



F.no: 5-691/2025-26/NetworkConnectivity/A.III

Dated:29.09.2025

NOTICE INVITING TENDER FOR WORK ESTABLISHING OPTICAL FIBRE CONNECTIVITY TO NEW BUILDINGS, ESTABLISHING/ENHANCING LAN, WI- FI AND CCTV CAMERAS IN NAARM RAJENDRANAGAR

The Director, ICAR-NAARM invites Bids from the interested bidders to work to establish optical fibre connectivity to new buildings (Farmers Hostel, Girls Hostel and New Faculty Building), establishing/enhancing LAN, Wi-Fi and CCTV cameras in NAARM Rajendranagar. The bidders are requested to submit the bids online on GeM Portal.

Important dates related to submission of tender as under:

Tender Publishing Date & Time	30-Sep-2025	2:00 PM
Pre-Bid Meeting	03-Oct-2025	11:00 AM
Bid Submission Start Date & Time	06-Oct-2025	11:00 AM
Bid Closing Date & Time	06-Nov-2025	5:00 PM

The tender contains the following Parts:

- Schedule I** - Scope of Work of the Tender & Details of Requirements
- Schedule II** - Specifications of Requirements cum compliance form
- Schedule III** - Bidder Eligibility conditions
- Schedule IV** - Terms and conditions

Annexure A, B, C & D which are to be submitted by bidder with signs and stamp along with Technical Bid.

****The link for online Pre-Bid meeting will be shared on NAARM website (www.naarm.org.in) by 1-Oct-2025**

SCOPE OF WORK

A. Installation of OFC cable in the routes as decided by the Academy, commissioning and testing the network connections at all buildings, installation of switches, patch panels, patch cords; Numbering existing network cables and connecting them to the switches and testing the connectivity at the end points; installation of Wifi access points, CCTV and other accessories at strategic places so as to reduce the wiring costs. The bidder should show that all components are installed and configured as per the IT policy of the Academy. In case of any short- fall in the BOQ materials, the bidder should inform the IT Section of the Academy to revise the quantity. With respect to the items where quantity required mentioned as per actuals, the Academy will appoint its employees to measure in the presence of the bidder and the values finalized will only be considered.

B. There are 3 new buildings in the Academy which are New Faculty Center, Girls Hostel and Farmers' Hostel.

For the 2 buildings, i.e Girls Hostel and Farmers' Hostel, only LAN Cablings with termination at the individual points are there and these cablings needs to be terminated with LAN switches.

There is also limited provision for inlets for Wi-Fi/CCTV points in these places.

The existing Wi-Fi connections in all other office buildings as well as guest houses are to be increased.

C. Work is to be carried out in following three (3) phases

- I. Provisioning, Installation and Commissioning to Establish connectivity to the building and configuring the necessary uplink switches.
- II. Provisioning, Installation and Commissioning of Wi-fi Devices and required cabling and
- III. Provisioning, Installation and Commissioning of CCTV and its accessories.

D. The work should be completed in about 45 days from the award of the contract.

**In case of any technical queries related to the tender the bidder may please contact
Dr. A. Dhandapani, HoD ICM NAARM, e-mail : dhandapani@naarm.org.in**

SCHEDULE – I (CONTD.)

DETAIL OF REQUIREMENTS

PHASE I OF THE WORK : PROVISIONING, INSTALLATION AND COMMISSIONING TO ESTABLISH CONNECTIVITY TO THE BUILDING AND CONFIGURING THE NECESSARY UPLINK SWITCHES

The following buildings are to be connected to 12 Core Optic Fiber Cables. The cabling should be done underground along the road/pavement with clear markings so that they are not disturbed in any future work. All the cables should be laid within HDPI pipes with a minimum depth of 1 meter. After digging and laying of the cables, the earth should be refilled and smoothed. At the road crossing, after levelling the same should be filled with concrete and leveled. In case of any disturbance to established Lawns or any other places (such as holes in the walls of the building), necessary repair/repainting must be done.

The OFC Routes are given in table below:

Starting Building	Termination Building
Siddhartha Halls of Residence (A)	Pratibha Girls Hostel (B)
Siddhartha Halls of Residence (A)	Old Press Building (C)
Pratibha Girls Hostel (B)	Indoor Stadium (E)
Indoor Stadium (E)	Farmers Guest House (F)
Farmers Guest House (F)	Farm Office (G)

REQUIREMENTS FOR PHASE I:

S.No.	Description*	Specification	Qty	Unit
1	24 10/100/1000BASE T PoE ports 2x 10G BASE T ports 4 x 10G SFP ports L3 Stackable Managed Switch	Schedule II.A	3	Nos
2	24 10/100/1000BASE T ports 2 x 10GBASE T ports 4 x 10G SFP+ ports L3 Stackable Managed Switch	Schedule II.B	8	Nos
3	Transceivers 10GBase-LR Single-Mode, 10KM	Schedule II.C	28	Nos
4	Transceivers 1GBase-LX Single-Mode, 10KM	Schedule II.D	32	Nos
5	O F Cable 12F Outdoor Armoured Unitube SM HDPE Sheath	Schedule II.E	1800	Mtrs
6	LIU 12 Port Rack Mount Loaded SC SM Including Pigtails	Schedule II.F	10	Nos
7	LIU 24 Port Rack Mount Loaded SC SM Including Pigtails	Schedule II.G	2	Nos
8	OFC PATCH CORD LCSC SM DUPLEX LENGTH 2M	Schedule II.H	30	Nos
9	HDPE Pipe	Schedule II.I	1600	Mtrs
10	Digging and Refilling of soft soil*	-	1600	Mtrs
11	Digging and Refilling of Road crossing for GI Pipe*	-	200	Mtrs

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12	Digging and Refilling of hard Soil*	-	500	Nos
13	GI Pipes 20 Feet lengths with cuplings	Schedule II.J	60	Nos
14	Splicing of OFC Cores	-	96	Nos
15	Cast IRON OFC Markers at 50 m distance	Schedule II.K	30	Nos
16	Laying of OFC cable in HDPE pipe*	-	1600	Mtrs
17	12 U Racks with Minimum 550 mm width	Schedule II.X	6	Nos

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PHASE II OF THE WORK : PROVISIONING, INSTALLATION AND COMMISSIONING OF WI-FI DEVICES AND REQUIRED CABLING

Provisioning, Installation and Commissioning of 107 high-end Wi-Fi Access points and 12 Low-end Access points as per table below along with required additional switches, cabling.

Name of the Building	Number of Devices to be installed
High-End Access Points	
Siddhartha Halls of Residence	18
IGH-I	4
IGH-II	5
Pratibha Girls Hostel	12
Farmers Hostel	2
Vigyan Faculty Center	22
New Faculty Center	25
KV Raman Faculty Building	8
NK Ananta Rao Administrative Building	6 (GF & FF: 3; Conference Hall: 2 and Committee Hall: 1)
Director's Office	2 (Committee Room: 1; Lobby: 1)
MS Swaminathan Auditorium	3 (Inside: 2; Outside: 1)
Total	107
Low-End Access points	
Farmers Hostel	10
Scientist Home	2
Total	12

REQUIREMENTS FOR PHASE II:

S.NO.	Description	Specifications	Qty	UOM
1	AX3000 Wi-Fi 6 Dual Band PoE Indoor Access Point Model	Schedule II.L	107	Nos
2	AX3000 Routers 1800Mbps	Schedule II.M	12	Nos
3	Software / Hard ware Wireless Controller with 500 or more Access Points Licenses	Schedule II.N	1	Nos
4	8Ports 10/100/1000Mbps PoE 2Ports SFP 100/1000Mbps Managed Switch 130Watts	Schedule II.O	16	Nos
5	CAT6A Cable Bundle 305 Mtrs	Schedule II.P	24	Nos
6	CAT6A 24 Port Patch Panel fully loaded	Schedule II.Q	10	Nos
7	CAT6A Information outlets with Backbox and Single surface plate	Schedule II.R	120	Nos
8	CAT6A One meter Patch cords	Schedule II.S	120	Nos
9	PVC Casing 50mm*	-	4000	Mtrs
10	Laying of PVC Casing*	-	4000	Mtrs
11	Laying of CAT6A Cable*	-	6600	Mtrs
12	Testing and Commissioning of WiFi	-	1	Set

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PHASE III OF THE WORK : INSTALLATION OF CCTV AND ITS ACCESSORIES

Provisioning, Installation and commissioning of 40 (20 indoor and 20 outdoor) CCTV cameras to cover the places as mentioned in Table 3 along with required cabling, switches and recording devices.

Name of the Building	Number of Devices to be installed
Outdoor Units	
Prathibha Girls Hostel (2 per each side)	8
Prathibha Girls Hostel Entrance	2
Farm Office	3
Old Press Building Side Gate	2
Farmers Guest House – Entrance	1
Farmers Guest House Outside Walls	3
New Faculty Center Outside	1
Total	20

Name of the Building	Number of Devices to be installed
Indoor Units	
Prathibha Girls Hostel Lobby	1
Prathibha Girls Hostel Dining	1
Prathibha Girls Hostel Kitchen	1
Prathibha Girls Hostel Ground Floor Staircase	1
Farmers Hostel Lobby	1
Farmers Guest House – Staircases	3
Farmers Guest House– Classroom/Dining	2
Vigyan Faculty Center – Way to New Faculty Center	4
New Faculty Center – Corridors/other places	6
Total	20

REQUIREMENT FOR PHASE - III

S.NO.	Description	Specifications	Qty	UOM
1.	8Ports 10/100/1000Mbps PoE 2Ports SFP 100/1000Mbps Managed Switch 130Watts	Schedule II.O	8	Nos
2.	CAT6A Cable Bundle 305 Mtrs	Schedule II.P	3	Nos
3.	5MP Fixed Outdoor Bullet Cameras	Schedule II.T	20	Nos
4.	5MP Fixed Indoor Bullet Cameras	Schedule II.U		
5.	32 Channal NVR with 4 SATA	Schedule II.V	1	Nos
6.	8TB Surveillance Hard Drives	Schedule II.W	2	Nos
7.	PVC Casing 50mm*	-	750	Mtrs
8.	Laying of PVC Casing*	-	750	Mtrs
9.	Laying of CAT6A Cable*	-	900	Mtrs
10.	Testing and Commissioning of CCTV	-	1	Set

SPECIFICATIONS OF THE ITEMS

A. Technical Specification for 24 ports 10/100/1000 PoE 24x SFP Ports, 2X 10GBase-T, 4X 10G SFP – L3 stackable managed switch

Brand and Model Name:

Country of Origin:

Rack Height:

OEM Technical Specification Document Link:

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	OEM MAF Authorization letter Included	
2	OEM: Country of Origin: Non-MIC	
3	OEM/Switch/OS should have IEC 62443 or equivalent Cyber security standard compliance	
4	Quoted Model is latest and not End of Sale or going to be End of Sale in next 6 months Certificate from OEM	
5	OEM should have L2 & L3 technical support(TAC) in India and able to provide NBD Support at Hyderabad	
6	LAN Ports: Min 24 x 1GbE RJ45 PoE+ Ports, 2 x 10G Base-T RJ45 Ports	
7	LAN Ports: 4 x 10G SFP+ dedicated Fiber Ports	
8	All Ports license enabled/activated from day one	
9	RJ 45 Management Port	
10	Dual/Redundant Power Supply Support	
11	Physical Stacking: Support upto 8 switches or higher	
12	Switching Bandwidth: Min 168 Gbps or higher;Upto 80 Gbps stacking bandwidth or better	
13	DRAM - Min 2GB or higher	
14	PoE: IEEE 802.3af Power over Ethernet (PoE)/ 802.3at Power over Ethernet (PoE+)	
15	PoE: Minimum 370W or higher PoE Power Budget	
16	Layer 3 Feature: Address Resolution Protocol	
17	Layer 3 Feature: IPv4 & IPv6 DHCP Server and Relay	
18	Layer 3 Feature: Min 128 or More IPv4 & v6 SVI/VLAN Interfaces	
19	Layer 3 Feature: Policy based Routing	
20	Layer 2 Feature: Minimum 16K or higher MAC Address	
21	Layer 2 Feature: IEEE 802.3ad Link Aggregation	
22	Layer 2 Feature: Minimum 4K Active VLANs	
23	Layer 2 Feature: IEEE STP, RSTP & MSTP	
24	Layer 2 Feature: Port Mirroring	

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25	Layer 2 Feature: IGMP & MLD Snooping	
26	Layer 2 Feature: Loop Detection in downstream switches	
27	Security: IEEE 802.1X and RADIUS network logins – Port & Host based	
28	Security: RADIUS & TACACS+ IPv4 & IPv6	
29	Security: Authentication for Management Access, Password Encryption	
30	Security: ARP Spoofing Prevention, STP root guard, Port Security, DAD(Duplicate Address Detection)	
31	Management: Web browser-based management	
32	Management: Secure Web-management sessions with HTTPS(TLS1.2) or better	
33	Management: IEEE 802.1AB Link Layer Discovery Protocol (LLDP)	
34	Management: IPv4/v6 Dual Stack	

B. Technical Specification for 24 port 10/100/1000 24x SFP Ports, 2X 10GBase-T, 4X 10G SFP – L3 stackable Managed switch

Brand and Model Name:

Country of Origin:

Rack Height:

OEM Technical Specification Document Link:

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	OEM MAF Authorization letter Included	
2	OEM: Country of Origin: Non-MIC	
3	OEM/Switch/OS should have IEC 62443 or equivalent Cyber security standard compliance	
4	Quoted Model is latest and not End of Sale or going to be End of Sale in next 6 months Certificate from OEM	
5	OEM should have L2 & L3 technical support(TAC) in India and able to provide NBD Support at Hyderabad	
6	LAN Ports: Min 24 x 1GbE RJ45 PoE+ Ports, 2 x 10G Base-T RJ45 Ports	
7	LAN Ports: 4 x 10G SFP+ dedicated Fiber Ports	
8	All Ports license enabled/activated from day one	
9	RJ 45 Management Port	
10	Dual/Redundant Power Supply Support	
11	Physical Stacking Support upto 8 switches or higher	
12	Switching Bandwidth: Min 168 Gbps or higher; Upto 80 Gbps stacking bandwidth or better	

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13	DRAM - Min 2GB or higher	
14	Layer 3 Feature: Address Resolution Protocol	
15	Layer 3 Feature: IPv4 & IPv6 DHCP Server and Relay	
16	Layer 3 Feature: Min 128 or More IPv4 & v6 SVI/VLAN Interfaces	
17	Layer 3 Feature: Policy based Routing	
18	Layer 2 Feature: Minimum 16K or higher MAC Address	
19	Layer 2 Feature: IEEE 802.3ad Link Aggregation	
20	Layer 2 Feature: Minimum 4K Active VLANs	
21	Layer 2 Feature: IEEE STP, RSTP & MSTP	
22	Layer 2 Feature: Port Mirroring	
23	Layer 2 Feature: IGMP & MLD Snooping	
24	Layer 2 Feature: Loop Detection in downstream switches	
25	Security: IEEE 802.1X and RADIUS network logins – Port & Host based	
26	Security: RADIUS & TACACS+ IPv4 & IPv6	
27	Security: Authentication for Management Access, Password Encryption	
28	Security: ARP Spoofing Prevention, STP root guard, Port Security, DAD(Duplicate Address Detection)	
29	Management: Web browser-based management	
30	Management: Secure Web-management sessions with HTTPS(TLS1.2) or better	
31	Management: IEEE 802.1AB Link Layer Discovery Protocol (LLDP)	
32	Management: IPv4/v6 Dual Stack	

C. Technical Specification for Transceivers 10G Base-LR Single Mode, 10 KM

Brand and Model Name:

OEM Technical Specification Document Link:

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	Type: 10G Base -LX (SM) Transceiver	
2	Standard Compliance: Interoperable with IEEE-Compliant 10GBASE-LR	
3	Standard Compliance: IEEE-802.3ae	
4	Fibre Media: Single Mode	
5	Distance: 10 KM	
6	Speed: 10Gpbs	
7	Interoperable with switches quoted?	

SCHEDULE – II(CONTD.)

D. Technical Specification for Transceivers 1G Base-LR Single Mode, 10 KM

Brand and Model Name:

OEM Technical Specification Document Link:

Sr. No.	Desired Specifications	Compliance(Yes/No)
1	Type: 1000BASE-LX (SM) Transceiver	
2	Standard Compliance: : Interoperable with IEEE-Compliant 1 GBASE-LR	
3	Standard Compliance: IEEE-802.3ae	
4	Fibre Media: Single Mode	
5	Distance: 10 KM	
6	Speed: 1Gpbs	
7	Interoperable with switches quoted?	

E. Technical Specification for Outdoor OFC Cable Armored HDPE Sheath 12 Core

Brand and Model Name:

Country of Origin:

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	Type: Armored	
2	Type: Outdoor	
3	Cores: 12 Core	
4	Jacket: HDPE	
5	Standard: ISO : 11801, IEC 60793-1/60794-1-2	

F. Technical Specification for LIU 12 Port Rack Mounted Loaded SC SM including pigtails

Brand and Model Name:

Country of Origin:

OEM Technical Specification Document Link:

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	Ports: 12	
2	Fully Loaded with Single Mode SC SM including pigtails	
3	Pigtail Type & Length: Single Mode SC Pigtail - 1Mtr	
4	Pigtail : Cable: 9/125, SM; Types : SC Type Simplex	
5	Rack Size: 1U	
6	Capable of storing up to 3mtr of 900micron tight buffered fibre per adapter	
7	Removable front and top covers for better access to interior of LIU	
8	Included Mounting accessories	

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G. Technical Specification for LIU 24 port Rack mounted Loaded SC SM including pigtails

Brand and Model Name:

Country of Origin:

OEM Technical Specification Document Link:

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	Ports: 24	
2	Fully Loaded with Single Mode SC SM including pigtails	
3	Pigtail Type & Length: Single Mode SC Pigtail - 1Mtr	
4	Pigtail : Cable: 9/125, SM; Types : SC Type Simplex	
5	Size: 19" Rack Mount; 1U	
6	Capable of storing up to 3mtr of 900micron tight buffered fibre per adapter	
7	Removable front and top covers for better access to interior of LIU	
8	Included Mounting accessories	

H. Technical Specification for OFC Patch Cord Duplex 2m length

Brand and Model Name:

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	Type: Single Mode SC-LC Duplex Patch Cord	
2	Pre-radiuses and pre-polished ferrule	
3	Duplex Type	
4	Color-coded yellow	
5	Length: 2 Meter	
6	Cable: 9/125, SM	

SCHEDULE – II(CONTD.)

I. Technical Specifications of HDPE Pipes for OFC Cables

Make/Model (if any):

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	Type: HDPE	
2	Diameter: 1-Inch or more; Able to accommodate OFC Cables (one or more depending on the route)	

J. Technical Specification for GI Pipes 20 feet lengths with couplings for Road

Crossing Make/Model (if any):

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	Type: Galvanized Iron	
2	Diameter: 1-Inch or more; Able to accommodate OFC Cables (one or more depending on the route)	
3	Class: A	

K. Technical Specification for Cast Iron OFC Markers at 50 meters distance

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	Type: Cast Iron	
2	Diameter: 100mm (4 inch)	
3	Mount Type: Grounded	
4	Surface Finishing: Power Coated	

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L. Technical Specifications for Wi-Fi 6 Dual Band PoE 3000Mbps Indoor Access Point

Brand and Model Name:

Country of Origin:

OEM Technical Specification Document Link:

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	OEM MAF Authorization letter Included	
2	OEM: Country of Origin: Non-MIC	
3	OEM/Switch/OS should have IEC 62443 or equivalent Cyber security standard compliance	
4	Quoted Model is latest and not End of Sale or going to be End of Sale in next 6 months Certificate from OEM	
5	OEM should have L2 & L3 technical support(TAC) in India and able to provide NBD Support at Hyderabad	
6	Interface: 1 x RJ45 console port, 1 x 2.5 Gbps Ethernet LAN (PoE), factory reset button, power input	
7	Antennas: 4 x internal antennas	
8	Operating Frequency: 2.4 GHz and 5 GHz	
9	Data Signal Rate: Up to 575 Mbps for 2.4 GHz, up to 2401 Mbps for 5 GHz	
10	Standard Compliant: IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, IEEE 802.11n, IEEE 802.11ac and 802.11ax	
11	Standard Compliant (Energy): IEEE 802.3ab, IEEE 802.3az	
12	Standard Compliant (PoE): 802.3at/802.3af	
13	Minimum Flash memory of 1 GB and RAM of 4 GB	
14	Feature: Capable of working in Stand-Alone and managed mode with WLAN Controller	
15	Feature: Works as AP; WDS; WDS with AP	
16	Security: WPA/WPA2/WPA3 Personal/Enterprise	
17	Security: Support Internal RADIUS server	
18	Security: Support for LDAP, POP3 and external Radius Server for authentication	
19	Security: MAC address Access Control	
20	Management: http/https based management	
21	Management: Backup/restore AP configuration through web GUI	
22	Warranty: 3 Years On-Site Warranty	

M. Technical Specifications for 1800 Mbps Wireless Router Tender Specifications

Brand and Model Name:

Country of Origin:

OEM Technical Specification Document Link:

Specifications	Detailed Description	Compliance (YES/NO)
OEM	OEM MAF Authorization letter Included	
	OEM: Country of Origin: Non-MIC	
	OEM/Switch/OS should have IEC 62443 or equivalent Cyber security standard compliance	
	Quoted Model is latest and not End of Sale or going to be End of Sale in next 6 months Certificate from OEM	
Interfaces	OEM should have L2 & L3 technical support(TAC) in India and able to provide NBD Support at Hyderabad	
	4 x Gigabit Ethernet LAN port	
	1 x power connector (Should have power on/off button)	
	1 x WPS button	
Operation Modes	Router mode	
	Access Point mode	
	Wireless Extender mode	
Management	Should have Android and IOS APP For Management	
	Should have WEB GUI Management	
Wireless Standard	IEEE 802.11ax WiFi6 Standard and Should be Backward Compatible	
Antenna	Should have Atleast 5 x internal antennas	
Wi-Fi Data Rate	5 GHz: 1201 Mbps	
	2.4 GHz: 574 Mbps (802.11ax)	
Mesh	Should support Mesh Network (Atleast Four Router should be configurable in Mesh for Seamless Roaming)	
Power Saving	Should Support Target Wake Time (TWT)	
Access Control	Should have Parental Control Feature	

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VPN Pass-Through	Should support L2TP, PPTP, IPSec	
Security Protocol	WPA2 - Personal	
	WPA2/WPA3 – Personal	
	WPA3 Only	
	WPA/WPA2-Personal	
Memory	128MB Flash Or Better	
	512MB RAM Or Better	
Certifications	MTCTE, CE, FCC	
OEM Criteria	Country of Origin: Non-MIC	
	OEM/Bidder should have ISO 9001 Certification for Quality Management System, ISO 27001 Certification for Information Security Management System, ISO 45001 Certification Health and Safety Management System and ISO 14001 Certification for Environmental Management System.	
	The offered model should be latest. End of Sale or Model going to be End of Sale in next 6 months should not be quoted.	
	OEM should have L2 & L3 technical support(TAC) in India and Repair centre in Telangana, Should have Service Center Registration Copy On OEM Name (Property Tax / Electricity Bill / Telephone Bill / Registration agreement) for Service Center in Telangana.	
	Should submit MAF from OEM for authorization	
Warranty	Minimum 3 Years Warranty	
	Bidder should have registered Head/Branch office and support team in Telangana	

SCHEDULE – II(CONTD.)

N. Technical Specifications for Software/Hardware based Wireless Controller with 500 or more access points licenses

Brand and Model Name:

Country of Origin:

OEM Technical Specification Document Link:

Software or Hardware (Specify)

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	Software Controller: Should Support both Windows & Linux platform	
2	Number of AP Licenses included: Min: 500	
3	Max AP supported: 1500 AP management per platform including all Licenses	
4	Management: Manage multiple APs behind NAT device over internet	
5	Management: Web based management (HTTPS)	
6	Management: Support External syslog server	
7	Management: Should support layer 2 and layer 3 AP discovery	
8	Traffic: All traffics between AP and controller must be encrypted	
9	Authorization: Multi-tenant authorization structure	
10	Configuration: Support System Configuration/Log backup and Configuration restore	
11	Update: Configuration/firmware update by scheduling	
12	Update: Firmware upgrade over the Air (FOTA) for AP	
13	Authentication: Should support Captive portal for guest Authentication	
14	Authentication method for captive portal: Web Redirection only	
15	Authentication method for captive portal: username / password	
16	Authentication method for captive portal: Remote RADIUS	
17	Authentication method for captive portal: LDAP	
18	Authentication method for captive portal: MAC Address	
19	Captive portal page customization	
20	Hotspot printing	

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21	Should support Topology View	
22	Should support Floor Plan	
23	Should support Multiple SSID with VLAN, Captive portal with multiple SSID and VLAN	
24	Should support Wireless on/off by scheduling	
25	Should support REST API	
26	Access Points quoted in (Annexure 14 & 15) and Controller should be from same OEM	

O. Technical Specification for 8 ports 10/100/1000 Mbps PoE 2 ports SFP 100/1000 Mbps managed switch

Brand and Model Name:

Country of Origin:

Rack Height:

OEM Technical Specification Document Link:

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	OEM MAF Authorization letter Included	
2	OEM: Country of Origin: Non-MIC	
3	OEM/Switch/OS should have IEC 62443 or equivalent Cyber security standard compliance	
4	Quoted Model is latest and not End of Sale or going to be End of Sale in next 6 months Certificate from OEM	
5	OEM should have L2 & L3 technical support(TAC) in India and able to provide NBD Support at Hyderabad	
6	LAN Ports: Min: 8 x 1GbE RJ45 PoE+ Ports	
7	LAN Ports: Min 2 x 1G SFP Fiber Ports	
8	Switching Bandwidth: Min 20 Gbps or higher	
9	Connectivity: Auto-MDI/MDIX	
10	Standards: IEEE 802.3X flow control	
11	PoE: IEEE 802.3af Power over Ethernet (PoE)/ 802.3at Power over Ethernet (PoE+)	
12	PoE: Minimum 125W or higher PoE Power Budget	
13	Layer 2 Feature: Minimum 8K or Higher MAC Address	
14	Layer 2 Feature: IEEE 802.3ad Link Aggregation	
15	Layer 2 Feature: Minimum 256 Active VLANs with 4K VID support	
16	Layer 2 Feature: IEEE 802.1s MSTP	
17	Layer 2 Feature: Port Mirroring	
18	Layer 2 Feature: IGMP & MLD Snooping	
19	Layer 2 Feature: Loop Detection in downstream switches	

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20	Security: IEEE 802.1X and RADIUS network logins	
21	Security: RADIUS & TACACS+ IPv4 & IPv6	
22	Security: Authentication for Management Access, Password Encryption	
23	Security: ARP attack protection, STP root guard, Port Security	
24	Security: DoS Attack Prevention;	
25	Security: DHCP Snooping, ARP Inspection	
26	Warranty & Technical Support: Minimum 3 Years On-Site Support	

P. Technical Specification of CAT 6A cable 305 Mtrs bundles

Brand:

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	Conductor: 23AWG Solid bare Copper	
2	Length: 305 meters bundle	
3	Insulation: Polyolefin	
4	Jacket Material: FR-PVC	
5	Fully complies with the recommendations set forth by IEEE 802.3bt (Type4) for the safe delivery of power over LAN cable according to TIA TSB-184-A	

Q. Technical Specification for CAT6A 24 Port Patch Panel fully loaded

Sr. No.	Desired Specifications	Compliance (Yes/No)
1.	24 Port RJ-45 CAT 6A Patch Panel Fully Loaded	
2.	1RU Height	
3.	Terminating 4 Pairs 23 AWG UTP cable.	
4.	Comply with proposed ANSI/TIA/EIA-568-C.2.	
5.	6A UTP patch panels Should be Loaded with Three Number eight ports RJ-45 modules applied and suitable for 22-24 AWG stranded and solid wire	

SCHEDULE – II(CONTD.)

R. Technical Specification for CAT 6A Information outlets with Backbox and single surface plate

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	RJ45 Jack Housing: PC, UL94V-2, with optional color	
2	RJ45 Jack Contact: Material-phosphor bronze with nickel plated Finish: 50 micro-inch gold plated on plug contact area	

S. Technical Specification of CAT 6A one-meter patch cords

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	UTP CAT 6A Patch Cord 24 AWG, Multi-strands	
2	Length: 1 meter	
3	RJ-45 4 Pair CAT 6A Patch Cords	
4	Insulation Material: HD-PE	
5	Outer Jacket Material: FR-PVC	
6	Certifications: UL Listed, ETL Verified	

T. Technical Specification of 5MB Fixed outdoor Bullet Cameras

Sr. No.	Desired Specifications	Compliance (Yes/No)
1.	Comply with latest guidelines of Gol on CCTV Security	
2.	Certification Should be BIS Certified	
3.	OEM MAF Authorization letter Included	
4.	OEM: Country of Origin: Non-MIC	
5.	OEM/Switch/OS should have IEC 62443 or equivalent Cyber security standard compliance	
6.	Quoted Model is latest and not End of Sale or going to be End of Sale in next 6months Certificate from OEM	
7.	OEM should have L2 & L3 technical support(TAC) in India and able to provide NBD Support at Hyderabad	
8.	Image Sensor Size: 1/3" 5MP Progressive CMOS Sensor	
9.	Max. fps 5MP@20fps, 2MP@ 25/30fps Or Better	
10.	Min. Illumination : Color: 0.01 Lux @F2.0, B/W: 0.001 Lux@F1.2, 0 Lux at IR ON	
11.	Shutter Speed Auto, Manual Mode: 1/50 sec ~ 1/10000 sec	
12.	IR Range Min 30 Mtr	

SCHEDULE – II(CONTD.)

13.	Focal Length 3.6mm	
14.	Video Compression: H.264/ H.265	
15.	Number of Streams Min 2 Streams	
16.	Mainstream: 5MP (2592X1944) @20FPS/ 4MP (2560X1440)/2MP (1920x1080) @25/30FPS	
17.	Sub Stream: D1 (704x576)/VGA (640x480)/CIF (352x288) @25/30FPS	
18.	Digital Zoom 16X, Area selection with Mouse	
19.	Region of Interest Yes	
20.	Motion Detection Yes	
21.	Video Blind Detection Yes	
22.	Motion/Video Blind/Smart Analytics Alarm Linkage Send Alert to Email with Snapshot, Upload snapshot to Cloud(Google Drive/Dropbox),	
23.	Ethernet 1 x RJ45, 10/100M adaptive Ethernet interface	
24.	Network Protocols IPv4,TCP/IP, HTTP, HTTPS, UDP, RTSP, FTP, DHCP, DDNS, NTP, SMTP, UPnP, IPv4, IP filter, P2P	
25.	Firmware Update Should have OTA Online Upgrade option	
26.	IP Rating IP66	
27.	Warranty & Technical Support Minimum 3 Years On-Site Warranty	

U. Technical Specification of 5MB Fixed Dome Cameras (indoor)

Sr. No.	Desired Specifications	Compliance (Yes/No)
1.	Comply with latest guidelines of Gol on CCTV Security	
2.	Certification Should be BIS Certified	
3.	OEM MAF Authorization letter Included	
4.	OEM: Country of Origin: Non-MIC	
5.	OEM/Switch/OS should have IEC 62443 or equivalent Cyber security standard compliance	
6.	Quoted Model is latest and not End of Sale or going to be End of Sale in next 6 months Certificate from OEM	
7.	OEM should have L2 & L3 technical support(TAC) in India and able to provide NBD Support at Hyderabad	
8.	Image Sensor Size: 1/3" 5MP Progressive CMOS Sensor	
9.	Max. fps 5MP@20fps, 2MP@ 25/30fps Or Better	
10.	Min. Illumination : Color: 0.01 Lux @F2.0, B/W: 0.001 Lux@F1.2, 0 Lux at IR ON	
11.	Shutter Speed Auto, Manual Mode: 1/50 sec ~ 1/10000 sec	
12.	IR Range Min 30 Mtr	
13.	Focal Length 3.6mm	

SCHEDULE – II(CONTD.)

14.	Video Compression: H.264/ H.265	
15.	Number of Streams Min 2 Streams	
16.	Mainstream: 5MP (2592X1944) @20FPS/ 4MP (2560X1440)/2MP (1920x1080) @25/30FPS	
17.	Sub Stream: D1 (704x576)/VGA (640x480)/CIF (352x288) @25/30FPS	
18.	Digital Zoom 16X, Area selection with Mouse	
19.	Region of Interest Yes	
20.	Motion Detection Yes	
21.	Video Blind Detection Yes	
22.	Motion/Video Blind/Smart Analytics Alarm Linkage Send Alert to Email with Snapshot, Upload snapshot to Cloud(Google Drive/Dropbox),	
23.	Ethernet 1 x RJ45, 10/100M adaptive Ethernet interface	
24.	Network Protocols IPv4,TCP/IP, HTTP, HTTPS, UDP, RTSP, FTP, DHCP, DDNS, NTP, SMTP, UPnP, IPv4, IP filter, P2P	
25.	Firmware Update Should have OTA Online Upgrade option	
26.	IP Rating IP66	
27.	Warranty & Technical Support Minimum 3 Years On-Site Warranty	

V. Technical Specification for 32 channel NVR with 4 SATA Drives

Brand and Model Name:

Country of Origin:

OEM Technical Specification Document Link:

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	Comply with latest guidelines of Gol on CCTV Security	
2	Certification Should be BIS Certified	
3	Number of Channels Supported: 32	
4	Storage Type and Number of Slots: 4	
5	Compression Support: H.265, H.264 compression technology	
6	Live View & Playback: Upto 8MP resolution for Live view and playback	
7	Performance: 512 MB or higher throughput	
8	I/O Ports 2 RJ 45 10/100/1000 Base-T	
9	Warranty: 3 Years On-Site	

W. Technical Specification for 8 TB surveillance Hard-drive

Brand and Model Name:

Country of Origin:

OEM Technical Specification Document Link:

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	Storage Type: HDD	
2	Capacity: 8 TB	
3	Interface SATA 6 Gb/s	
4	Category of HDD: 24 x 7 surveillance optimized	
5	Supports NVR quoted in Annexure 22	

X. Technical Specification for 12 U Racks with minimum 550 mm width

Sr. No.	Desired Specifications	Compliance (Yes/No)
1	Rack Size: 12U	
2	Dimension: 450 (D) x 550 (W) x 600 (H) mm	
3	Number of PDU: 6 sockets	
4	Cable Manager included	
5	Fans Included	

Y. Essential Requirements from the bidder (General)

Sr. No.	Desired Requirement	Compliance (Yes/No)
1	Standard Warranty to apply on all items where the warranty is not specifically asked in Specifications	
2	The latest compliance on CCTV/Wi-Fi guidelines of are being complied	
3	All components are free from any Malware/virus etc and it is certified that the items provided are cleared of any Malware/Virus etc.	
4	We will be able to provide Next Business Day support on-site for the complaints that cannot be resolved through online support.	

BIDDER ELIGIBILITY CRITERIA

The bidder must submit the following documents with the bid in GeM and in case of non-submission of any of the documents the bid will be technically rejected.

1. Scanned copy of Authorized Dealer/OEM Documents as asked in Schedule – II for various items.
2. Scanned and signed **Schedule – II cum compliance form** filled with the information as asked. **No field should be kept empty.**
3. Filled **Annexure – A.**
4. Filled Details as per **Annexure-B.**
5. **Filled Annexure – C.**
6. **Filled Annexure – D.**
7. Proof of at least one contract related to supply, installation & commissioning of Network connectivity for LAN/ WiFi/CCTV during the last 3 financial years' worth Rs. 35 Lakhs or above.
8. The firm should enclose copies of income tax returns for the last 2 years (Financial Year 2022-23, 2023-24)

Selection of Bidder

Bidder who has quoted the least price in total for the tender in GeM will be selected among the technically qualified bidders for granting of contract.

TERMS AND CONDITIONS

1.	Online bids on GeM are invited for and on behalf of the Director, ICAR – NAARM, from eligible bidders for <u>WORK ESTABLISHING OPTICAL FIBRE CONNECTIVITY TO NEW BUILDINGS, ESTABLISHING/ENHANCING LAN, WI- FI AND CCTV CAMERAS IN NAARM RAJENDRANAGAR</u> at ICAR-National Academy of Agricultural Research Management.								
2.	All communications must be addressed to the Director, ICAR-NAARM, Hyderabad								
3.	Rates: The rates quoted by you should be inclusive of all taxes, delivery, supply and installation and all other incidentals.								
4.	Security Deposit & Contract: The successful bidder must furnish a Performance Security Deposit @ 5% on the total amount quoted & enter into contract agreement with ICAR-NAARM for the execution of the work. The performance security will be refunded / returned only after satisfactory completion of warranty period of the supplied and installed components. The Security Deposit should be in the form of Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any commercial bank and on which no interest will be paid.								
5.	If after finalization of the tender, the selected firm expresses its inability to supply the material at the quoted rates, thus failing in fulfilling the stipulated terms and conditions for award of the contract, then the Security Deposit amount is liable to be forfeited in total.								
6.	The work should be completed within 45 days of issuance of the work order from the office.								
7.	Payment: The firm is required to submit 3 separate bills for each phase of the work as detailed in the Schedule – II of this tender document along with the bank details. However, Payment will be made only after satisfactory completion of all the three phases and after it has been certified by the concerned in charge stating that the work has been done satisfactorily. There is a BOQ format listed at the end of this tender similar to the one uploaded for filling up by bidders. The items of various phases are as detailed below:								
	<table border="1"> <thead> <tr> <th>S.no of items in BOQ</th> <th>Phase</th> </tr> </thead> <tbody> <tr> <td>1 to 17</td> <td>I</td> </tr> <tr> <td>18 to 29</td> <td>II</td> </tr> <tr> <td>30 to 39</td> <td>III</td> </tr> </tbody> </table>	S.no of items in BOQ	Phase	1 to 17	I	18 to 29	II	30 to 39	III
S.no of items in BOQ	Phase								
1 to 17	I								
18 to 29	II								
30 to 39	III								
	However, the final bills will be paid as per actual quantities installed.								
8.	Taxes / Duties: GST as applicable will be paid								
9.	Acceptance of tender: Director, ICAR-NAARM reserves the right to accept or reject any of the tenders either in part or in full without assigning any reason thereof.								
10.	Jurisdiction: All disputes including court proceedings shall be settled within the Hyderabad jurisdiction only.								
11.	The bidder who is given the contract must ensure that after digging of earth and laying of the cables, the earth should be refilled and smoothed as close to the condition prior to digging. At the road crossing, after levelling the same should be filled with concrete and leveled. In case of any disturbance to established Lawns or any other places (such as holes in the walls of the building), necessary repair/repainting must be done.								
12.	Penalty clause: In case of any damage to the NAARM property, hardware, software during the execution of the contract, the bidder must pay the damages for the same. The amount in case of such damage will be decided by the committee constituted for the purpose and will be deducted from the final bill payment by the Academy.								
13.	Quantity: The quantity of items can increase or decrease by 10% during the execution of the work based on the requirement of the Academy.								

CHECKLIST (To be uploaded with Technical Bid)

S.no	Document to be uploaded in Technical bid on CPP Portal	Whether Uploaded (Yes/No)
1.	Scanned copy of Authorized Dealer/OEM Documents as asked in Schedule – II for various items.	
2.	Scanned and signed Schedule – II cum compliance form filled with the information as asked. No field should be kept empty.	
3.	Filled Annexure – A.	
4.	Filled Details as per Annexure-B.	
5.	Filled Annexure – C.	
6.	Filled Annexure – D.	
7.	Proof of at least one contract related to supply, installation & commissioning of Network connectivity for LAN/ WiFi/CCTV during the last 3 financial years' worth Rs. 35 Lakhs or above.	
8.	The firm should enclose copies of income tax returns for the last 2 years (Financial Year 2022-23, 2023-24)	

COMMERCIAL DETAILS

(To be submitted on Firm's Letter head)

1.	Name and Address of Bidder	
2.	Telephone No. / Mobile No. / FAX No.	
3.	Email ID	
4.	Month and Year of Establishment	
5.	PAN and GSTIN Number	
6.	Office Address	

SIGNATURE OF THE BIDDER & STAMP

Date:

Place:

TENDER FORM

[To be printed on company letter head]

Date: _____

To
The Director
ICAR-NAARM, Rajendranagar,
HYDERABAD – 500 030

Ref: Your Tender Notice Advt. No. _____ dated-----.

Dear Sir,

I/We hereby offer for your requirements detailed in the schedule hereto or such portion thereof as you may specify in the Acceptance of Tender at the rates quoted given in the said schedule and agree to hold this offer for 120 days for acceptance. I/We shall be bound by a communication of Acceptance dispatched within the prescribed time and also execute agreement required in this regard.

2. I/We have understood the Instructions to Tenderers and General Conditions of Contract governing such contracts placed by Indian Council of Agricultural Research and its Research Institutes and the Special Conditions of Contract, and have thoroughly examined the details indicated in the Schedule to Tender thereof and am/are fully aware of the goods and/or services required and my/our offer to work/supply/provide the goods and/or services strictly is in accordance with the requirements.

Yours faithfully,

Signature: _____

Name: _____

Address: _____

(Company's seal)

[To be printed on Company letter head]

To
The Director
ICAR-NAARM
Rajendranagar
Hyderabad 500 030

Sir,

We, the undersigned, declare that: We understand that, according to your conditions, bids must be supported by a Bid-Securing Declaration.

We accept that we will automatically be suspended from being eligible for bidding in any contract with your institute for the period of time of 2 years starting on date of closing of bids 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 your 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 as per tender conditions

We understand this Bid-Securing Declaration shall expire if we are not the successful Bidder.

Signature of Authorized signatory with company seal

BOQ FORMAT**(To be filled and uploaded in GeM Bid as per the format there)**

Item Number	Item Title	Item Description	Item Quantity	Unit of Measure	Consignee ID	Delivery Period (In number of days)
1	24 10/100/1000BASE T PoE ports 2x 10G BASE T ports 4 x 10G SFP ports L3 Stackable Managed Switch	As per Schedule II of the Tender document	3	numbers	ao.stores	45
2	24 10/100/1000BASE T ports 2 x 10GBASE T ports 4 x 10G SFP+ ports L3 Stackable Managed Switch	As per Schedule II of the Tender document	8	numbers	ao.stores	45
3	Transceivers 10GBase-LR Single- Mode, 10KM	As per Schedule II of the Tender document	28	numbers	ao.stores	45
4	Transceivers 1GBase-LX Single-Mode, 10KM	As per Schedule II of the Tender document	32	numbers	ao.stores	45
5	O F Cable 12F Outdoor Armoured Unitube SM HDPE Sheath	As per Schedule II of the Tender document	1800	metres	ao.stores	45
6	LIU 12 Port Rack Mount Loaded SC SM Including Pigtaills	As per Schedule II of the Tender document	10	numbers	ao.stores	45
7	LIU 24 Port Rack Mount Loaded SC SM Including Pigtaills	As per Schedule II of the Tender document	2	numbers	ao.stores	45
8	OFC PATCH CORD LCSC SM DUPLEX LENGTH 2M	As per Schedule II of the Tender document	30	numbers	ao.stores	45
9	HDPE Pipe	As per Schedule II of the Tender document	1300	metres	ao.stores	45
10	Digging and Refilling of soft soil*	As per Schedule II of the Tender document	1200	metres	ao.stores	45
11	Digging and Refilling of Road crossing for GI Pipe*	As per Schedule II of the Tender document	200	metres	ao.stores	45
12	Digging and Refilling of hard Soil*	As per Schedule II of the Tender document	300	numbers	ao.stores	45
13	GI Pipes 20 Feet lengths with cuplings	As per Schedule II of the Tender document	35	numbers	ao.stores	45
14	Splicing of OFC Cores	As per Schedule II of the Tender document	96	numbers	ao.stores	45
15	Cast IRON OFC Markers at 50m distance	As per Schedule II of the Tender document	30	numbers	ao.stores	45
16	Laying of OFC cable in HDPE pipe*	As per Schedule II of the Tender document	1600	metres	ao.stores	45

17	12 U Racks with Minimum 550 mm width	As per Schedule II of the Tender document	6	numbers	ao.stores	45
18	AX3000 Wi-Fi 6 Dual Band PoE Indoor Access Point Model	As per Schedule II of the Tender document	107	numbers	ao.stores	45
19	AX3000 Routers 1800Mbps	As per Schedule II of the Tender document	12	numbers	ao.stores	45
20	Software / Hard ware Wireless Controller with 500 or more Access Points Licenses	As per Schedule II of the Tender document	1	numbers	ao.stores	45
21	8Ports 10/100/1000Mbps PoE 2Ports SFP 100/1000Mbps Managed Switch 130Watts	As per Schedule II of the Tender document	16	numbers	ao.stores	45
22	CAT6A Cable Bundle 305 Mtrs	As per Schedule II of the Tender document	24	numbers	ao.stores	45
23	CAT6A 24 Port Patch Panel fully loaded	As per Schedule II of the Tender document	10	numbers	ao.stores	45
24	CAT6A Information outlets with Backbox and Single surface plate	As per Schedule II of the Tender document	120	numbers	ao.stores	45
25	CAT6A One meter Patch cords	As per Schedule II of the Tender document	120	numbers	ao.stores	45
26	PVC Casing 50mm	As per Schedule II of the Tender document	4000	metres	ao.stores	45
27	Laying of PVC Casing	As per Schedule II of the Tender document	4000	metres	ao.stores	45
28	Laying of CAT6A Cable	As per Schedule II of the Tender document	6600	metres	ao.stores	45
29	Testing and Commissioning of WiFi	As per Schedule II of the Tender document	1	Set	ao.stores	45
30	8Ports 10/100/1000Mbps PoE 2Ports SFP 100/1000Mbps Managed Switch 130Watts	As per Schedule II of the Tender document	8	numbers	ao.stores	45
31	CAT6A Cable Bundle 305 Mtrs	As per Schedule II of the Tender document	3	numbers	ao.stores	45
32	5MP Fixed Outdoor Bullet Cameras	As per Schedule II of the Tender document	20	numbers	ao.stores	45
33	5MP Fixed Indoor Bullet Cameras	As per Schedule II of the Tender document	20	numbers	ao.stores	45
34	32 Channal NVR with 4 SATA	As per Schedule II of the Tender document	1	numbers	ao.stores	45
35	8TB Surveillance Hard Drives	As per Schedule II of the Tender document	2	numbers	ao.stores	45

36	PVC Casing 50mm	As per Schedule II of the Tender document	750	metres	ao.stores	45
37	Laying of PVC Casing	As per Schedule II of the Tender document	750	metres	ao.stores	45
38	Laying of CAT6A Cable	As per Schedule II of the Tender document	900	metres	ao.stores	45
39	Testing and Commissioning of CCTV	As per Schedule II of the Tender document	1	Set	ao.stores	45