Tender Document for Wi-Fi Networking (Passive & Active Components)

1. Introduction

MES College of Engineering, Kuttippuram, invites sealed tenders from eligible bidders for the supply, installation, testing, and commissioning of a complete Wi-Fi networking infrastructure including both passive cabling works and active components.

2. Scope of Work

The scope of the project covers the following:
- Structured cabling system (Cat 6A, fiber backbone, conduits, accessories).
- Supply & installation of Wi-Fi 6 indoor access points with enterprise licenses.
- Supply & installation of network switches with PoE support.
- Integration, labeling, testing, and documentation.
- Post-installation support.

3. Technical Specifications

A. Passive Components

1. Copper Cabling
- Category 6A F/UTP, LSZH, 4-pair, 23 AWG.
- Patch cords: Cat 6A, factory-terminated, LSZH, lengths 1m/3m.
- Shielded jacks, modular patch panels (24-port), RJ45 plugs.

2. Fiber Cabling
- 6-core fiber (OM3 & OS2) with steel armoring.
- Fiber patch cords (LC/UPC, OM3 & OS2, LSZH).
- Termination panels with splice trays, pigtails.

3. Conduits & Accessories
- 25 mm ISI-marked medium mechanical stress conduits.
- Junction boxes, bends, clips, SS screws, cable ties.
- Proper labeling ferrules, consumables.

B. Active Components

1. Wi-Fi Access Points
- Wi-Fi 6 indoor APs, dual-band, MU-MIMO, managed, enterprise-grade.

- Should support WPA3, roaming, load balancing.
- Each AP must include a 5-year enterprise license.

2. Network Switches
- 48-port Gigabit Ethernet PoE+ switch, with minimum 4x10G uplink ports.
- Enterprise-grade with 5-year hardware warranty and 24x7 support.

3. SFP Modules & Cables
- 10G SFP+ LR modules and DAC cables as required.

C. Installation & Services
- Structured cabling with proper routing, fixing, and testing.
- Access point mounting and commissioning.
- Switch and AP configuration.
- 3 months post-installation support.

4. Vendor Eligibility
- Minimum 3 years' experience in enterprise networking projects.
- Should have executed at least 2 similar projects of comparable scale.
- Must have GST registration and PAN.

5. Warranty & Support
- OEM warranty as per manufacturer.
- Vendor must provide onsite support during installation and testing.

6. Delivery & Completion
Delivery and installation to be completed within 6 weeks of order.

7. Terms & Conditions
- Validity of bid: 30 days.
- Payment terms: on successful installation.
- College reserves the right to accept or reject any bid.

8. Bill of Quantities (BoQ)
The following table provides the indicative Bill of Quantities. Vendors may quote equivalent or superior products meeting the specifications.

Sl. No.	Item Description	Unit	Quantity	Remarks
1	Category 6A F/UTP LSZH Cable (305m Roll)	Nos	18	Or equivalent approved brand
2	Cat 6A Patch Cords (1m)	Nos	135	Factory terminated, LSZH
3	Shielded Information Outlets with Faceplates	Nos	135	With bend limiting boot
4	24-Port Modular Patch Panel (1U)	Nos	8	Loaded/Unloaded with jacks
5	RJ45 Cat 6A Connectors	Nos	150	Compatible with above cabling
6	Fiber Optic Outdoor Cable, 6 Core, OM3	Meters	150	Armored, HDPE Jacket
7	Fiber Optic Outdoor Cable, 6 Core, OS2	Meters	250	Armored, HDPE Jacket
8	Fiber Termination Panels (12F LC, OM3/OS2)	Nos	5	Loaded with splice trays, pigtails
9	Fiber Patch Cords LC-LC (OM3 & OS2)	Nos	17	1-3m, LSZH
10	ISI-marked PVC Conduits (25mm) with Accessories	Meters	2430	Conduits, bends, junction boxes
11	Wi-Fi 6 Indoor Access Points with 5-Year Enterprise License	Nos	132	Dual band, MU-MIMO, WPA3
12	48-Port Gigabit PoE+ Switch with 4x10G Uplink	Nos	5	Enterprise grade, 5-year warranty
13	10G SFP+ Modules	Nos	10	Enterprise-class
14	10G SFP+ DAC Cables (1m)	Nos	5	Compatible with switches
15	Installation, Testing &Commissioning	Lot	1	Includes 3 months support