Class-II in line with Government Public Procurement order No.P-45021/2/2017-BE-II dated: 04.06.2020 for the following:

S No	Item Description	Quantity (approx.) in Nos	Tender Fee (Inclusive of all taxes in Rs.)
1	Core Switch	02	2500/-
2	48-port Distribution switch	14	
3	48 port full MGig switch	05	
4	24 port full MGig switch	60	
5	48 port Full PoE+Switch	45	
6	24 port Full PoE+Switch	30	
7	48 port Non PoE Switch	130	
8	24 port Non PoE Switch	10	
9	40G SM transceiver	65	
10	25G MM transceiver	250	
11	10G SM transceiver	100	
12	10G MM transceiver	400	
13	8 port Full PoE + switch	20	

Splitting of items and quantities are not allowed. Vendor has to quote for all items compulsorily.

The Tender Document can be downloaded from Central Public Procurement (CPP) Portal http://eprocure.gov.in/eprocure/app and the bid is to be submitted online only through the same portal up to the last date and time of submission of tender.

Critical Dates of Tender:

SL NO	PARTICULARS	DATE	TIME
01	ONLINE PUBLICATION/DOWNLOAD OF TENDER	12.05.2022	11.00 hrs
02	CLARIFICATIONS START DATE	12.05.2022	11.00 hrs
03	CLARIFICATIONS END DATE	17.05.2022	18.00 hrs
04	UPLOADING OF CORRIGENDUM/CLARIFICATIONS AFTER THE RECEIPT OF QUERIES (IF ANY)	20.05.2022	18.00 hrs
05	BID SUBMISSION START DATE	21.05.2022	10.00 hrs

06	BID SUBMISSION DEADLINE	13.06.2022	15.00 hrs
07	TECHNICAL BID OPENING	14.06.2022	15.00 hrs
08	OPENING OF THE FINANCIAL BID	To be announced later	

- QUERIES RELATED TO THE TENDER DOCUMENT MAY BE FORWARDED TO mahendran@iittp.ac.in AS PER THE FORMAT PROVIDED IN THE ANNEXURE-IX BEFORE THE CLARIFICATIONS END DATE. FURTHER QUERIES AFTER **17.05..2022@18.00** HRS WILL NOT BE CONSIDERED.

1. About IIT TIRUPATI:

Indian Institute of Technology Tirupati (IIT Tirupati) is an Autonomous Institute under Ministry of Education, Govt. of India.

2. Technical Specifications: Schedule of requirement

Technical Specifications of the Wired Active Components, OEM Criteria, Network Functionality Requirements
Permanent Campus Phase I
IIT Tirupati

Network Functional Requirements (Wired):

SNo	Network Functional Requirement (Wired)
1	The bidder shall propose a state-of-the-art solution which supports Software Defined Networking and can deliver an elastic platform for policy-based automation that simplifies the network management and operations. The solution should have open Application Programmable Interface and drive core network automation solutions. The platform shall power the next-generation SDN applications that will dramatically lower operational expenditures and increase network agility and high-availability.
2	The solution should have the capability to be deployed in underlay and overlay network configuration. The fabric should support programmable overlay to deploy network virtualization in which a physical network can provide one or more logical networks with the help of segmentation of user network, guest network, surveillance network.
3	The users and devices should be given access to only specific resources and denied access to others based on their unified login credentials from central LDAP, the necessary hardware/software for deployment of LDAP to be part of the overall solution.
4	The proposed network should have the capability of encapsulating data packets using VXLAN to create a secure network fabric using SDN technology.
5	The critical components like Core & Distribution switches shall support upgrades, downgrades, and rollbacks without impacting the hardware forwarding so as to avoid downtime in the core network backbone.
6	The network should support micro segmentation. The student and faculty machines should have access to common resources like printers etc. but the student network must not have any access to faculty devices. Similarly printer devices should also not have direct one to one communication
7	Creates an intelligent, open, programmable network with open APIs to integrate with any 3rd party system.
8	Solution should provide 24X7X365 TAC support and 8X5 Next business day replacement
9	Switch should have integrated trusted platform module (TPM) or SUDI or equivalent for platform integrity to ensure the boot process is from trusted source, from Day1
10	All switches to have multi-core CPU /Processors from Day1

11	All switches to have standard protocols such as static routing, RIP, PIM, OSPF, VRRP, PBR, BGP, and QoS features from Day1
12	All switches to have Common Criteria Certification such as EAL/NDPP
13	All PoE type switches to support IEEE PoE (802.3af), PoE+ (802.3at), (802.3bt)
14	All of the networking products should be supported with "Malicious code free" authorization letter legally vetted by the OEM
15	Switch should support internal field replaceable unit redundant power supply from day 1.
16	Wired switches, components, including transceiver modules from single OEM
17	Separate (respective) stacking for mGig switches and other switches. Uplink modules and uplink ports to be provided accordingly
18	All racks are of 15U capacity, each can accommodate 4 switches max. Uplinks and stacking to be planned accordingly
19	Distribution racks wherever connected by 1:1 inside building are located by more than 50m, therefore, stacking cables to be provided appropriately.
20	Successful bidder to install the switches as per the design provided by IITT, with compatible DAC/stacking cables (with no additional cost).

Commissioning Conditions (Wired):

SNo	**Commissioning Requirements (Wired)**
1	Supply, installation, testing, and commissioning of active components for the campus.
2	Successful bidder should show bandwidth results report mainly on wireless, through utilities like iperf with user devices.
3	Successful bidder should submit a separate HLD/LLD document WiFi which is validated by OEM.
4	The LAN IP addressing, creation of in building VLAN for segregation between users, configuration for all of the LAN security issues will be carried out by the successful bidder, and submit OEM certified report.
5	All of the switch and IP addressing schemes need to be documented for maintenance purposes.
6	Labeling of switches, ports and corresponding patch panel ports to be done.
7	Equipment furnished shall be complete in every respect with all mountings, fittings, fixtures, and standard accessories normally provided with such equipment and/or needed for erection, completion, and safe operation of the equipment as required by applicable codes though they may not have been specifically detailed in the tender document, unless included in the list of exclusions.
8	The successful bidder shall be responsible for providing all materials, equipment's, necessary software, licenses, drivers and services or otherwise, which are required to fullfill the intent of ensuring operability, maintainability, and reliability of the complete equipment covered under this specification within the quoted price. This work shall be in compliance with all applicable standards, statutory regulations and safety requirements in force on the date of the award of this contract.

9	The scope covers preparation pre-dispatch/inspection/testing, packaging, forwarding, transportation and carrying out further activities at viz unloading, storage, (space provided by IITT) further handling, erection, testing and commissioning including successful completion of acceptance tests and any other services specified.
10	The installation of equipment is considered as completed only after successful commissioning and testing done by the successful bidder, and certified by the designated team of IITT.
11	Successful bidder to submit the make, and model of the proposed equipment with detailed data sheets.
12	The warranty services will start only after installation and commissioning of the complete solution.
13	All features minimum specifications and functional features to be shown for IITT after completion of installation and commissioning, and a report of the same to be submitted to IITT
14	Successful bidder to install and demonstrate iperf (or equivalent utility) at the MGig switches to verify the live bandwidth of the connected clients.
15	Successful bidder to configure and demonstrate the possibility of port-based IP release on all of the access switches.

Resident Engineer Qualifications and Skills:

SNo	**Resident Engineer Basic Qualifications and Skills**
1	Minimum 3 years of experience in wired and wireless network administration.
2	To have done OEM certification of first level wired network administration and management.
3	To have done OEM certification of first level wireless network administration and management.
4	To have worked in Linux CLI
5	To able to capture network packets at all applicable OSI layers, from the command line
6	To be able to work in SNMP and Syslog based utilities.
7	The curriculum vitae of the potential REs to be shared in the bidding process.

OEM Criteria for Wired Components:

SNo	**OEM Pre-qualification criteria - Wired**
1	Similar deployment in India – OEM should have deployed wired networking solutions in at least 3 large CFTIs/publicly listed large enterprise with minimum 250 switches and 5000 LAN nodes and integration with the existing Data centre consisting of 100 compute nodes. All deployments should be successfully working for a minimum of one year as on the date of the bid. Proof to be submitted in the form of Purchase orders/completion certificate from end customer along with contact details of end customer (for verification by IIT).
2	Products proposed should have been released and shipments commenced at least 12 months before date of bid

<table>
<tr><td>3</td><td>OEM should provide an undertaking that the proposed models will not be declared end of life for the next 2 years and spares support for the models offered will be available for a period of 7 years from the date of bid submission</td></tr>
<tr><td>4</td><td>Warranty - 3 years on site support from OEM/bidder from the date of installation and commissioning of supplied line items. Warranty should include advance replacement of faulty parts, labour and on site support to resolve issues within SLAs defined by IIT.</td></tr>
<tr><td>5</td><td>AMC - AMC to be quoted for a period of 2 years post warranty period and IIT reserves the right to enter into AMC with L1 bidder post warranty period at the prices quoted in the bid. Support during the AMC period will include back lining with OEM, advance replacement of faulty parts, labour and on site support to resolve issues reported by IIT within the SLA defined by IIT. Bidder to undertake preventive maintenance visits once every 6 months and do patch updates and updates to the latest version in the switches during these visits.</td></tr>
<tr><td>6</td><td>OEM support - OEM should provide direct 24x7 TAC support (along with India Toll free number) to IIT as and when required during the warranty and AMC period.</td></tr>
<tr><td>7</td><td>OEM participation - OEM should participate via only one authorised partner in this bid. MAF to be provided to the authorised partner and OEM should submit an undertaking that they will support IIT directly if the partner fails to fulfill their contractual obligations with respect to support during warranty or AMC period.</td></tr>
<tr><td>8</td><td>Bidder should have ISO 9001 / ISO 27001 certification</td></tr>
<tr><td>9</td><td>Bidder should have a support office in Telangana / AP / TN/ KA</td></tr>
<tr><td>10</td><td>Bidder should submit MAF specific to the bid from the OEM</td></tr>
<tr><td>11</td><td>OEM should not be blacklisted in India in the last three years.</td></tr>
<tr><td>12</td><td>All wired active networking components should be from the same OEM, including the transceiver modules.</td></tr>
<tr><td>13</td><td>OEM to deliver the stage-wise release of components after the release of PO as per the following schedule. In any case, if items couldn't be supplied for valid reasons within the specified timelines, the successful bidder has to provide a standby arrangement to make the network up and running by providing the functional items as mentioned in the ‘standby items’ column following table. The standby items need not be from a single OEM. It is to be noted that all standby arrangements are to be made without imposing any financial commitments to IITT.
<table>
<tr><th>Stage</th><th>Actual Items Required (Qty.)</th><th>Delivery Period (from PO)</th><th>Minimal Standby Items (manageable switches only, with VLAN trunking, tagging)</th></tr>
<tr><td>1</td><td>a. 24-port NPoE (1+0+0) = 1 No
b. 48-port NPoE (25+0+10) = 35Nos
c. 24-port PoE+ (1+3+0) = 4 Nos
d. 48-port PoE+ (8+0+7) = 15 Nos
e. 24-port MGig (5+9+0) = 14 Nos
f. 48-port MGig (3+0+0) = 3 Nos
d. 48-port Dist. switch (2+1+1) = 4</td><td>6 Weeks</td><td>i. 24-port NPoE with 2 SFP+ = 8 Nos
ii. 48-port NPoE with 2 SFP+ = 2 Nos
iv. 8-port PoE+ with 2SFP+ = 15 Nos
iii. 24-port PoE+ with</td></tr>
</table>
</td></tr>
</table>

		Nos g. Core switch (1 No) h. SFP MM, SFP SM, DAC as needed		2SFP+ = 8 Nos v. 8 port SFP+ dist switch = 2 Nos. vi. 32 port core switch with 4SFP+ = 1 No. v. MM and SM SFP+ modules (all 10G) , and DAC cables as needed.
	2	a. 24-port NPoE (2+0+0) = 2 Nos b. 48-port NPoE (27+0+0) = 27 Nos c. 24-port PoE+ (4+1+0) = 5 Nos d. 48-port PoE+ (4+0+2) = 6 Nos e. 24-port MGig (8+8+2) = 18 Nos f. 48-port MGig (0+0+0) = 0 Nos d. 48-port Dist. switch (1+1+0) = 2 Nos g. Core switch (0 No) h. SFP MM, SFP SM, DAC as needed	12 Weeks	i. 24-port NPoE with 2 SFP+ = 3 Nos ii. 48-port NPoE with 2 SFP+ = 2 Nos iv. 8-port PoE+ with 2SFP+ = 14 Nos iii. 24-port PoE+ with 2SFP+ = 8 Nos iv. MM and SM SFP+ modules (all 10G) , and DAC cables as needed.
	3	All of the remaining items	16 Weeks	N.A.
14	OEM should be financially profitable for past 3 years			
15	OEM should have spare depot center in Andhra Pradesh			

Item No.1 "Core Switch":

S.No	Core Switch - Technical Specifications
1	**Hardware and Performance**
a	Switch should be fixed configuration 1 RU platform to support at least 32 40/100 Gigabit ports with QSFP+/QSFP28
b	Switch should support Internal redundant power supplies and should be populated from day 1
c	Switch should have non blocking architecture and should support switching capacity of 6.4 Tbps
d	Switch shall have min. 16 GB RAM and 8GB Flash
e	Switch shall have min. 64 GB internal SSD for host container or as additional internal storage
f	Switch should support at least 2Bpps throughput from day-1
g	It should possible to connect switches in virtual stack to increase performance and active-active performance

h	Switch should support NSF/SSO or Equivalent Technology when connected in virtual stack
i	Shall support In Service Software Upgrade (ISSU) to provide an upgrade of the entire platform or an individual task/process without impacting hardware forwarding. ISSU supports upgrades, downgrades, and rollbacks.
j	Switch shall have hot swappable 1:1 redundant internal power supply and redundant fan, on day1
k	Along with Core Switch for HA connectivity, about 12 numbers of 100G DAC cable (for current use + spare) to be included along with the hardware
2	L2 Feature
a	Switch should support at least 80K Mac address
b	Switch should support Ethernet standards like IEEE802.1p, IEEE802.1Q, Flow control, Jumbo frame, 802.1D, 802.1w, 802.1s, Jumbo frames, 802.3ad, private vlan
c	Switch should support 4000 VLANs and 1000 SVI
d	Switch should support vlans based on ports, MAC address, IP-Subnet based vlan
e	**Switch should support UDLD/LLDP & LLDP-MED**
3	L3 Features
a	Switch should support 64K IPv4 and 32K IPv6 entries
b	Switch should support up to 30K multicast routes
c	Switch should support routing protocols like BGPv4, OSPF(v2, v3), ISISv4, RIP, Static, VXLAN, EVPN, PIM, SSM, BFD, VRF aware BFD, IEEE 802.1ae from day 1 on the same hardware
d	Switch should support VRRP/HSRP
e	**Switch should support VRF, MPLS, Policy based routing**
4	QoS features
a	Switch should support 8 queues per port
b	Switch should support IPv4 and IPv6 QoS classification and policing
c	Switch should support priority queuing, DSCP, traffic shaping, WRED
d	Switch should support control plane policing to protect switch CPU from DoS attack
e	**Switch should support IEEE 1588**
5	Security

a	Switch should support at least 4K hardware based ACL
b	Switch should support VLAN ACL, Port based ACL, Time based ACL
c	Switch should support IP Source guard, Dynamic ARP inspection, DHCP Snooping
d	Switch should support 802.1x for user authentication and authorization, Dynamic vlan assignment, Guest VLAN assignment, MAC based authentication
e	Switch should support real time data collection with line rate hardware based netflow/sFlow/Jflow up to 300 K
f	Switch should have a unique secure identity so that its authenticity and origin can be confirmed with OEM. Switch BIOS, software image should be cryptographically signed to ensure integrity and switch should not boot with modified software regardless of user's privilege level.
g	Switch should support AES 256 for link encryption
h	Switch should able to integrate with netflow/Sflow/Jflow based campus visibility and threat detection solution and should able to support threat detection within encrypted traffic
i	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail
j	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.
k	Storm control (multicast, and broadcast)
l	BPDU Protection or Equivalent
m	STP Root Protection/Equivalent
n	**Dynamic ARP Inspection**
6	Management and Troubleshooting
a	Switch should support telnet, ssh, https, SNMPv3, IPFIX, configuration rollback feature for ease of management
b	Switch should support API Driven configuration and support Netconf and Restconf using YANG data model. It should support automation tool like python

c	Switch should support port mirroring based on Inbound & outbound, mirroring based on ports, vlans
d	Switch should support software upgrade without any downtime to network.
e	Switch should support SNMP notification for dynamic change in MAC table
f	Switch should support beacon/LED technology to identify hardware during troubleshooting
g	Switch should support AC and DC power supplies
h	Switch should have field replaceable power supplies and FAN trays
i	Switches need to be provided with all software license from day-1 as per RFP specification
j	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP

Item No.2 “48-Port Distribution Switch”:

S.No	Distribution Switch - Technical Specifications
1	**General Features :**
a	Switch should have: 1) 48 x 1/10/25G ports
b	Switch should have: 2) 4 x 40/100G ports populated with required 40/100G transceivers/DAC cables for creating the HA using stacking / virtual stacking.
c	Switch shall be 1U and rack mountable in standard 19" rack.
d	Switch shall have min. 16 GB RAM and 16GB flash
e	Switch shall have min. 64GB SSD for hosting container applications or internal storage
f	Switch shall have a hot swappable 1:1 redundant internal power supply and redundant fan.
g	Switch shall support VSS or equivalent features allowing links that are physically connected to two different switches to appear as a single port channel with inter-switch bandwidth of min. 400Gbps

h	Shall support In Service Software Upgrade (ISSU) to provide an upgrade of the entire platform or an individual task/process without impacting hardware forwarding. ISSU supports upgrades, downgrades, and rollbacks.
i	Switch shall have hot swappable 1:1 redundant internal power supply and redundant fan, on day1
2	**Performance :**
a	Switching system shall have a minimum 2 Tbps of switching fabric and minimum 1Bpps of forwarding rate.
b	Switching system shall have a minimum 50K MAC Addresses and 4K VLANs.
c	Switch should support minimum 5K ACLs, 5K Multicast and 30K IPv4, 15K IPv6 Routes..
d	Switch shall support application visibility and traffic monitoring with minimum 50 K sflow/jflow/netFlow entries.
e	Min. Packet buffer : 30 MB
f	The device should be IPv6 ready logo certified from day one
3	**Functionality :**
a	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES), 802.3x, 802.1p, 802.1Q, 1588v2
b	Switch should support routing protocols like BGPv4, OSPF(v2, v3), ISISv4, RIP, Stati, VXLAN, EVPN, PIM, SSM, BFD, VRF aware BFD, IEEE 802.1ae from day 1 on the same hardware
c	Shall have 802.1p class of service, marking, classification, policing and shaping. Should support strict priority queuing.
d	Switch should support API Driven configuration and support Netconf and Restconf using YANG data model. It should support automation tool like python
e	Switch should support port security, DHCP snooping, first hop security, Spanning tree root guard.
f	IPv6 support in hardware, providing wire rate forwarding for IPv6 network
g	Should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment.
h	Eight egress queues per port for different types.

i	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.
j	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ , SSL, SFTP
k	Switch OS should support programmability through REST APIs and Python scripting or equivalent
4	**Certification:**
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.
c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.
5	**Security**
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.
c	Storm control (multicast, and broadcast)
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent
e	BPDU Protection or Equivalent
f	STP Root Protection/Equivalent
g	Dynamic ARP Inspection

Item No.3 "48-port full MGig Access Switch":

S.No	Full 48port MGig Access Switch - Technical Specifications
1	**General Features :**
a	Switch should be 1U and rack mountable in standard 19" rack.
b	Switch shall have 36 number of 2.5G Base-T mGig PoE+ ports and 12 number of 5G Base-T mGig PoE+ ports with minimum 80 Gbps dedicated uplink user bandwidth from Day 1

c	All 48 port should support PoE (802.3af), PoE+ (802.3at), (802.3bt) with a total minimum PoE power budget of 1590W or above from day-1
d	Switch should have a minimum 4 GB RAM
e	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1
f	Switch should support internal field replaceable unit redundant power supply from day 1.
2	**Performance :**
a	Switch shall have minimum 800 Gbps of switching fabric and 650 Mpps of forwarding rate.
b	Switch shall have minimum 32K MAC Addresses and 4K active VLANs
c	Should support minimum 10K IPv4 routes or more and 5K IPv6 routes or more
d	Switch shall have 1K or more multicast routes.
e	Switch should support at least 15K flow entries
f	Switch should support 128 or more STP Instances.
g	Switch should have a 8MB or more packet buffer, if the forwarding and control plane are not separate.
3	**Functionality :**
a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.
b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1
c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.
d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP
e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.
f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment from Day 1
g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.

h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.
4	**Certification:**
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.
c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.
d	The switch should be IPv6 ready logo certified day1
5	**Security**
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.
c	Storm control (multicast, and broadcast)
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent
e	BPDU Protection or Equivalent
f	STP Root Protection/Equivalent
g	Dynamic ARP Inspection
h	IP/MAC/PORT Binding

Item No.4 “Port full MGig Access Switch”:

S.No	Full 24 port MGig Access Switch - Technical Specifications
1	**General Features :**
a	Switch should be 1U and rack mountable in standard 19" rack.
b	Switch shall have 24 minimum 5G Base-T mGig PoE+ ports and 4 nos. SFP+ dedicated uplink ports from Day 1
c	All 24 port should support PoE (802.3af), PoE+ (802.3at) and (802.3bt) with a PoE power budget of 1440W or above from day 1.
d	Switch should have minimum 2 GB RAM
e	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1
f	Switch should support internal field replaceable unit redundant power supply from day 1.
2	**Performance :**
a	Switch shall have a minimum 640 Gbps of switching fabric capacity and 476 Mpps of forwarding rate.
b	Switch shall have minimum 15K MAC Addresses and 4K active VLANs
c	Should support minimum 10K IPv4 routes or more and 5K IPv6 routes or more
d	Switch shall have 1K or more multicast routes.
e	Switch should support at least 15K flow entries
f	Switch should support 128 or more STP Instances.
g	Switch should have a 8MB or more packet buffer, if the forwarding and control plane are not separate.
3	**Functionality :**

a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.
b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1
c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.
d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP
e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.
f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment from Day 1
g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.
h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.
4	**Certification:**
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.

c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.
d	The switch should be IPv6 ready logo certified day1
5	**Security**
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.
c	Storm control (multicast, and broadcast)
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent
e	BPDU Protection or Equivalent
f	STP Root Protection/Equivalent
g	Dynamic ARP Inspection
h	IP/MAC/PORT Binding

Item No.5 "48-Port Full PoE+ Access Switch":

S.No	48 Port PoE+ Access Switch - Technical Specifications
1	**General Features :**
a	Switch should be 1U and rack mountable in standard 19" rack.
b	Switch shall have 48 nos. 10/100/1000 Base-T PoE+ ports with minimum 4 nos. SFP+ dedicated user uplinks ports from Day 1.
c	All 24 ports should support PoE (802.3af) and PoE+ (802.3at) with a total PoE power budget of 1440W from day-1.
d	Switch should have minimum 2 GB RAM
e	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1
f	Switch should support internal field replaceable unit redundant power supply from day 1.
2	**Performance :**
a	Switch shall have minimum 176 Gbps of switching fabric and 130 Mpps of forwarding rate.
b	Switch shall have minimum 15K MAC Addresses and 4k VLANs.

c	Should support minimum 10K IPv4 routes or more and 5K IPv6 routes or more
d	Switch shall have 1K or more multicast routes.
e	Switch should support at least 15K flow entries
f	Switch should support 128 or more STP Instances.
g	Switch should have a 6MB or more packet buffer, if the forwarding and control plane are not separate.
3	**Functionality :**
a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.
b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1
c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.
d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP
e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.
f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment from Day 1
g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.
h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.
4	**Certification:**
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.
c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.
d	The switch should be IPv6 ready logo certified day1
5	**Security**
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.
c	Storm control (multicast, and broadcast)
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent
e	BPDU Protection or Equivalent

f	STP Root Protection/Equivalent
g	Dynamic ARP Inspection
h	IP/MAC/PORT Binding

Item No. 6 "24-Port Full PoE+ Access Switch":

S.No	24 Port PoE+ Access Switch - Technical Specifications
1	**General Features :**
a	Switch should be 1U and rack mountable in standard 19" rack.
b	Switch shall have 24 nos. 10/100/1000 Base-T PoE+ ports with minimum 4 nos. SFP+ dedicated user uplinks ports from Day 1.
c	All 24 ports should support PoE (802.3af) and PoE+ (802.3at) with a total PoE power budget of 720W from day-1.
d	Switch should have minimum 2 GB RAM
e	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1
f	Dynamic Host Configuration Protocol (DHCP) snooping
g	Switch should support internal field replaceable unit redundant power supply from day 1.
2	**Performance :**
a	Switch shall have minimum 128 Gbps of switching fabric and 95 Mpps of forwarding rate.
b	Switch shall have minimum 15K MAC Addresses and 4k VLANs.
c	Should support minimum 10K IPv4 routes or more **and 5K IPv6 routes or more**
d	Switch shall have 1K or more multicast routes.
e	Switch should support at least 15K flow entries
f	Switch should support 128 or more STP Instances.
g	Switch should have a 6MB or more packet buffer, if the forwarding and control plane are not separate.
3	**Functionality :**
a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.
b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1

c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.
d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP
e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.
f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment from Day 1
g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.
h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.
4	**Certification:**
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.
c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.
d	The switch should be IPv6 ready logo certified from day1
5	**Security**
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.
c	Storm control (multicast, and broadcast)
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent
e	BPDU Protection or Equivalent
f	STP Root Protection/Equivalent
g	Dynamic ARP Inspection

h	IP/MAC/PORT Binding

Item No.7 “48-Port Non-PoE Access Switch”:

S.No	48 Port Non-PoE Access Switch - Technical Specifications
1	**General Features :**
a	Switch should be 1U and rack mountable in standard 19" rack.
b	Switch shall have 48 nos. 10/100/1000 Base-T ports with minimum 4 nos. SFP+ dedicated user uplinks ports from Day 1.
c	Switch should have minimum 4 GB RAM
d	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1
e	Switch should support internal field replaceable unit redundant power supply from day 1.
2	**Performance :**
a	Switch shall have minimum 176 Gbps of switching fabric and 130 Mpps of forwarding rate.
b	Switch shall have minimum 15K MAC Addresses and 4k VLANs.
c	Should support minimum 10K IPv4 routes or more and 5K IPv6 routes or more
d	Switch shall have 1K or more multicast routes.
e	Switch should support at least 15K flow entries
f	Switch should support 128 or more STP Instances.
g	Switch should have a 6MB or more packet buffer, if the forwarding and control plane are not separate.
3	**Functionality :**
a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.
b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1
c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.
d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP
e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.
f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment from Day 1
g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.

h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.
4	**Certification:**
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.
c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.
d	The switch should be IPv6 ready logo certified day1
5	**Security**
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.
c	Storm control (multicast, and broadcast)
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent
e	BPDU Protection or Equivalent
f	STP Root Protection/Equivalent
g	Dynamic ARP Inspection
h	IP/MAC/PORT Binding

Item No.8 "24-Port Non-PoE Access Switch":

S.No	24 Port Non-PoE Access Switch - Technical Specifications
1	**General Features :**
a	Switch should be 1U and rack mountable in standard 19" rack.
b	Switch shall have 24 nos. 10/100/1000 Base-T ports with minimum 4 nos. SFP+ dedicated user uplinks ports from Day 1.
c	Switch should have minimum 2 GB RAM
d	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1
f	Switch should be given with all the necessary stacking cables / OEM modules from day-1
g	Switch should support internal field replaceable unit redundant power supply from day 1.
2	**Performance :**

a	Switch shall have minimum 128 Gbps of switching fabric and 95 Mpps of forwarding rate.
b	Switch shall have minimum 15K MAC Addresses and 4k VLANs.
c	Should support minimum 10K IPv4 routes or more **and 5K IPv6 routes or more**
d	Switch shall have 1K or more multicast routes.
e	Switch should support at least 15K flow entries
f	Switch should support 128 or more STP Instances.
g	Switch should have a 6MB or more packet buffer, if the forwarding and control plane are not separate.
3	**Functionality :**
a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.
b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1
c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.
d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP
e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.
f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment on hardware for all ports from day 1
g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.
h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.
4	**Certification:**
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.

c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.
d	The switch should be IPv6 ready logo certified day1
5	**Security**
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.
c	Storm control (multicast, and broadcast)
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent
e	BPDU Protection or Equivalent
f	STP Root Protection/Equivalent
g	Dynamic ARP Inspection
h	IP/MAC/PORT Binding

Transceiver specifications:

Item No.9 "40G SM Transceiver":

SNo	40G SM Transceiver (Core to Distribution) - Minimum Specifications
1	Speed 40Gbps
2	Single Mode
3	Make: same as switch OEM
4	Distance: 10KM

Item No.10 "25G MM Transceiver":

SNo	25G MM Transceiver for (mGig Access to Distribution) - Minimum Specifications
1	Speed 25Gbps
2	Multimode
3	Make: same as switch OEM
4	Distance: 550 meters

Item No.11 "10G SM Transceiver":

SNo	10G SM Transceiver (Access to Distribution) - Minimum Specifications
1	Speed 10Gbps
2	Single Mode
3	Make: same as switch OEM
4	Distance: 10KM

Item No.12 “10G MM Transceiver”:

SNo	10G MM Transceiver (Access to Distribution) - Minimum Specifications
1	Speed 10Gbps
2	Multimode
3	Make: same as switch OEM
4	Distance: 550 meters

SNo	100G DAC Cable for (Core-to-Core HA) - Minimum Specifications
1	Speed 100Gbps
2	Type: DAC
3	Make: same as switch OEM
4	Compatibility: Core switch

Item No.13 “8-Port PoE+ Access Switch”:

S.No	8 Port PoE+ Access Switch - Technical Specifications
1	**General Features :**
a	Switch should be 1U and rack mountable in standard 19" rack.
b	Switch shall have 8 nos. 10/100/1000 Base-T PoE+ ports with minimum 2 nos. SFP+ dedicated user uplinks ports from Day 1.
c	All 24 ports should support PoE (802.3af) and PoE+ (802.3at) with a total PoE power budget of 240W from day-1.
d	Switch should have minimum 2 GB RAM

e	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1
f	Dynamic Host Configuration Protocol (DHCP) snooping
g	Switch should support internal field replaceable unit redundant power supply from day 1.
2	**Performance :**
a	Switch shall have minimum 128 Gbps of switching fabric and 95 Mpps of forwarding rate.
b	Switch shall have minimum 15K MAC Addresses and 4k VLANs.
c	Should support minimum 10K IPv4 routes or more **and 5K IPv6 routes or more**
d	Switch shall have 1K or more multicast routes.
e	Switch should support at least 15K flow entries
f	Switch should support 128 or more STP Instances.
g	Switch should have a 6MB or more packet buffer, if the forwarding and control plane are not separate.
3	**Functionality :**
a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.
b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1
c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.
d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP
e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.
f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment from Day 1
g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.

h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.
4	**Certification:**
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.
c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.
d	The switch should be IPv6 ready logo certified from day1
5	**Security**
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.
c	Storm control (multicast, and broadcast)
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent
e	BPDU Protection or Equivalent
f	STP Root Protection/Equivalent
g	Dynamic ARP Inspection
h	IP/MAC/PORT Binding

- **Prospective bidders are informed to visit the campus of IIT Tirupati to familiarize with the various element and quality level of services that are required to be rendered.**

- **All offered products technical Specifications and Brochures are to be submitted along with the Technical Bid.**
- **The detailed scope of coverage of Warranty shall be provided in the compliance statement -Annexure-VII.**

- The Bidder shall furnish, as part of its bid, documents establishing the conformity of the Equipment that the Bidder proposes to supply under the Contract to the requirements of the Purchaser, as given in the Tender Document.

- The documentary evidence of conformity of the Equipment to the Tender Document may be in the form of written descriptions supported by Brochure / literature / diagrams /

certifications, including: (a) A detailed description of the essential technical, functional and performance characteristics of the Equipment that the Bidder is proposing to supply; (b) Technical details of the major subsystems/components of the Equipment.

3. TENDER FEE & BID SECURITY DECLARATION DETAILS:

3.1 Tender Fee of Rs.2500/- (Rupees two thousand five hundred only) should be submitted through ECS (Bank transfer / NEFT / RTGS) in favour of Indian Institute of Technology Tirupati.

3.2 Bank A/c Details for crediting Tender Fee:

Name : Indian institute of Technology Tirupati Main Account
Bank : State Bank of India
Account No : 35523338208
IFSC Code : SBIN0006677

3.3 Tender Fee and Bid Security Exemption:

I) **Micro and Small Enterprises (MSEs):**

Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) **for goods produced and services rendered**, are exempted from Tender fee and Bid Security. However, they have to enclose **valid self-attested registration certificate(s)** along with the tender to this effect.

Accordingly, MSEs shall be required to submit valid **Udyam Registration Certificate** for availing benefit under MSE Procurement Policy.

The benefit as above to MSEs shall be available only for Goods produced and services rendered by MSEs. However, traders are excluded from the purview of MSE Procurement Policy.

II) **Startup(s):**

Startup(s) as recognized by **Department for Promotion of Industry and Internal Trade (DPIIT)**, Govt. of India, are exempted from Tender fee and Bid Security. However, they have to enclose ***valid self-attested registration certificate(s)*** along with the tender to this effect.

Eligible MSE and startup bidders who seeks exemption from Tender fee/Bid Security as per clause no. (c) above, if they withdraw or modify their bids during the period of validity, or if they are awarded the contract and they fail to sign the contract, or to submit a performance security before the deadline defined in the request for bids document, they will be suspended for the period of three

years or as decided by the competent authority from being eligible to submit bids for contracts with the entity that invited the bids.

3.4 The Bidders will have to upload scanned copy of Payment details towards tender fee and the same will be accepted only on verification and confirmation by the Institute. Any delay in credit will not be entertained by the Institute. **(As per the format attached in Annexure – I)**

3.5 Other than eligible MSE and Startup bidders, Bid Security Declaration:

Bidders should have to submit the Bid Security Declaration (As per the format attached in annexure-II) in duly filled and signed condition.

4. ELIGIBILITY CRITERIA

4.1 Other Important Documents (OIDs)

Firm Incorporation Certificate, PAN details, GST details are to be provided.

4.2. Statutory Documents:

I) The Bidder should give self-declaration certificate for acceptance of all terms & conditions of tender documents. A duly completed certificate to this effect is to be submitted as per the Annexure-I.

II) The firm should not be in the active debarred list by any Central / State Government / Public Undertaking / Institute and no criminal case registered / pending against the firm or its owner / partners anywhere in India. A duly completed certificate to this effect is to be submitted as per Annexure-III.

III) **Experience and Past Performance:**

Similar deployment in India – OEM should have deployed wired networking solutions in at least 3 large CFTIs/publicly listed large enterprise with minimum 250 switches and 5000 LAN nodes and integration with the existing Data centre consisting of 100 compute nodes. All deployments should be successfully working for a minimum of one year as on the date of the bid. Proof to be submitted in the form of Purchase orders/completion certificate from end customer along with contact details of end customer (for verification by IITT). The said items should have supplied during past three financial years **i.e. during 2017-18 to 2019-20 or 2018-19 to 2020-21.** Vendor should provide satisfactory installation certificates with product details as proof with customer contacts email and phone number as per the **Annexure-IV.**

IV) The Annual Turnover should be at least **Rs. 2 Crores** and be profitable during each of the previous three financial years **i.e. during 2017-18 to 2019-20 or 2018-19 to 2020-**

21. Audited financial Statements or Financial Statements showing turnover duly signed by a Chartered Accountant are to be submitted as per the **Annexure-V.**

V) **In case the bidder is a <u>Class-I / Class-II</u> in line with the Public Procurement (Preference to Make in India) Order 2017 No. P-45021/2/2017-PP (BE-II) dated 04 Jun 2020 as amended from time to time. A Self-Declaration Certificate regarding "Class-I/Class-II Supplier" for the tendered items as per the Annexure-VI is to be submitted.**

As per the OM of Department of Promotion for Industry and Internal Trade No. P-45021/102/2019-BE-II-Part(1) dated: 04.03.2021. The bidders can't claim themselves as Class-I local suppliers/Class-II local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition.

a. 'Local Content' means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all custom duties) as a proportion of the total value, in percent.
b. 'Class-I local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50% as defined under this order.
c. 'Class-II local supplier' means a supplier or service provider, whose goods,services or works offered for procurement, has minimum local content of 20% but less than 50%, as defined under this order.
d. 'Non-local supplier'means a supplier or service provider, whose goods,services or works offered for procurement, has local content less than 20%, as defined under this order.
e. Complaint redressal mechanism: In case any complaint received by the procuring agency or the concerned Ministry/Department against the claim of a bidder regarding local content/domestic value addition in an electronic product, the same shall be referred to STQC.
f. The bidder shall be required to furnish the necessary documentation in support of the domestic value addition claimed in an electronic product to STQC. If no information is furnished by the bidder, such laboratories may take further necessary action, to establish the bonafides of the claim.
g. A complaint fee of Rs. 2 lakh or 1% of the value of the domestically manufactured products being procured (subject to a maximum of Rs.5 lakh), whichever is higher, to be paid by Demand Draft to be deposited with STQC. In case, the complaint is found to be incorrect, the complaint fee shall be forfeited. In case, the complaint is upheld and found to be substantially correct, deposited fee of the complainant would be refunded without any interest.

h. False declarations will be in breach of the Code of Integrity under Rule 175 (1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

VI) The bidder should be OEM or OEM authorized Dealers / Channel partners / Distributors of reputed brand having authorization for sales and after sales support. Valid tender specific OEM authorization letter is required to participate in this tender.

VII) **Prior Registration and / or Screening of bidders:**

Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder registered with the competent authority. The concerned bidder(s) are required to attach the relevant valid Registration Certificate along with the bid for consideration.

"Bidder" (including the term 'tenderer', consultant or service provider in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

"Bidder from a country which shares a land border with India" for the purpose of this Order means :-

- An entity incorporated, established or registered in such a country; or
- A subsidiary of an entity incorporated, established or registered in such a country or
- An entity substantially controlled through entities incorporated, established or registered in such a country; or
- An entity whose beneficial owner is situated in such a country; or
- An Indian (or other) agent of such an entity; or
- A natural person who is a citizen of such a country; or
- A consortium of joint venture where any member of the consortium or joint venture falls under any of the above.

The detailed terms & conditions issued from time to time in this regard by Government of India will be applicable.

VIII) **Authorized Representatives:**

Bids of bidders quoting as authorised representative of a principal manufacturer would also be considered to be qualified, provided:

(i) Their principal manufacturer meets all the criteria above without exemption, and

ii) The principal manufacturer furnishes a legally enforceable tender-specific authorisation assuring full guarantee and warranty obligations as per the general and special conditions of contract;

and

iii) The bidder himself should have been associated, as authorised representative of the Principal Manufacturer for same set of services as in present bid (supply, installation, satisfactorily commissioning, after sales service as the case may be) for same or similar item for past three years ending on bid opening date.

4.3 TECHNICAL CRITERIA

Bidders should comply with the specification of the tendered item in all respects. The detailed format is attached at Annexure-VII. The bidder is to complete the same in all respect and submit accordingly

5. FINANCIAL BID DETAILS

5.1 Financial bid i.e. BOQ given with tender (in **Excel format**) to be downloaded first and uploaded after filling all relevant information strictly as per the format failing which the offer is liable for rejection. Kindly quote your offer on FOR IIT Tirupati (inclusive of all taxes and charges). **Vendor should quote prices in BOQ only, offers indicating rates anywhere else shall be liable for rejection.**

5.2 Concessional Custom Duty / Concessional GST is applicable to IIT Tirupati as a Research Institution. Necessary Certificate to this effect shall be provided by IIT Tirupati to the supplier.

6. TIME SCHEDULE:

SL NO	PARTICULARS	DATE	TIME
01	ONLINE PUBLICATION/DOWNLOAD OF TENDER	12.05.2022	18.00 hrs
02	CLARIFICATIONS START DATE	12.05.2022	18.00 hrs
03	CLARIFICATIONS END DATE	17.05.2022	18.00 hrs
04	UPLOADING OF CORRIGENDUM/CLARIFICATIONS AFTER THE RECEIPT OF QUERIES (IF ANY)	20.05.2022	18.00 hrs
05	BID SUBMISSION START DATE	21.05.2022	10.00 hrs
06	BID SUBMISSION DEADLINE	13.06.2022	15.00 hrs
07	TECHNICAL BID OPENING	14.06.2022	15.00 hrs
08	OPENING OF THE FINANCIAL BID	To be announced later	
• QUERIES RELATED TO THE TENDER DOCUMENT MAY BE FORWARDED TO mahendran@iittp.ac.in AS PER THE FORMAT PROVIDED IN THE ANNEXURE-IX BEFORE THE CLARIFICATIONS END DATE. FURTHER QUERIES AFTER **17.05.2022@18.00** HRS WILL NOT BE CONSIDERED.			

7. AVAILABILITY OF TENDER

The tender document can be downloaded from http://eprocure.gov.in/eprocure/app and be submitted only through the same website.

8. BID VALIDITY PERIOD

The bid will remain valid for 90 days from the date of opening as prescribed by IIT Tirupati. A bid valid for a shorter period shall be rejected, being non-responsive.

9. BID SUBMISSION

9.1 Instruction to Bidder

I) Bidders are required to enrol on the e-Procurement module of the **Central Public Procurement Portal (URL: https://eprocure.gov.in/eprocure/app)** by clicking on the link "**Online Bidder Enrolment"** on the CPP Portal. **The registration is completely free of charge**.

II) Possession of a valid Class II/III DSC in the form of smart card / e-token is a prerequisite for registration and participating in the bid submission activities. DSCs can be obtained from the authorised certifying agencies recognized by CCA India (e.g. Sify/TCS/nCode/eMudhra etc).

III) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.

IV) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.

V) The Bidders are required to log in to the site through the secured log-in by entering their respective user ID / password and the password of the DSC.

VI) The CPP portal also has user manuals with detailed guidelines on enrolment and participation in the online bidding process. The user manuals can be downloaded for reference.

9.2 TENDER CLARIFICATION

I) In case the bidders require any clarification regarding the tender documents, they are requested to forward their queries to mahendran@iittp.ac.in with cc to purchase@iittp.ac.in on or before 17.05.2022@ 18.00 hrs as per the format of Annexure-IX.

II) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.

9.3 ONLINE BID SUBMISSION PROCEDURE

Cover-1: The file should be saved in a PDF version numbered sequentially and should comprise of the following items:

Packet-1:

Duly Completed Scanned PDF copy of, PAN, GST, Firm Registration certificate and Annexure-I to VIII with relevant supporting documents

Only the relevant documents as per the tender clauses are to be uploaded along with duly completed checklist as per the annexure-X. Uploading of other than the required documents may liable for rejection of the bid.

Cover-2:

A standard BOQ format has been provided in excel format. Bidders are required to download the BOQ excel file and fill their financial offer on the same BOQ format. After filling the same, submit it online in excel format, without changing the financial template format.

Note:

If the bid is incomplete and / or non-responsive it will be rejected during technical evaluation. The bidder may not be approached for clarifications during the technical evaluation. So, the bidders are requested to ensure that they provide all necessary details in the submitted bids.

10. BID OPENING

10.1 Technical Bids will be opened on **14.06.2022 @ 15.00 Hrs.**

10.2 Financial Bids of the eligible bidders will be opened on a later date. The date and time for opening of Financial Bids will be announced later.

10.3 **Bids should be summarily rejected, if tender is submitted other than through online or original tender fee/Bid security declaration are not submitted within stipulated date / time.**

11. BID EVALUATION

Based on results of the Technical evaluation IIT Tirupati evaluates the Commercial Bid of those Bidders who gets qualify in the Technical evaluation. The Commercial Bid with the lowest price will be the highest evaluated bid.

11.1 **Purchase Preference**

I) **Micro and Small Enterprises (MSEs):**

Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) **for goods produced and services rendered**, may be provided following purchase preference:

Item wise Quantity	Price Quoted by MSE	How the tender shall be finalized
Cannot be split	L1	Full Order on MSE
Cannot be split	Not L1 but within L1 + 15%	Full Order on MSE subject to matching L1 Price

II) **Preference to Make in India**

a) In procurement goods or works which are covered under by para 3(b) of the extant Public Procurement (Preference to Make in India) Order 2017 dated 04 June 2020 and which are **divisible** in nature, the "Class-I Local Supplier" shall get purchase preference over "Class-II Local Supplier" as well as "Non-Local Supplier" as per following procedure:

i) **Among all qualified bids, the lowest bid will be termed as L1. If L1 is** "Class-I Local Supplier", the contract for full quantity will be awarded to L1.

ii) **If L1 bid is not a** "Class-I Local Supplier", 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the "Class-I Local Supplier" will be invited to match L1 price for the remaining 50% quantity subject to the Class-I Local Supplier's quoted price falling within the margin of L1 + 20%, and contract for that quantity shall be awarded to such "Class-I Local Supplier" subject to matching the L1 price. In case such lowest eligible "Class-I Local Supplier" fails to match L1 price or accepts less than the offered quantity, the next higher "Class-I Local Supplier" within the margin of L1 + 20% shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local suppliers, then such quantity may be ordered on the L1 bidder.

b) In procurement goods or works which are covered under by para 3(b) of the extant Public Procurement (Preference to Make in India) Order 2017 dated 04 June 2020 and which are **not divisible** in nature, and in procurement of services where the bid is evaluated on price alone, the "Class-I Local Supplier" shall get purchase preference over "Class-II Local Supplier" as well as "Non-Local Supplier" as per following procedure:

i) **Among all qualified bids, the lowest bid will be termed as L1.**

If L1 is "Class-I Local Supplier", the contract will be awarded to L1.

ii) **If L1 is not a** "Class-I Local Supplier", the lowest bidder among the Class-I Local Supplier, will be invited to match the L1 price subject to Class-I Local Supplier's quoted price falling within the margin of L1 + 20%, the contract shall be awarded to such Class-I Supplier subject to matching the L1 price.

iii) **In case such lowest eligible Class-I Local Supplier fails to match the L1 price, the** "Class-I Local Supplier" with the next higher bid within the margin of L1 + 20% shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the of Class-I Local Supplier within the margin of L1 + 20%, the contract may be awarded to the L1 bidder.

iv) **Class-II Local Supplier will not get purchase preference.**

12. PAYMENT TERMS

No advance payment will be made in any case. Bills in Duplicate should be sent and the payment shall be released generally within 30 days, only after it is ensured that the items / quality of the items supplied are to the entire satisfaction of IIT Tirupati and completed the entire work within the stipulated delivery schedule. If any item is found defective, or not of the desired quality etc., the same should be replaced by the firm(s) immediately for which no extra payment shall be made.

13. WARRANTY OF QUALITY AND QUANTITY

13.1 The awardee shall give Minimum **3 years warranty as per the scope mentioned in the tender specifications** on successful completion of supply, and acceptance of supplied items. **2 years AMC** after completion of OEM standard warranty may be quoted as an optional.

13.2 The awardee shall give warranty that all items are as per specification(s), conforming to the specified design and there are no defects in the process of manufacturing, packaging, transportation and delivery.

13.3 Upon receipt of notice from IIT Tirupati for defective material, the firm shall **within 15 days** of receipt of the notice, replace the defective material, free of cost at the destination. The firm shall take over the defective material at the time of their replacement. No claim whatsoever shall lie on IIT Tirupati for the replaced goods thereafter. If the firm fails to replace the defective goods within a reasonable period, IIT Tirupati may proceed to take such remedial actions as may be necessary, at the company's risk and expense.

14. LIQUIDATED DAMAGES

In case of delay in Supply by the stipulated date, IIT Tirupati reserves the right of imposing penalty @0.5% per week on the value of the undelivered items subject to maximum 10% of the cost of undelivered items.

15. DELIVERY SCHEDULE

15.1 The successful bidder should execute the order successfully i.e. Supply, Installation of ordered items to be delivered stage-wise within **16 weeks** at IIT Tirupati transit campus, Venkatagiri Road, Yerpedu Post, Tirupati, Chittoor District from the date of issue of the purchase order. The delivery schedule is shown under section 'OEM Criteria - S.No. 13'. In case of any damage/Broken/Expired items found, the item(s) should be replaced **within 15 days** at IIT Tirupati. The bidder has to make own arrangement for unloading and positioning of items at the desired location of IIT Tirupati.

16. PERFORMANCE SECURITY DETAILS

16.1 The successful tenderer will have to deposit the performance security valid for **39 Months** in the form of DD / TDR / FDR / Bank Guarantee **@ 03% of the total order value** at the earliest from the date of issue of the award letter. No interest will be paid by IIT Tirupati on the deposit.

16.2 Performance Security will be refunded to the supplier, after it duly performs and completes the contract/warranty period in all respects.

16.3 Performance Security will be forfeited if the firm fails to perform/abide by any of the terms or conditions of the contract.

16.4 In case, the firm fails to execute the order successfully, within specified delivery period, the same goods/items will be procured from open market and the difference of cost, if any, will be recovered from Performance Security or from pending bill(s) of the defaulting firm or from both in case the recoverable amount exceeds the amount of Performance Security.

17. INTEGRITY PACT:

a. The integrity pact (IP) envisages an agreement between the prospective bidders/ vendors with the buyer committing the persons/ officials of both the parties with the aim not to exercise any corrupt influence on any aspect of the contract. **Only those bidders/ vender who are willing to enter into such an integrity pact with the purchase would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification. The bidder should give self-declaration certificate for acceptance** and compliance with the Integrity Agreement as per **Annexure XI**.

b. Any violation of the Integrity Pact would entail disqualification of the bidders and exclusion from future business dealings, as per the existing provisions of GFR, 2017, PC Act, 1988, and other Financial Rules/Guidelines, etc. as may be applicable to the organization concerned

c. The integrity pact would be effective from the date of invitation of bids till the complete execution of the contract.

d. The model format of Integrity Pact(IP) is at **Annexure-XII**

18. SITE VISIT:

Prospective bidders are informed to visit the **Permanent campus of IIT Tirupati** to familiarize with the various element and quality level of services that are required to be rendered. Before coming for site visit the bidders have to take prior appointment by emailing to mahendran@iittp.ac.in and senthil@iittp.ac.in.
It would be deemed that the bidder has visited the campus and understood the requirement prior submission of the bid. Self-declaration in this regard should be submitted as per the **Annexure-XIII.**

19. TERMS AND CONDITIONS

19.1 Termination for Insolvency

I) The IIT Tirupati may at any time terminate the Contract by giving a written notice to the awarding firm, without compensation to the firm, if the firm becomes bankrupt or otherwise insolvent as declared by the competent Court, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the department.

II) IIT Tirupati and/or the firm are entitled to withdraw/cancel the rate contract by serving one-month notice on each other. However, once a purchase order is placed on the supplier for supply of a definite quantity in terms of the rate contract during the validity of the rate contract, that purchase order becomes a valid and binding contract.

III) The courts of Tirupati alone will have the jurisdiction to try any matter, dispute or reference between the parties arising out of this purchase. It is specifically agreed that no court outside and other than Tirupati Court shall have jurisdiction in the matter

19.2Force Majeure

I) Should any force majeure circumstances arise, each of the contracting parties be excused for the non-fulfilment or for the delayed fulfilment of any of its contractual obligations, if the affected party within 15 days of its occurrence informs in a written form the other party.

II) Force Majeure shall mean fire, flood, natural disaster or other acts such as war, turmoil, sabotage, explosions, epidemics, quarantine restriction, strikes, and lockouts i.e. beyond the control of either party.

19.3 Arbitration

I) All disputes of any kind arising out in connection with the executing the order shall be referred by either party (IIT TIRUPATI or the bidder) after issuance of 30 days' notice in writing to the other party clearly mentioning the nature of dispute to a single arbitrator acceptable to both the parties. The venue for arbitration shall be IIT TIRUPATI India. The jurisdiction of the courts shall be Tirupati, Andhra Pradesh, India.

19.4 Other Conditions

I) The bidder has to upload the relevant & readable files only as indicated in the tender documents. In case of any irrelevant or non-readable files, the bid may be rejected.

II) IIT Tirupati will not be liable for any obligation or supplies made unless the Official Purchase Order has been placed by the Purchase Department.

III) IIT Tirupati reserves the right to accept or reject any or all the tenders in part or in full or may cancel the tender, without assigning any reason thereof.

IV) IIT Tirupati reserves the right to relax / amend / withdraw any of the terms and conditions contained in the Tender Document without assigning any reason thereof. Any inquiry after submission of the quotation will not be entertained.

V) IIT Tirupati reserves the right to modify/change/delete/add any further terms and conditions prior to issue of purchase order.

VI) In case the bidders/successful bidder(s) are found in breach of any condition(s) at any stage of the tender, Performance Security shall be forfeited.

VII) False declaration/documents will be in breach of the Code of Integrity under Rule 175(1) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

VIII) Repeat Order: IIT Tirupati reserves the right to place repeat order up to 100% of the quantities within a period of 12 months from the date of successful completion of purchase order at the same rates and terms subject to the condition that there is no downward trend in prices.

To take care of any change in the requirement during the currency of the contract, a plus/minus option clause for 25 per cent is incorporated in the tender document, reserving purchaser's right to increase or decrease the quantity of the required goods up to that limit without any change in the terms and conditions and prices quoted by the tenderers.

IX) Conditional tenders will not be considered in any case.

X) In case of doubt in material, the expenditure on testing of equipment will be borne by the tenderer.

XI) IIT Tirupati reserves the right to increase/decrease the order quantity at any period of time during the validity of the contract.

IIT Tirupati may issue amendment/corrigendum to tender documents before the due date of submission of bid. Any amendment/corrigendum to the tender document, if any, issued by IIT Tirupati will be posted on CPP Portal. For the bidders, submitting bids on downloaded tender documents, it is 'bidders' responsibility to check for any amendment/corrigendum on the website of IIT Tirupati or check for the same CPP Portal before submitting their duly completed bids.

ANNEXURE – I

UNDERTAKING

To
The Registrar,
Indian Institute of Technology
Tirupati-Renigunta Road, Settipalli post,
Tirupati 517506.

Tender No. IITT/CC/2022-23/18 dated: 12.05.2022.

Name of the Tender/Supply: Notice Inviting Tender for Supply, installation, testing and Commissioning of Wired Active Components.

Sir,

I /we hereby submit our bid for Supply, installation, testing and Commissioning of Wired Active Components

I/ We enclosed here with the following in favor of the Indian Institute of Technology Tirupati towards Tender Fee.

Particular	Amount	Payment Reference Details	Payment Date
Tender Fee (Including Tax)	**2500/-**		

1. I / We hereby reconfirm and declare that I / We have carefully read, understood & complying the above referred tender document including instructions, terms & conditions, scope of work, schedule of quantities and all the contents stated therein. I / We also confirm that the rates quoted by me / us are inclusive of all taxes, duties etc., applicable as on date.

2. I /we have gone through all terms and conditions of the tender document before submitting the same.

Date:
Place:

Seal

Authorized Signatory

Name:

Designation:
Contact No :

ANNEXURE – II

On Company Letter Head

Bid Security Declaration

To
The Registrar,
Indian Institute of Technology
Tirupati-Renigunta Road, Settipalli post,
Tirupati 517506.

Tender No. IITT/CC/2022-23/18 dated:12.05.2022.

Name of the Tender/Supply: Notice Inviting Tender for Supply, installation, testing and Commissioning of Wired Active Components.

Sir,

We, the undersigned declare that

1. We understood that, according to the tender conditions, bids must be supported by a Bid Security Declaration.

2. We accept that we will automatically be suspended from being eligible for bidding in any contract with the Institute for the period of **3 years** starting from the bid closing date, if we are in breach of our obligation(s) under the bid conditions, because we;

   (a) have withdrawn our bid during the period of bid validity specified in the letter of bid; or

   (b) having been notified of the acceptance of our bid by the institute during the period of bid validity, (i) fail or refuse to execute the contract, if required, or (ii) fail or refuse to furnish the performance security, in accordance with the tender conditions.

Date:
Place:

Seal

Authorized Signatory

Name:

Designation:
Contact No :

ANNEXURE – III

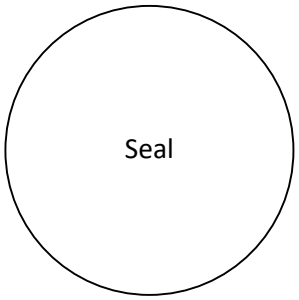
CERTIFICATE
(To be provided on letter head of the firm)

I hereby certify that the above firm is not in the active debarred list by any Central/State Government/Public Undertaking/Institute nor is any criminal case registered / pending against the firm or its owner / partners anywhere in India.

I also certify that the above information is true and correct in every respect and in any case at a later date it is found that any details provided above are incorrect, any contract given to the above firm may be summarily terminated and the firm may be blacklisted.

Date:

Place:



Authorized Signatory

Name:

Designation:
Contact No.:

ANNEXURE – IV

a) Experience: (As per tender Clause No.4.2 (III)

Year	Name of the Item with Specification (Technical specification brochure to be attached)	Purchase Order No. & Date (Copy of the Orders to be attached)	Date of successfully completion of SITC of ordered Item (copy of Installation report from client to be attached)	Contact Details of Client
2017-18				
2018-19				
2019-20				
2020-21				

b) Past Performance: (As per tender Clause No.4.2 (III)

Year	Purchase Order No. & Date (Copy of the Orders to be attached)	Quantity	Date of successfully completion of SITC of ordered Item (copy of report from client to be attached)	Whether supplied item(s) is in successful operation for at least one year (Certificate from client to be attached)	Contact Details of Client [email and phone no]
2017-18					
2018-19					
2019-20					
2020-21					

Date :

Place :

Seal

Authorized Signatory

Name:
Designation:

Contact No.:

ANNEXURE – V

Annual Turnover and Profit Details:

Evaluation Criteria				**Remark**	**Specific page no. where the proof of documents are enclosed**
Bidder's Annual Turnover and Profit for last three financial years	**Financial Year**	**Turnover in Rs.**	**Annual Profit in Rs.**	-	
	2020-21			**Supporting Documents are to be attached along with the Annexure-V [i.e.** Audited financial Statements or Financial Statements showing turnover duly signed by a Chartered Accountant are to be submitted]	
	2019-20				
	2018-19				
	2017-18				

Date:

Place:

Seal

Authorized Signatory:

Name:

Designation:

Contact No.:

ANNEXURE – VI

Format for Self-Declaration under preference to make in India order

In line with Government Public Procurement Order No. P-45021/2/2017-BE-II date. 15.06.2017 & P-45021/2/2017-PP (BE-II) dated: 04 June 2020. We hereby certify that we M/s. _____ _____ (supplier name) are **CLASS-I/Class-II (Please specify clearly)** supplier meeting the requirement of local content more than 20% as defined in above orders for the material against Enquiry No. Tender No. IITT/ CC/2022-23/18 dated: 12.05.2022.

Details of location at which local value addition will be made as follows: (Complete address to be mentioned)

Percentage of Local Content: _____

(As per the OM of Department of Promotion for Industry and Internal Trade No. P-45021/102/2019-BE-II-Part(1) dated: 04.03.2021. The bidders can't claim themselves as Class-I local suppliers/Class-II local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition)

We also understand, false declarations will be in breach of the Code of Integrity under rule 175 (1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

Seal and signature of Supplier

Date :

Place :

ANNEXURE – VII

Technical Compliance statement

<table>
<tr><th>Description</th><th>Offered Make & Model</th><th>% of Local Content as per Tender Clause No.4.2(V)</th><th>Country of Origin</th></tr>
<tr><td colspan="1">Network Functional Requirements (Wired):
<table>
<tr><th><u>SNo</u></th><th>Network Functional Requirement (Wired)</th><th>Compliance (Y/N with remarks)</th></tr>
<tr><td>1</td><td>The bidder shall propose a state-of-the-art solution which supports Software Defined Networking and can deliver an elastic platform for policy-based automation that simplifies the network management and operations. The solution should have open Application Programmable Interface and drive core network automation solutions. The platform shall power the next-generation SDN applications that will dramatically lower operational expenditures and increase network agility and high-availability.</td><td></td></tr>
<tr><td>2</td><td>The solution should have the capability to be deployed in underlay and overlay network configuration. The fabric should support programmable overlay to deploy network virtualization in which a physical network can provide one or more logical networks with the help of segmentation of user network, guest network, surveillance network.</td><td></td></tr>
<tr><td>3</td><td>The users and devices should be given access to only specific resources and denied access to others based on their unified login credentials from central LDAP, the necessary hardware/software for deployment of LDAP to be part of the overall solution.</td><td></td></tr>
<tr><td>4</td><td>The proposed network should have the capability of encapsulating data packets using VXLAN to create a secure network fabric using SDN technology.</td><td></td></tr>
<tr><td>5</td><td>The critical components like Core & Distribution switches shall support upgrades, downgrades, and rollbacks without impacting the hardware forwarding so as to avoid downtime in the core network backbone.</td><td></td></tr>
<tr><td>6</td><td>The network should support micro segmentation. The student and faculty machines should have access to common resources like printers etc. but the student network must not have any access to faculty devices. Similarly printer devices should also not have direct one</td><td></td></tr>
</table></td><td></td><td></td><td></td></tr>
</table>

	to one communication				
7	Creates an intelligent, open, programmable network with open APIs to integrate with any 3rd party system.				
8	Solution should provide 24X7X365 TAC support and 8X5 Next business day replacement				
9	Switch should have integrated trusted platform module (TPM) or SUDI or equivalent for platform integrity to ensure the boot process is from trusted source, from Day1				
10	All switches to have multi-core CPU /Processors from Day1				
11	All switches to have standard protocols such as static routing, RIP, PIM, OSPF, VRRP, PBR, BGP, and QoS features from Day1				
12	All switches to have Common Criteria Certification such as EAL/NDPP				
13	All PoE type switches to support IEEE PoE (802.3af), PoE+ (802.3at), (802.3bt)				
14	All of the networking products should be supported with "Malicious code free" authorization letter legally vetted by the OEM				
15	Switch should support internal field replaceable unit redundant power supply from day 1.				
16	Wired switches, components, including transceiver modules from single OEM				
17	Separate (respective) stacking for mGig switches and other switches. Uplink modules and uplink ports to be provided accordingly				
18	All racks are of 15U capacity, each can accommodate 4 switches max. Uplinks and stacking to be planned accordingly				
19	Distribution racks wherever connected by 1:1 inside building are located by more than 50m, therefore, stacking cables to be provided appropriately.				
20	Successful bidder to install the switches as per the design provided by IITT, with compatible DAC/stacking cables (with no additional cost).				

Commissioning Conditions (Wired):

SNo	**Commissioning Requirements (Wired)**	**Compliance (Y/N with remarks)**
1	Supply, installation, testing, and commissioning of active components for the campus.	
2	Successful bidder should show bandwidth results report mainly on wireless, through utilities like iperf with user	

	devices.				
3	Successful bidder should submit a separate HLD/LLD document WiFi which is validated by OEM.				
4	The LAN IP addressing, creation of in building VLAN for segregation between users, configuration for all of the LAN security issues will be carried out by the successful bidder, and submit OEM certified report.				
5	All of the switch and IP addressing schemes need to be documented for maintenance purposes.				
6	Labeling of switches, ports and corresponding patch panel ports to be done.				
7	Equipment furnished shall be complete in every respect with all mountings, fittings, fixtures, and standard accessories normally provided with such equipment and/or needed for erection, completion, and safe operation of the equipment as required by applicable codes though they may not have been specifically detailed in the tender document, unless included in the list of exclusions.				
8	The successful bidder shall be responsible for providing all materials, equipment's, necessary software, licenses, drivers and services or otherwise, which are required to fullfill the intent of ensuring operability, maintainability, and reliability of the complete equipment covered under this specification within the quoted price. This work shall be in compliance with all applicable standards, statutory regulations and safety requirements in force on the date of the award of this contract.				
9	The scope covers preparation pre-dispatch/inspection/testing, packaging, forwarding, transportation and carrying out further activities at viz unloading, storage, (space provided by IITT) further handling, erection, testing and commissioning including successful completion of acceptance tests and any other services specified.				
10	The installation of equipment is considered as completed only after successful commissioning and testing done by the successful bidder, and certified by the designated team of IITT.				
11	Successful bidder to submit the make, and model of the proposed equipment with detailed data sheets.				
12	The warranty services will start only after installation and commissioning of the complete solution.				
13	All features minimum specifications and functional features to be shown for IITT after completion of installation and commissioning, and a report of the same to be submitted to IITT				
14	Successful bidder to install and demonstrate iperf (or equivalent utility) at the MGig switches to verify the live bandwidth of the connected clients.				

15	Successful bidder to configure and demonstrate the possibility of port-based IP release on all of the access switches.				

Resident Engineer Qualifications and Skills:

SNo	Resident Engineer Basic Qualifications and Skills	Compliance (Y/N with remarks)
1	Minimum 3 years of experience in wired and wireless network administration.	
2	To have done OEM certification of first level wired network administration and management.	
3	To have done OEM certification of first level wireless network administration and management.	
4	To have worked in Linux CLI	
5	To able to capture network packets at all applicable OSI layers, from the command line	
6	To be able to work in SNMP and Syslog based utilities.	
7	The curriculum vitae of the potential REs to be shared in the bidding process.	

OEM Criteria for Wired Components:

SNo	OEM Pre-qualification criteria - Wired	Compliance (Y/N with remarks)
1	Similar deployment in India – OEM should have deployed wired networking solutions in at least 3 large CFTIs/publicly listed large enterprise with minimum 250 switches and 5000 LAN nodes and integration with the existing Data centre consisting of 100 compute nodes. All deployments should be successfully working for a minimum of one year as on the date of the bid. Proof to be submitted in the form of Purchase orders/completion certificate from end customer along with contact details of end customer (for verification by IIT).	
2	Products proposed should have been released and shipments commenced at least 12 months before date of bid	
3	OEM should provide an undertaking that the proposed models will not be declared end of life for the next 2 years and spares support for the models offered will be available for a period of 7 years from the date of bid submission	
4	Warranty - 3 years on site support from OEM/bidder from the date of installation and commissioning of supplied line items. Warranty should include advance replacement of faulty parts, labour and on site support to resolve issues within SLAs defined by IIT.	

<table>
<tr><td>5</td><td>AMC - AMC to be quoted for a period of 2 years post warranty period and IIT reserves the right to enter into AMC with L1 bidder post warranty period at the prices quoted in the bid.
Support during the AMC period will include back lining with OEM, advance replacement of faulty parts, labour and on site support to resolve issues reported by IIT within the SLA defined by IIT. Bidder to undertake preventive maintenance visits once every 6 months and do patch updates and updates to the latest version in the switches during these visits.</td><td></td></tr>
<tr><td>6</td><td>OEM support - OEM should provide direct 24x7 TAC support (along with India Toll free number) to IIT as and when required during the warranty and AMC period.</td><td></td></tr>
<tr><td>7</td><td>OEM participation - OEM should participate via only one authorised partner in this bid. MAF to be provided to the authorised partner and OEM should submit an undertaking that they will support IIT directly if the partner fails to fulfill their contractual obligations with respect to support during warranty or AMC period.</td><td></td></tr>
<tr><td>8</td><td>Bidder should have ISO 9001 / ISO 27001 certification</td><td></td></tr>
<tr><td>9</td><td>Bidder should have a support office in Telangana / AP / TN/ KA</td><td></td></tr>
<tr><td>10</td><td>Bidder should submit MAF specific to the bid from the OEM</td><td></td></tr>
<tr><td>11</td><td>OEM should not be blacklisted in India in the last three years.</td><td></td></tr>
<tr><td>12</td><td>All wired active networking components should be from the same OEM, including the transceiver modules.</td><td></td></tr>
<tr><td>13</td><td>OEM to deliver the stage-wise release of components after the release of PO as per the following schedule. In any case, if items couldn't be supplied for valid reasons within the specified timelines, the successful bidder has to provide a standby arrangement to make the network up and running by providing the functional items as mentioned in the ‘standby items’ column following table. The standby items need not be from a single OEM. It is to be noted that all standby arrangements are to be made without imposing any financial commitments to IITT.
<table>
<tr><th>Stage</th><th>Actual Items Required (Qty.)</th><th>Delivery Period (from PO)</th><th>Minimal Standby (manageable swit only, with VLA trunking, taggi</th></tr>
<tr><td>1</td><td>a. 24-port NPoE (1+0+0) = 1 No
b. 48-port NPoE (25+0+10) = 35Nos</td><td>6 Weeks</td><td>i. 24-port NPoE with SFP+ = 8 Nos
ii. 48-port NPoE witl SFP+ = 2 Nos</td></tr>
</table></td><td></td></tr>
</table>

		c. 24-port PoE+ (1+3+0) = 4 Nos d. 48-port PoE+ (8+0+7) = 15 Nos e. 24-port MGig (5+9+0) = 14 Nos f. 48-port MGig (3+0+0) = 3 Nos d. 48-port Dist. switch (2+1+1) = 4 Nos g. Core switch (1 No) h. SFP MM, SFP SM, DAC as needed		iv. 8-port PoE+ with = 15 Nos iii. 24-port PoE+ wit 2SFP+ = 8 Nos v. 8 port SFP+ dist s 2 Nos. vi. 32 port core switc 4SFP+ = 1 No. v. MM and SM SFP- modules (all 10G) , a DAC cables as neede			
	2	a. 24-port NPoE (2+0+0) = 2 Nos b. 48-port NPoE (27+0+0) = 27 Nos c. 24-port PoE+ (4+1+0) = 5 Nos d. 48-port PoE+ (4+0+2) = 6 Nos e. 24-port MGig (8+8+2) = 18 Nos f. 48-port MGig (0+0+0) = 0 Nos d. 48-port Dist. switch (1+1+0) = 2 Nos g. Core switch (0 No) h. SFP MM, SFP SM, DAC as needed	12 Weeks	i. 24-port NPoE with SFP+ = 3 Nos ii. 48-port NPoE wit SFP+ = 2 Nos iv. 8-port PoE+ with = 14 Nos iii. 24-port PoE+ wit 2SFP+ = 8 Nos iv. MM and SM SFP modules (all 10G) , a DAC cables as neede			
	3	All of the remaining items	16 Weeks	N.A.			
14	OEM should be financially profitable for past 3 years							
15	OEM should have spare depot center in Andhra Pradesh							

Item No.1 “Core Switch”:

S.No	Core Switch - Technical Specifications	Compliance (Y/N with remarks)
1	**Hardware and Performance**	
a	Switch should be fixed configuration 1 RU platform to support at least 32 40/100 Gigabit ports with QSFP+/QSFP28	
b	Switch should support Internal redundant power supplies and should be populated from day 1	
c	Switch should have non blocking architecture and should support switching capacity of 6.4 Tbps	
d	Switch shall have min. 16 GB RAM and 8GB Flash	
e	Switch shall have min. 64 GB internal SSD for host container or as additional internal storage	
f	Switch should support at least 2Bpps throughput from day-1	
g	It should possible to connect switches in virtual stack to increase performance and active-active performance	
h	Switch should support NSF/SSO or Equivalent Technology when connected in virtual stack	
i	Shall support In Service Software Upgrade (ISSU) to provide an upgrade of the entire platform or an individual task/process without impacting hardware forwarding. ISSU supports upgrades, downgrades, and rollbacks.	
j	Switch shall have hot swappable 1:1 redundant internal power supply and redundant fan, on day1	
k	Along with Core Switch for HA connectivity, about 12 numbers of 100G DAC cable (for current use + spare) to be included along with the hardware	
2	L2 Feature	
a	Switch should support at least 80K Mac address	
b	Switch should support Ethernet standards like IEEE802.1p, IEEE802.1Q, Flow control, Jumbo frame, 802.1D, 802.1w, 802.1s, Jumbo frames, 802.3ad, private vlan	
c	Switch should support 4000 VLANs and 1000 SVI	

d	Switch should support vlans based on ports, MAC address, IP-Subnet based vlan					
e	**Switch should support UDLD/LLDP & LLDP-MED**					
3	L3 Features					
a	Switch should support 64K IPv4 and 32K IPv6 entries					
b	Switch should support up to 30K multicast routes					
c	Switch should support routing protocols like BGPv4, OSPF(v2, v3), ISISv4, RIP, Static, VXLAN, EVPN, PIM, SSM, BFD, VRF aware BFD, IEEE 802.1ae from day 1 on the same hardware					
d	Switch should support VRRP/HSRP					
e	**Switch should support VRF, MPLS, Policy based routing**					
4	QoS features					
a	Switch should support 8 queues per port					
b	Switch should support IPv4 and IPv6 QoS classification and policing					
c	Switch should support priority queuing, DSCP, traffic shaping, WRED					
d	Switch should support control plane policing to protect switch CPU from DoS attack					
e	**Switch should support IEEE 1588**					
5	Security					
a	Switch should support at least 4K hardware based ACL					
b	Switch should support VLAN ACL, Port based ACL, Time based ACL					
c	Switch should support IP Source guard, Dynamic ARP inspection, DHCP Snooping					
d	Switch should support 802.1x for user authentication and authorization, Dynamic vlan assignment, Guest VLAN assignment, MAC based authentication					
e	Switch should support real time data collection with line rate hardware based netflow/sFlow/Jflow up to 300 K					
f	Switch should have a unique secure identity so that its authenticity and origin can be confirmed with OEM. Switch BIOS, software image should be					

	cryptographically signed to ensure integrity and switch should not boot with modified software regardless of user's privilege level.					
g	Switch should support AES 256 for link encryption					
h	Switch should able to integrate with netflow/Sflow/Jflow based campus visibility and threat detection solution and should able to support threat detection within encrypted traffic					
i	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail					
j	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.					
k	Storm control (multicast, and broadcast)					
l	BPDU Protection or Equivalent					
m	STP Root Protection/Equivalent					
n	**Dynamic ARP Inspection**					
6	Management and Troubleshooting					
a	Switch should support telnet, ssh, https, SNMPv3, IPFIX, configuration rollback feature for ease of management					
b	Switch should support API Driven configuration and support Netconf and Restconf using YANG data model. It should support automation tool like python					
c	Switch should support port mirroring based on Inbound & outbound, mirroring based on ports, vlans					
d	Switch should support software upgrade without any downtime to network.					
e	Switch should support SNMP notification for dynamic change in MAC table					
f	Switch should support beacon/LED technology to identify hardware during troubleshooting					
g	Switch should support AC and DC power supplies					

h	Switch should have field replaceable power supplies and FAN trays				
i	Switches need to be provided with all software license from day-1 as per RFP specification				
j	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP				

Item No.2 "48-Port Distribution Switch":

S.No	Distribution Switch - Technical Specifications	Compliance (Y/N with remarks)
1	**General Features :**	
a	Switch should have: 1) 48 x 1/10/25G ports	
b	Switch should have: 2) 4 x 40/100G ports populated with required 40/100G transceivers/DAC cables for creating the HA using stacking / virtual stacking.	
c	Switch shall be 1U and rack mountable in standard 19" rack.	
d	Switch shall have min. 16 GB RAM and 16GB flash	
e	Switch shall have min. 64GB SSD for hosting container applications or internal storage	
f	Switch shall have a hot swappable 1:1 redundant internal power supply and redundant fan.	
g	Switch shall support VSS or equivalent features allowing links that are physically connected to two different switches to appear as a single port channel with inter-switch bandwidth of min. 400Gbps	
h	Shall support In Service Software Upgrade (ISSU) to provide an upgrade of the entire platform or an individual task/process without impacting hardware forwarding. ISSU supports upgrades, downgrades, and rollbacks.	
i	Switch shall have hot swappable 1:1 redundant internal power supply and redundant fan, on day1	
2	**Performance :**	
a	Switching system shall have a minimum 2 Tbps of switching fabric and minimum 1Bpps of forwarding rate.	
b	Switching system shall have a minimum 50K MAC Addresses and 4K VLANs.	
c	Switch should support minimum 5K ACLs, 5K Multicast and 30K IPv4, 15K IPv6 Routes..	

	d	Switch shall support application visibility and traffic monitoring with minimum 50 K sflow/jflow/netFlow entries.				
	e	Min. Packet buffer : 30 MB				
	f	The device should be IPv6 ready logo certified from day one				
	3	**Functionality :**				
	a	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES), 802.3x, 802.1p, 802.1Q, 1588v2				
	b	Switch should support routing protocols like BGPv4, OSPF(v2, v3), ISISv4, RIP, Stati, VXLAN, EVPN, PIM, SSM, BFD, VRF aware BFD, IEEE 802.1ae from day 1 on the same hardware				
	c	Shall have 802.1p class of service, marking, classification, policing and shaping. Should support strict priority queuing.				
	d	Switch should support API Driven configuration and support Netconf and Restconf using YANG data model. It should support automation tool like python				
	e	Switch should support port security, DHCP snooping, first hop security, Spanning tree root guard.				
	f	IPv6 support in hardware, providing wire rate forwarding for IPv6 network				
	g	Should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment.				
	h	Eight egress queues per port for different types.				
	i	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.				
	j	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ , SSL, SFTP				
	k	Switch OS should support programmability through REST APIs and Python scripting or equivalent				
	4	**Certification:**				
	a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.				
	b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.				

c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.				
5	**Security**				
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail				
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.				
c	Storm control (multicast, and broadcast)				
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent				
e	BPDU Protection or Equivalent				
f	STP Root Protection/Equivalent				
g	Dynamic ARP Inspection				

Item No.3 "48-port full MGig Access Switch":

S.No	Full 48port MGig Access Switch - Technical Specifications	Compliance (Y/N with remarks)
1	**General Features :**	
a	Switch should be 1U and rack mountable in standard 19" rack.	
b	Switch shall have 36 number of 2.5G Base-T mGig PoE+ ports and 12 number of 5G Base-T mGig PoE+ ports with minimum 80 Gbps dedicated uplink user bandwidth from Day 1	
c	All 48 port should support PoE (802.3af), PoE+ (802.3at), (802.3bt) with a total minimum PoE power budget of 1590W or above from day-1	
d	Switch should have a minimum 4 GB RAM	
e	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1	
f	Switch should support internal field replaceable unit redundant power supply from day 1.	
2	**Performance :**	
a	Switch shall have minimum 800 Gbps of switching fabric and 650 Mpps of forwarding rate.	
b	Switch shall have minimum 32K MAC Addresses and 4K active VLANs	
c	Should support minimum 10K IPv4 routes or more and 5K IPv6 routes or more	
d	Switch shall have 1K or more multicast routes.	
e	Switch should support at least 15K flow entries	
f	Switch should support 128 or more STP Instances.	

g	Switch should have a 8MB or more packet buffer, if the forwarding and control plane are not separate.				
3	**Functionality :**				
a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.				
b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1				
c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.				
d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP				
e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.				
f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment from Day 1				
g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.				
h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.				
4	**Certification:**				
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.				
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.				
c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.				
d	The switch should be IPv6 ready logo certified day1				
5	**Security**				
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail				
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.				
c	Storm control (multicast, and broadcast)				

d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent				
e	BPDU Protection or Equivalent				
f	STP Root Protection/Equivalent				
g	Dynamic ARP Inspection				
h	IP/MAC/PORT Binding				

Item No.4 "Port full MGig Access Switch":

S.No	Full 24 port MGig Access Switch - Technical Specifications	Compliance (Y/N with remarks)
1	**General Features :**	
a	Switch should be 1U and rack mountable in standard 19" rack.	
b	Switch shall have 24 minimum 5G Base-T mGig PoE+ ports and 4 nos. SFP+ dedicated uplink ports from Day 1	
c	All 24 port should support PoE (802.3af), PoE+ (802.3at) and (802.3bt) with a PoE power budget of 1440W or above from day 1.	
d	Switch should have minimum 2 GB RAM	
e	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1	
f	Switch should support internal field replaceable unit redundant power supply from day 1.	
2	**Performance :**	
a	Switch shall have a minimum 640 Gbps of switching fabric capacity and 476 Mpps of forwarding rate.	
b	Switch shall have minimum 15K MAC Addresses and 4K active VLANs	
c	Should support minimum 10K IPv4 routes or more and 5K IPv6 routes or more	
d	Switch shall have 1K or more multicast routes.	
e	Switch should support at least 15K flow entries	

f	Switch should support 128 or more STP Instances.				
g	Switch should have a 8MB or more packet buffer, if the forwarding and control plane are not separate.				
3	**Functionality :**				
a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.				
b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1				
c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.				
d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP				
e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.				
f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment from Day 1				
g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.				
h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.				

4	**Certification:**				
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.				
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.				
c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.				
d	The switch should be IPv6 ready logo certified day1				
5	**Security**				
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail				
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.				
c	Storm control (multicast, and broadcast)				
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent				
e	BPDU Protection or Equivalent				
f	STP Root Protection/Equivalent				
g	Dynamic ARP Inspection				
h	IP/MAC/PORT Binding				

Item No.5 "48-Port Full PoE+ Access Switch":

S.No	48 Port PoE+ Access Switch - Technical Specifications	Compliance (Y/N with remarks)
1	**General Features :**	
a	Switch should be 1U and rack mountable in standard 19" rack.	
b	Switch shall have 48 nos. 10/100/1000 Base-T PoE+ ports with minimum 4 nos. SFP+ dedicated user uplinks ports from Day 1.	

c	All 24 ports should support PoE (802.3af) and PoE+ (802.3at) with a total PoE power budget of 1440W from day-1.					
d	Switch should have minimum 2 GB RAM					
e	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1					
f	Switch should support internal field replaceable unit redundant power supply from day 1.					
2	**Performance :**					
a	Switch shall have minimum 176 Gbps of switching fabric and 130 Mpps of forwarding rate.					
b	Switch shall have minimum 15K MAC Addresses and 4k VLANs.					
c	Should support minimum 10K IPv4 routes or more and 5K IPv6 routes or more					
d	Switch shall have 1K or more multicast routes.					
e	Switch should support at least 15K flow entries					
f	Switch should support 128 or more STP Instances.					
g	Switch should have a 6MB or more packet buffer, if the forwarding and control plane are not separate.					
3	**Functionality :**					
a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.					
b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1					
c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.					
d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP					
e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.					
f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment from Day 1					
g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.					

h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.				
4	**Certification:**				
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.				
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.				
c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.				
d	The switch should be IPv6 ready logo certified day1				
5	**Security**				
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail				
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.				
c	Storm control (multicast, and broadcast)				
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent				
e	BPDU Protection or Equivalent				
f	STP Root Protection/Equivalent				
g	Dynamic ARP Inspection				
h	IP/MAC/PORT Binding				

Item No. 6 "24-Port Full PoE+ Access Switch":

S.No	24 Port PoE+ Access Switch - Technical Specifications	Compliance (Y/N with remarks)
1	**General Features :**	
a	Switch should be 1U and rack mountable in standard 19" rack.	
b	Switch shall have 24 nos. 10/100/1000 Base-T PoE+ ports with minimum 4 nos. SFP+ dedicated user uplinks ports from Day 1.	
c	All 24 ports should support PoE (802.3af) and PoE+ (802.3at) with a total PoE power budget of 720W from day-1.	
d	Switch should have minimum 2 GB RAM	

e	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1				
f	Dynamic Host Configuration Protocol (DHCP) snooping				
g	Switch should support internal field replaceable unit redundant power supply from day 1.				
2	**Performance :**				
a	Switch shall have minimum 128 Gbps of switching fabric and 95 Mpps of forwarding rate.				
b	Switch shall have minimum 15K MAC Addresses and 4k VLANs.				
c	Should support minimum 10K IPv4 routes or more **and 5K IPv6 routes or more**				
d	Switch shall have 1K or more multicast routes.				
e	Switch should support at least 15K flow entries				
f	Switch should support 128 or more STP Instances.				
g	Switch should have a 6MB or more packet buffer, if the forwarding and control plane are not separate.				
3	**Functionality :**				
a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.				
b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1				
c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.				
d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP				
e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.				
f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment from Day 1				
g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.				
h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.				

4	**Certification:**				
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.				
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.				
c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.				
d	The switch should be IPv6 ready logo certified from day1				
5	**Security**				
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail				
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.				
c	Storm control (multicast, and broadcast)				
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent				
e	BPDU Protection or Equivalent				
f	STP Root Protection/Equivalent				
g	Dynamic ARP Inspection				
h	IP/MAC/PORT Binding				

Item No.7 "48-Port Non-PoE Access Switch":

S.No	48 Port Non-PoE Access Switch - Technical Specifications	Compliance (Y/N with remarks)
1	**General Features :**	
a	Switch should be 1U and rack mountable in standard 19" rack.	
b	Switch shall have 48 nos. 10/100/1000 Base-T ports with minimum 4 nos. SFP+ dedicated user uplinks ports from Day 1.	
c	Switch should have minimum 4 GB RAM	
d	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1	

e	Switch should support internal field replaceable unit redundant power supply from day 1.				
2	**Performance :**				
a	Switch shall have minimum 176 Gbps of switching fabric and 130 Mpps of forwarding rate.				
b	Switch shall have minimum 15K MAC Addresses and 4k VLANs.				
c	Should support minimum 10K IPv4 routes or more and 5K IPv6 routes or more				
d	Switch shall have 1K or more multicast routes.				
e	Switch should support at least 15K flow entries				
f	Switch should support 128 or more STP Instances.				
g	Switch should have a 6MB or more packet buffer, if the forwarding and control plane are not separate.				
3	**Functionality :**				
a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.				
b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1				
c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.				
d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP				
e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.				
f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment from Day 1				
g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.				
h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.				
4	**Certification:**				
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.				

b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.				
c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.				
d	The switch should be IPv6 ready logo certified day1				
5	**Security**				
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail				
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.				
c	Storm control (multicast, and broadcast)				
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent				
e	BPDU Protection or Equivalent				
f	STP Root Protection/Equivalent				
g	Dynamic ARP Inspection				
h	IP/MAC/PORT Binding				

Item No.8 "24-Port Non-PoE Access Switch":

S.No	24 Port Non-PoE Access Switch - Technical Specifications	Compliance (Y/N with remarks)
1	**General Features :**	
a	Switch should be 1U and rack mountable in standard 19" rack.	
b	Switch shall have 24 nos. 10/100/1000 Base-T ports with minimum 4 nos. SFP+ dedicated user uplinks ports from Day 1.	
c	Switch should have minimum 2 GB RAM	
d	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1	
f	Switch should be given with all the necessary stacking cables / OEM modules from day-1	
g	Switch should support internal field replaceable unit redundant power supply from day 1.	
2	**Performance :**	
a	Switch shall have minimum 128 Gbps of switching fabric and 95 Mpps of forwarding rate.	

b	Switch shall have minimum 15K MAC Addresses and 4k VLANs.				
c	Should support minimum 10K IPv4 routes or more **and 5K IPv6 routes or more**				
d	Switch shall have 1K or more multicast routes.				
e	Switch should support at least 15K flow entries				
f	Switch should support 128 or more STP Instances.				
g	Switch should have a 6MB or more packet buffer, if the forwarding and control plane are not separate.				
3	**Functionality :**				
a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.				
b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1				
c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.				
d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP				
e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.				
f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment on hardware for all ports from day 1				
g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.				
h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.				
4	**Certification:**				
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.				
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.				

c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.				
d	The switch should be IPv6 ready logo certified day1				
5	**Security**				
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail				
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.				
c	Storm control (multicast, and broadcast)				
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent				
e	BPDU Protection or Equivalent				
f	STP Root Protection/Equivalent				
g	Dynamic ARP Inspection				
h	IP/MAC/PORT Binding				

Transceiver specifications:

Item No.9 "40G SM Transceiver":

SNo	40G SM Transceiver (Core to Distribution) - Minimum Specifications	Compliance (Y/N with remarks)
1	Speed 40Gbps	
2	Single Mode	
3	Make: same as switch OEM	
4	Distance: 10KM	

Item No.10 "25G MM Transceiver":

SNo	25G MM Transceiver for (mGig Access to Distribution) - Minimum Specifications	Compliance (Y/N with remarks)
1	Speed 25Gbps	
2	Multimode	
3	Make: same as switch OEM	
4	Distance: 550 meters	

Item No.11 "10G SM Transceiver":

SNo	10G SM Transceiver (Access to Distribution) - Minimum Specifications	Compliance (Y/N with remarks)
1	Speed 10Gbps	
2	Single Mode	
3	Make: same as switch OEM	
4	Distance: 10KM	

Item No.12 "10G MM Transceiver":

SNo	10G MM Transceiver (Access to Distribution) - Minimum Specifications	Compliance (Y/N with remarks)
1	Speed 10Gbps	
2	Multimode	
3	Make: same as switch OEM	
4	Distance: 550 meters	

SNo	100G DAC Cable for (Core-to-Core HA) - Minimum Specifications	Compliance (Y/N with remarks)
1	Speed 100Gbps	
2	Type: DAC	
3	Make: same as switch OEM	
4	Compatibility: Core switch	

Item No.13 "8-Port PoE+ Access Switch":

S.No	8 Port PoE+ Access Switch - Technical Specifications	Compliance (Y/N with remarks)
1	**General Features :**	
a	Switch should be 1U and rack mountable in standard 19" rack.	
b	Switch shall have 8 nos. 10/100/1000 Base-T PoE+ ports with minimum 2 nos. SFP+ dedicated user uplinks ports from Day 1.	
c	All 24 ports should support PoE (802.3af) and PoE+ (802.3at) with a total PoE power budget of 240W from day-1.	
d	Switch should have minimum 2 GB RAM	

	e	Should support a minimum 128 Gbps of stacking throughput per switch, with up to 4 switches in a single stack. Required modules and cables to be provided from Day 1					
	f	Dynamic Host Configuration Protocol (DHCP) snooping					
	g	Switch should support internal field replaceable unit redundant power supply from day 1.					
	2	**Performance :**					
	a	Switch shall have minimum 128 Gbps of switching fabric and 95 Mpps of forwarding rate.					
	b	Switch shall have minimum 15K MAC Addresses and 4k VLANs.					
	c	Should support minimum 10K IPv4 routes or more **and 5K IPv6 routes or more**					
	d	Switch shall have 1K or more multicast routes.					
	e	Switch should support at least 15K flow entries					
	f	Switch should support 128 or more STP Instances.					
	g	Switch should have a 6MB or more packet buffer, if the forwarding and control plane are not separate.					
	3	**Functionality :**					
	a	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.					
	b	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1					
	c	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.					
	d	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .,SSL,SFTP					
	e	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.					
	f	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment from Day 1					
	g	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.					

h	During system boots, the system's software signatures should be checked for integrity. System should be capable of understanding that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.					
4	**Certification:**					
a	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.					
b	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.					
c	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.					
d	The switch should be IPv6 ready logo certified from day1					
5	**Security**					
a	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail					
b	Protection from unnecessary or DoS traffic by using storm control functions for unicast/multicast/broadcast.					
c	Storm control (multicast, and broadcast)					
d	Dynamic Host Configuration Protocol (DHCP) snooping or Equivalent					
e	BPDU Protection or Equivalent					
f	STP Root Protection/Equivalent					
g	Dynamic ARP Inspection					
h	IP/MAC/PORT Binding					
Specify scope of warranty :						

ANNEXURE –VIII

COMPANY DETAILS

Name of the bidder		
Date of Incorporation / Registration details		
PAN Number		
GST Registration Number		
Bidder's Bidding Capacity for the tendered items (As a Manufacturer/ Trader/ dealer / channel partner / system integrator, etc.)		
Bank Details	**Account Number**	
	IFS Code	
	Bank Name	
	Branch Name	
Registered Office Address		
Authorized Signatory Details (Company/Firm Authorization by the competent authority, to be attached)	**Name**	
	Designation	
	Email	
	Phone	
Details of Contact other than Authorized Signatory	**Name**	
	Designation	
	Email	
	Phone	

Date: **Signature and Seal of the Tenderer:**

Place: **Name in Block Letter:**

Designation:

Contact no.

ANNEXURE-IX

Format for submitting the queries through email to IIT Tirupati

QUERIES RELATED TO THE TENDER DOCUMENT MAY BE FORWARDED TO mahendran@iittp.ac.in AS PER THE BELOW FORMAT OF ANNEXURE-IX

Tender No. IITT/CC/2022-23/18 dated: 12-05-2022.

Name of the Tender/Supply: Notice Inviting Tender for Supply, installation, testing and Commissioning of Wired Active Components.

S No	Tender Clause No	Bidder(s) queries	IIT Tirupati response

Signature and Seal of the Tenderer:

Name in Block Letter:
Designation:
Full Address:
Contact no.:
Date:

ANNEXURE-X

CHECKLIST FOR BIDDERS TO BE SUBMITTED IN DULY FILLED AND SIGNED

Tender Clause No.	Name of the Document	Document Particulars	Submitted (Yes/No)	Page No. of the attached Document
3.1	Tender Fee			
3.4	Bid security Declaration (Annexure-II)			
3.3	Valid Tender Fee / EMD Exemption Certificate			
4.1.	PAN Card			
	Incorporation/Registration certificate of company			
	GST Registration copy			
4.2.(I)	Tender acceptance letter (Annexure I)			
4.2.(II)	Non-Blacklisting undertaking (Annexure III)			
4.2.(III)	Similar deployment in India – OEM should have deployed wired networking solutions in at least 3 large CFTIs/publicly listed large enterprise with minimum 250 switches and 5000 LAN nodes and integration with the existing Data centre consisting of 100 compute nodes. All deployments should be successfully working for a minimum of one year as on the date of the bid. Proof to be submitted in the form of Purchase orders/completion certificate from end customer along with contact details of end customer (for verification by IIT). The said items should have supplied during past three financial years **i.e. during 2017-18 to 2019-20 or 2018-19 to 2020-21.** Vendor should provide satisfactory installation certificates with product details as proof with customer contacts email and phone number as per the **Annexure-IV.**			
4.2.(IV)	The Annual Turnover should be at least **Rs. 2 Crores** and be profitable during each of the previous three financial years **i.e. during 2017-18 to 2019-20 or 2018-19 to 2020-21.** Audited financial Statements or Financial Statements showing turnover duly signed by a Chartered Accountant are to be submitted as per the Annexure-V.			
4.2.(V)	The bidder should be a Class-I/Class in line with the Public Procurement (Preference to Make in India) Order 2017 No. P-45021/2/2017-PP (BE-II) dated 04 Jun 2020. A Self-Declaration Certificate regarding "Class-I & Class-II Supplier" for the tendered items as per the Annexure-VI is to be submitted.			
4.2.(VI)	The bidder should be OEM or OEM authorized Dealers / Channel partners / Distributors of reputed brand having authorization for sales and after sales			

	support. Valid tender specific OEM authorization letter is required to participate in this tender.			
2	OEM should provide an **undertaking** that the proposed models will not be declared end of life for the next 2 years and spares support for the models offered will be available for a period of 7 years from the date of bid submission			
4.2.(VII)	Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder registered with the competent authority. The concerned bidder(s) are required to attach the relevant valid Registration Certificate along with the bid for consideration.			
4.3	Technical Compliance Statement : Annexure-VII.			
11.1 (I)	Purchase Preference: (if applicable) Micro and Small Enterprises (MSEs):			
11.2 (II)	Purchase Preference: Make in India			
12	Payment Term: Within 30 days after SITC.			
13.	**Onsite Warranty:** Minimum **03 Years onsite warranty as per the scope mentioned in the tender**			
13	**2 years AMC (as per the scope mentioned in the tender) m**ay be quoted as an optional in the BoQ.			
15	Delivery: FOR IIT Tirupati within **16 weeks**			
8	Bid validity: 90 days from the date of opening of the tender			
17	**Self-declaration certificate for acceptance** and compliance with the Integrity Agreement as per **Annexure XI**.			
	Company details : Annexure-VIII			
18	Site Visit Declaration : Annexure-XIII			

Note:

1) **Submission of tender without the above mentioned documents will lead to rejection/disqualification of the tender.**
2) **It is mandatory for the bidder to assign page numbers to the tender documents and the same has to be mentioned in the above checklist.**

Signature of the bidder with stamp

ANNEXURE- XI

INTEGRITY PACT

To,

The Registrar,
Indian Institute of Technology,
Tirupati.

Sub: Submission of Tender for the _____ at Indian Institute of Technology, Tirupati.

Sir/ Madam,

I/We acknowledge that the Indian Institute of Technology, Tirupati is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by Indian Institute of Technology, Tirupati. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, Indian Institute of Technology, Tirupati shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid is accordance with terms and conditions of the tender/ bid.

Yours faithfully,

(Duly authorized signatory of the Bidder)

ANNEXURE- XII

INTEGRITY PACT

This **INTEGRITY PACT** is made and executed at..... on this day of..... , 2022

BETWEEN

The Registrar, Indian Institute of Technology Tirupati, an autonomous body of the Department of Higher Education, Ministry of Education, Govt, of India having its office located at Yerpedu – Venkatagiri Road, Yerpedu Post, Tirupati District, Andhra Pradesh - 517619 (hereinafter referred to as **"The Principal"** which terms or expression shall, unless excluded by or repugnant to the subject or context, mean and include its successor-in-office, administrators or permitted assignees) of the **First Part;**

And

M/s..... a company incorporated under the Companies Act,..... through its representative/authorized signatory (insert name and designation of the officer) vide resolution dated ..... passed by the Board of Directors, having its office at .....(hereinafter referred to as "The Bidder/Contractor" which term or expression shall, unless excluded by or repugnant to the subject or context, mean and include its successor-in-office, administrators or permitted assignees) of the **Second Part**.

Preamble

The Principal intends to award, underlaid down organizational procedures, contract/s for _____ The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness / transparency in its relations with its Bidders) and / or Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitors (IEMs) who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 - Commitments of the Principal

(1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

a. No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

b. The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

c. The Principal will exclude from the process all known prejudiced persons.

(2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there is a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition, can initiate disciplinary actions.

Section 2 - Commitments of the Bidder(s)/ Contractor(s)

(1) The Bidder(s)/ Contractor(s) commit themselves to take all measures necessary to prevent corruption. The Bidder(s)/ Contractor(s) commit themselves to observe the following principles during participation in the tender process and during the contract execution.

a. The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

b. The Bidders(s)/ Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

c. The Bidder(s)/ Contractor(s) will not commit any offense under the relevant IPC/PC Act; further the Bidders(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

d. The Bidder(s)/ Contractors(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly, the Bidder(s)/Contractors(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s)/Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent/representative have to be in Indian Rupees only

e. The Bidder(s)/ Contractor(s) will, when presenting their bid, disclose any and all payments made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

f. Bidder(s) /Contractor(s) who have signed the Integrity Pact shall not approach the Courts while representing the matter to IEMs and shall wait for their decision in the matter.

(2) The Bidders)/ Contractors) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2, above or in any other form such as to put their reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process or take action as per the procedure mentioned in the "Guidelines on Banning of business dealings.

Section 4 - Compensation for Damages

(1) If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/Bid Security.

(2) If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amount equivalent to Performance Bank Guarantee.

Section 5 - Previous transgression

(1) The Bidder declares that no previous transgressions occurred in the last three years with any other Company in any country conforming to the anti-corruption approach or with any Public Sector Enterprise in India that could justify his exclusion from the tender process.

(2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in "Guidelines on Banning of business dealings".

Section 6 - Equal treatment of all Bidders / Contractors / Subcontractors

(1) In the case of Sub-contracting, the Principal Contractor shall take the responsibility for the adoption of the Integrity Pact by the Sub-contractor.

(2) The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.

(3) The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate this provisions.

Section 7 - Criminal charges against violating Bidder(s) / Contractors) / Subcontractor(s)

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Section 8 - Independent External Monitor

(1) The Principal appoints a competent and credible Independent External Monitor for this Pact after approval by Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

(2) The Monitor is not subject to instructions by the representatives of the parties and performs his/her functions neutrally and independently. The Monitor would have access to all Contract documents, whenever required. It will be obligatory for him/her to treat the information and documents of the Bidders/Contractors as confidential. He/she reports to Secretary, MoE.

(3) The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his/her request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to Sub-contractors.

(4) The Monitor is under contractual obligation to treat the information and documents of the Bidders)/ Contractor(s)/ Sub-contractor(s) with confidentiality. The Monitor has also signed declarations on

'Non-Disclosure of Confidential Information and of 'Absence of Conflict of Interest'. In case of any conflict of interest arising at a later date, the IEM shall inform Secretary, D/o Higher Education.

(5) The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

(6) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he/she will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

(7) The Monitor will submit a written report to the Secretary, D/o Higher Education within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

(8) If the Monitor has reported to the Secretary, D/o Higher Education, a substantiated suspicion of an offence under relevant I PC/ PC Act, and the Secretary, MoE has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.

(9) The word **'Monitor'** would include both singular and plural.

Section 9 - Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealing.

If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by Secretary, D/o Higher Education.

Section 10 - Other provisions

(1) This agreement is subject to Indian Law. The place of performance and jurisdiction is the Office of the Principal, i.e. New Delhi.

(2) Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

(3) If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

(4) Should one or several provisions of this Pact turn out to be invalid, the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement with their original intentions.

(5) Issues like Warranty / Guarantee etc. shall be outside the purview of IEMs.

(6) In the event of any contradiction between the Integrity Pact and its Annexure, the Clause in the Integrity Pact will prevail.

(7) The actions stipulated in this Integrity Pact are without prejudice to any other legal action(s) that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

IN WITNESS WHEREOF, the parties hereunto set their hands and seals and executed this INTEGRITY PACT as of the day/month/year first above written:

For and on behalf of

THE REGISTRAR,
Indian Institute Technology Tirupati (First Party)
SIGNED, SEALED, AND DELIVERED by
Name:.....
Designation:.....
Address:.....
Authorized Signatory

For and on behalf of
M/s.....(Second Party)
SIGNED, SEALED AND DELIVERED by

Name_____
Designation:.....
Address:.....
Representative/authorized signatory
Vide resolution dated..... passed by the Board of Directors
In the presence of Witness:

1.

2.

ANNEXURE- XIII

Format for Self-Declaration of Site-Visit of IIT Tirupati

I_____(Name of the authorized person) hereby certify that we M/s. _____ _____ (supplier name) have visited the campus of IIT Tirupati to familiarize with the various element and quality level of services that are required to be rendered as per the tender Enquiry No. IITT/CC/2022-23/18 dated: 12.05.2022.

Signature and Seal of the Tenderer:

Name in Block Letter:
Designation:
Full Address:
Contact no.:
Date: