

INDIAN INSTITUTE OF TECHNOLOGY HYDERABAD

Department of Computer Science and Engineering

DETAILED BILL OF QUANTITIES AND TENDER TECHNICAL SPECIFICATION

Integrated Audio-Visual Facility for CS-109 Teaching Laboratory (114-Seater Lab)

Supply, Installation, Integration, Testing, Commissioning, Programming and Training

1. Scope of Work

- The work covers supply, installation, integration, testing and commissioning of the complete AV system for CS-109 Teaching Laboratory as detailed in the Bill of Quantities and item-wise minimum technical specifications.
- The bidder shall supply all equipment, mounting hardware, interfaces, converters, extenders, cables, connectors, rack accessories, licenses, programming and minor installation materials necessary to deliver a complete and fully functional AV solution.
- The solution includes projection, interactive display, digital signage display, video conferencing camera, wireless microphone system, Dante/USB audio interface, ceiling loudspeakers and amplifier, AV switching and signal extension, AV control, network infrastructure, equipment rack, mounts and all associated cabling/accessories.
- All equipment shall be integrated into a single working AV system and shall be tested for complete end-to-end functionality before handover.

2. Detailed Bill of Quantities (BOQ)

The quantities below are taken from the final revised requirement sheet. All accessories required for successful installation and commissioning are deemed included unless separately listed.

Sl. No.	Item Description	Quantity	Unit	Remarks
1	Projector Specification	2	Nos.	As per detailed technical specification below
2	Projector Specification	2	Nos.	As per detailed technical specification below
3	Motorised Projection Screen	2	Nos.	As per detailed technical specification below
4	Motorised Projection Screen	2	Nos.	As per detailed technical specification below

Sl. No.	Item Description	Quantity	Unit	Remarks
5	86" Interactive Flat Panel	1	Nos.	As per detailed technical specification below
6	43" Display monitor	1	Nos.	As per detailed technical specification below
7	Video Conference Camera	1	Nos.	As per detailed technical specification below
8	Wireless Bodypack Transmitter	1	Nos.	As per detailed technical specification below
9	Lapel Mic	1	Nos.	As per detailed technical specification below
10	Wireless Handheld Mic	2	Nos.	As per detailed technical specification below
11	Dante to USB Convertor	1	Nos.	As per detailed technical specification below
12	Wireless Desktop Gooseneck Microphone Base	1	Nos.	As per detailed technical specification below
13	15" Gooseneck Microphone	1	Nos.	As per detailed technical specification below
14	4-Bay Networked Gooseneck Docking Station	1	Nos.	As per detailed technical specification below
15	4-Bay Networked Docking Station	1	Nos.	As per detailed technical specification below
16	Ceiling Loudspeaker	8	Nos.	As per detailed technical specification below
17	Power Amplifier	1	Nos.	As per detailed technical specification below
18	4-Channel Wireless Access Point Transceiver	1	Nos.	As per detailed technical specification below
19	WALL PLATE	1	Nos.	As per detailed technical specification below
20	SWITCHER	1	Nos.	As per detailed technical specification below

Sl. No.	Item Description	Quantity	Unit	Remarks
21	HDMI Extender	5	Sets	As per detailed technical specification below
22	Tablet Touch Screen	1	Nos.	As per detailed technical specification below
23	Processor	1	Nos.	As per detailed technical specification below
24	Network Switch	1	Nos.	As per detailed technical specification below
25	Wireless Access Point	1	Nos.	As per detailed technical specification below
26	AV RACK	1	Nos.	As per detailed technical specification below
27	Projector Mount	4	Nos.	As per detailed technical specification below
28	Display Ceiling Mount Kit	1	Nos.	As per detailed technical specification below
29	Camera Mounting Kit	1	Nos.	As per detailed technical specification below
30	USB CABLE	1	Nos.	As per detailed technical specification below
31	USB CABLE	1	Nos.	As per detailed technical specification below
32	HDMI CABLE	2	Nos.	As per detailed technical specification below
33	HDMI CABLE	6	Nos.	As per detailed technical specification below
34	HDMI CABLE	2	Nos.	As per detailed technical specification below
35	Audio Cable	50	Meters	As per detailed technical specification below
36	Speaker Cable	200	Meters	As per detailed technical specification below

Sl. No.	Item Description	Quantity	Unit	Remarks
37	CAT 6 Cable	200	Meters	As per detailed technical specification below
38	Connectors	1	Lot	As per detailed technical specification below

3. Mandatory General Requirements

- Complete AV functionality shall be provided, including required testing and user training.
- Wherever applicable, Manufacturer Authorization Letter (MAF) is mandatory, and on-site support shall be available for the products supplied.
- A user operation template / quick operating guide for the AV system shall be provided.
- The bidder shall have local service support in Hyderabad and shall provide service within 48 hours from the time a service call is logged.
- Concealed cabling, including casing/capping wherever required, shall be carried out by the bidder as per site requirements.

4. Detailed Item-wise Technical Specifications

Bidder shall indicate compliance against every parameter. For active equipment, the offered Make/Model and exact OEM datasheet/brochure page reference shall be provided.

4.1 Projector Specification - Quantity: 2

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Projection Technology	3LCD, LCD projection system		
2	LCD Panel	0.67" C2 Fine or Higher		
3	Native Resolution	WUXGA, 1920 × 1200 pixels		
4	Aspect Ratio	16:10		
5	Brightness –	5,200 ANSI or Higher		
6	Contrast Ratio	2,500,000:1 or higher		
7	Light Source	Laser diode		
8	Laser Life	Minimum 20,000 hours in Normal mode Or Higher		
9	4K Signal Support	Yes, accepts 4K input signal or Higher		
10	Lens Shift – Vertical	±50% or Higher		
11	Lens Shift – Horizontal	±20% or Higher		
12	Keystone Correction	Horizontal ±30° / Vertical ±30°		
13	Projection Orientation	360° installation capability		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
14	Projection Size	50" to 500"		
15	Interface ports	2 × HDMI, HDCP 2.3, 1 × HDBaseT, HDCP 2.3 2 × D-sub 15-pin 2 × Stereo mini-jack 1 × USB Type-A 1 × USB Type-B RS-232C		
16	Network	LAN / wireless networking		
17	Wireless Presentation	Built-in Wi-Fi, Miracast support		
18	HDMI Output	HDMI output available for signal distribution		
19	Built-in Speaker	10 W mono		
20	Warranty	3 years Onsite warranty by supplier		

4.2 Projector Specification - Quantity: 2

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Projection Technology	3LCD Technology		
2	Native Resolution	Full HD 1920 × 1080 pixels or Better		
3	Brightness	Minimum 4,100 ANSI Lumens Or Higher		
4	Contrast Ratio	Minimum 16,000:1 or Higher		
5	Aspect Ratio	Native 16:9		
6	Lamp Life	Minimum 12,000 Hours Or Higher		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
7	Lens	Manual Focus & Manual Optical Zoom		
8	Optical Zoom	Minimum 1.6x Optical Zoom		
9	Screen Size	31"-304" or Higher		
10	Keystone Correction	Vertical Auto $\pm 30^\circ$, Horizontal $\pm 30^\circ$		
11	Wireless Connectivity	Built-in Dual Band Wi-Fi (IEEE 802.11 a/b/g/n/ac)		
12	Wireless Projection	Apple AirPlay 2, Miracast, Epson iProjection		
13	HDMI Input	Minimum 2 x HDMI		
14	USB Ports	1 x USB Type-A, 1 x USB Type-B (Service/Firmware)		
15	Audio Output	Stereo Mini Jack		
16	Built-in Speaker	Minimum 16W		

4.3 Motorised Projection Screen - Quantity: 2

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Screen Size	110 inches diagonal		
2	Aspect Ratio	16:9		
3	Viewing Area	Approx: 54" x 96"		
4	Screen Surface	Matte White projection fabric		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
5	Surface	Smooth, suitable for high-quality projection		
6	Back Surface	Black backing / blackout construction		
7	Motor	Synchronous motorised drive		
8	Operation	Motorised Up / Stop / Down		
9	Remote Control	RF remote control		
10	Control Options	RF remote + wall switch/control		
11	Housing	Elegant square-shaped metal casing		
12	Installation	Wall or ceiling mounting		
13	Viewing Angle	>160°		

4.4 Motorised Projection Screen - Quantity: 2

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Screen Size	120 inches diagonal		
2	Aspect Ratio	16:9		
3	Viewing Area	Approx. 1500 × 2670 mm / 59" × 105"		
4	Screen Surface	Matte White projection fabric		
5	Surface	Smooth, suitable for high-quality projection		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
6	Back Surface	Black backing / blackout construction		
7	Motor	Synchronous motorised drive		
8	Operation	Motorised Up / Stop / Down		
9	Remote Control	RF remote control		
10	Control Options	RF remote + wall switch/control		
11	Housing	Elegant square-shaped metal casing		
12	Installation	Wall or ceiling mounting		
13	Viewing Angle	>160°		

4.5 86" Interactive Flat Panel - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Panel Technology	IPS or Better		
2	Backlight	Direct LED or Better		
3	Screen Size	86 inches		
4	Native Resolution	3840 × 2160 (4K UHD)		
5	Brightness	Minimum 440 nits or better		
6	Contrast Ratio	1200:1 or better		
7	Dynamic Contrast	5000:1 or better		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
8	Viewing Angle	178° × 178°		
9	Refresh Rate	60 Hz		
10	Response Time	8 ms or better		
11	Colour Depth	10-bit / 1.07 billion colours		
12	Surface	Anti-glare / Haze approx. 28%		
13	Touch Technology	Infrared touch		
14	Touch Points	Minimum 40-point multi-touch under Windows; up to 32-point under Android		
15	Touch Accuracy & Touch Response	±1 mm & ≤5 ms		
16	Protection Glass	Approx. 3 mm anti-glare		
17	Touch Object Size	Ø2 mm or larger		
18	Operating System	Minimum Android 13 Or Higher		
19	Processor	Quad-core ARM Cortex-A55 or Better		
20	RAM	Minimum 8 GB or Higher		
21	Internal Storage	Minimum 64 GB or Higher		
22	Wi-Fi	Wi-Fi 6, 802.11 a/b/g/n/ac/ax		
23	Bluetooth	Bluetooth 5.0		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
24	Interfaces	3 × HDMI, HDCP 2.2, 1 × VGA / RGB, 4 × USB 3.0 + 1 × USB 2.0, 1 × USB-C with DP Alt Mode / Power Delivery, 1 × RS-232C In		
25	Touch USB	Minimum 2 × USB Type-B		
26	HDMI Output	1 × HDMI Out		
27	Audio Input & Output	1 × Audio In, Audio Out / Optical SPDIF		
28	LAN In/Out	RJ45 LAN In and LAN Out		
29	Wireless Screen Sharing	Built-in screen sharing / wireless casting		
30	Built-in Speakers	2 × 15 W		
31	OPS Compatibility	OPS slot compatible with built-in OPS power		
32	Warranty	3 years Onsite warranty by supplier		

4.6 43" Display monitor - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	43" Display	Professional UHD Digital Signage Display		
2	Screen Size	43 inch		
3	Panel Technology	ADS or Better		
4	Backlight	Direct LED		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
5	Native Resolution	3840 × 2160 (UHD/4K)		
6	Refresh Rate	60 Hz		
7	Brightness	500 cd/m ² (nits), or Higher		
8	Contrast Ratio	1,200:1 or Better		
9	Dynamic Contrast	1,000,000:1 or Higher		
10	Viewing Angle	178° × 178°		
11	Colour Depth	10-bit (D), 1.07 billion colours		
12	Colour Gamut	DCI-P3 80%		
13	Response Time	8 ms (G-to-G)		
14	Operating Hours	24 × 7		
15	Minimum Lifetime	30,000 hours		
16	Built-in Memory	8 GB or Better		
17	Wi-Fi / Bluetooth	Built-in Wi-Fi and Bluetooth		
18	Interfaces	3 × HDMI, HDCP 2.2/1.4, 2 × USB 2.0 Type-A, 1 × RJ45, RS-232C In and Out, Audio Out		
19	Screen Sharing	Yes		
20	Content Scheduling	Yes		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
21	Wake-on-LAN	Yes		
22	Warranty	3 years Warranty onsite by Supplier		

4.7 Video Conference Camera - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	AI Auto-Tracking PTZ Camera / Dual-Lens Tracking Camera		
2	PTZ Sensor	1/2.8", 2.16 Megapixel or Better		
3	Video Resolution	Full HD 1920 × 1080 or Better		
4	Frame Rate	1080p: 60/50/30/25 fps		
5	Optical Zoom	20× or Higher		
6	Digital Zoom	12× or Higher		
7	Focal Length	4.9 – 94 mm		
8	Horizontal FOV	58.7°		
9	Vertical FOV	33°		
10	Minimum Illumination	1 lux		
11	PTZ Pan Range	±170°		
12	PTZ Tilt Range	+90° to -30°		
13	Pan Speed	0.2° – 120°/sec		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
14	Tilt Speed	0.2° – 80°/sec		
15	AI Tracking	Everywhere / Stage / Partition / Audience Tracking		
16	Auto Framing	Everywhere / Partition		
17	Gesture Control	Yes		
18	Video Outputs	HDMI / Ethernet / 3G-SDI / USB 3.0		
19	IP Video Stream	Main: 1080p60; Secondary: 720p30		
20	USB Output	1080p30		
21	IP Compression	H.264		
22	Streaming Protocols	HTTP / RTSP / RTMP / RTMPS / SRT		
23	Network Control	Ethernet		
24	Control Interfaces	RS-232 / RS-422 / Ethernet / USB 3.0		
25	Control Protocols	VISCA / ONVIF		
26	PoE	IEEE 802.3af		
27	Audio Input	Line In / Mic In		
28	Audio Output	Ethernet / USB 3.0 / HDMI / SDI		
29	Mounting	Table / Wall / Ceiling installation with suitable mount		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
30	Warranty	3 years Onsite warranty by supplier		

4.8 Wireless Bodypack Transmitter - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	Digital wireless hybrid bodypack transmitter		
2	Microphone	Built-in omnidirectional microphone and external lavalier/headworn microphone input		
3	External Mic Connector	TA4M / 4-pin mini connector or equivalent		
4	Wireless Transmission	Digital wireless transmission		
5	Operating Range	Minimum 50 m line-of-sight		
6	Encryption	AES-256 or equivalent		
7	Battery	Rechargeable Lithium-ion battery		
8	Battery Backup	Minimum 17 hours continuous operation or Higher		
9	Charging	Rechargeable through dedicated charging station/docking system		
10	Frequency Management	Automatic frequency/channel management		
11	Mute	Programmable mute button with push-to-talk/push-to-mute functionality		
12	Remote Control	Remote mute/unmute and monitoring through the wireless system		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
13	Battery Monitoring	Display/indication of remaining battery time		
14	Earphone Output	Provided for monitoring/translation/cueing		
15	RF Power	Adjustable/selectable transmit power		
16	Application	Suitable for presentations, training rooms, classrooms, boardrooms and conferencing		
17	Compatibility	Shall be compatible with the proposed digital wireless receiver/access point		

4.9 Lapel Mic - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	Professional low-profile lavalier condenser microphone		
2	Polar Pattern	Cardioid		
3	Frequency Response	70 Hz – 20 kHz or better		
4	Maximum SPL	≥140 dB SPL at 1% THD		
5	Dynamic Range	≥120 dB		
6	Sensitivity	Approximately -43 dBV/Pa or better		
7	Connector	TA4F / 4-pin mini connector		
8	Cable Length	Approximately 1.2 m		
9	Power	5 VDC plug-in power		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
10	Mounting	Rotatable tie/lapel clip		
11	Accessories	Windscreen, tie clip and storage pouch		
12	Application	Suitable for speech, presentations, conferencing, training and broadcast applications		
13	Compatibility	Compatible with wireless bodypack transmitters having TA4M input		

4.10 Wireless Handheld Mic - Quantity: 2

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	Professional rechargeable digital wireless handheld microphone transmitter		
2	Microphone Capsule	Dynamic cardioid capsule suitable for speech and presentation		
3	Wireless Technology	Digital wireless / DECT technology		
4	Frequency Band	1880–1900 MHz (Z11) or locally applicable equivalent		
5	Wireless Range	Up to 50 m line-of-sight or better		
6	Encryption	AES-256 or equivalent		
7	Antenna	Dual internal transmit antennas		
8	Battery	Rechargeable Lithium-ion battery		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
9	Battery Runtime	Minimum 25 hours continuous operation or Higher		
10	Charging	Rechargeable through compatible docking/charging station and USB charging		
11	Mute	Programmable mute button with push-to-talk, push-to-mute and on/off functions		
12	Display	Integrated information display showing battery/runtime and system information		
13	RF Power	Adjustable transmit power		
14	Remote Control	Remote mute/unmute and monitoring through the wireless system		
15	Out-of-Range Alert	Shall provide out-of-range indication/alert		
16	Power Switch	Shall have provision to disable the power switch to prevent accidental shutdown		
17	Application	Suitable for boardrooms, training rooms, classrooms, presentations, conferences and Q&A applications		
18	Compatibility	Shall be compatible with the proposed Microflex Wireless neXt access point/system		

4.11 Dante to USB Convertor - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	Professional USB Audio Network Interface with integrated matrix mixer		
2	Dante I/O	Minimum 4 Dante inputs / 2 Dante outputs		
3	Analog I/O	1 balanced analog input / 1 balanced analog output		
4	USB	USB 2.0, 1 input / 1 output, suitable for PC/video conferencing		
5	Matrix Mixer	Integrated matrix mixer allowing flexible routing of inputs to outputs		
6	DSP	Per-channel gain, mute, limiter and 4-band parametric EQ		
7	Dante	24-bit / 48 kHz		
8	USB Audio	Minimum 16/24-bit, 48 kHz		
9	Network	RJ45 Ethernet, Dante-enabled		
10	Power	PoE, IEEE 802.3af Class 0 or better		
11	Control	Network-based configuration and monitoring software		
12	Security	Support for 802.1X, secure boot/storage and AES encryption		
13	Dante Management	Dante Domain Manager compatible		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
14	Control Integration	Compatible with third-party control systems		
15	Mounting	Compact form factor with provision for under-table/desktop mounting and optional rack mounting		
16	Frequency Response	20 Hz – 20 kHz or better		

4.12 Wireless Desktop Gooseneck Microphone Base - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	Digital wireless desktop/base transmitter for gooseneck microphone		
2	Microphone Compatibility	Shall support modular gooseneck microphones of minimum 3 compatible lengths		
3	Connector	6-pin modular connector or equivalent		
4	Wireless	Digital wireless transmission with bidirectional communication		
5	Frequency Band	1880–1900 MHz or locally applicable equivalent licensed/exempt band		
6	Wireless Range	Minimum 50 m line-of-sight		
7	Encryption	AES-256 or equivalent		
8	Display	High-resolution display showing battery status, RF connection quality, charging status and system alerts		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
9	Battery	Built-in rechargeable Lithium-ion battery		
10	Battery Runtime	Minimum 39 hours continuous operation or Higher		
11	Charging Time	Approximately 4 hours or better		
12	Charging	USB charging and/or dedicated charging station		
13	Mute	Programmable mute button supporting push-to-talk, push-to-mute and toggle/momentary operation		
14	RF Monitoring	Out-of-range indication/alert		
15	Remote Control	Remote monitoring and configuration of microphone parameters		
16	Return Audio	Bidirectional wireless return-channel audio		
17	Monitoring	USB-C audio/earphone output for return-channel monitoring		
18	Installation	Desktop/table-top mounting		
19	Power	Rechargeable battery and USB power operation		

4.13 15" Gooseneck Microphone - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Microphone Type	Professional modular gooseneck microphone		
2	Transducer	Electret condenser		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
3	Gooseneck Length	15 inch / 38.1 cm		
4	Flexibility	Dualflex design with flexible sections for positioning		
5	Polar Pattern	Cardioid		
6	Frequency Response	50 Hz – 17 kHz or better		
7	Sensitivity	Approximately -35 dBV/Pa @ 1 kHz or better		
8	Maximum SPL	Minimum 120 dB SPL		
9	Signal-to-Noise Ratio	Minimum 66 dB		
10	Dynamic Range	Minimum 93 dB		
11	Output Impedance	Approximately 170 Ω		
12	Output	Active balanced		
13	Status Indicator	Red LED light-ring at microphone head		
14	Connector	Modular connector suitable for compatible desktop/wireless base		
15	Phantom Power	48–52 V DC		
16	RF Protection	RF filtering technology for reduced interference		
17	Mounting	Compatible with desktop, surface-mount and wireless microphone bases		

4.14 4-Bay Networked Gooseneck Docking Station - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	Networked docking and charging station for digital wireless microphones		
2	Charging Bays	Minimum 4 bays		
3	Compatibility	Shall support wireless gooseneck and boundary microphone transmitters		
4	Charging	Shall charge transmitters without removing the rechargeable batteries		
5	Network	Dual Ethernet, 10/100 Mbps with integrated network switch		
6	Linking	Shall allow wireless transmitters to be linked to the associated access point while docked		
7	Monitoring	Shall provide remote monitoring of battery status and charging information		
8	Battery Health	Shall monitor battery health and charge/discharge cycle information		
9	Control	Shall integrate with manufacturer software for system monitoring and management		
10	Status Indication	Individual bay LED indication for charging/battery and link status		
11	Power	External USB-C power supply/USB-C PD		
12	Construction	Professional desktop/tabletop docking station		

4.15 4-Bay Networked Docking Station - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	Networked docking and charging station for digital wireless transmitters		
2	Charging Capacity	Minimum 4 transmitters simultaneously		
3	Compatibility	Shall support compatible digital wireless bodypack, handheld, boundary and gooseneck transmitters		
4	Battery Charging	Shall charge transmitters without removing the rechargeable battery		
5	Linking	Shall support linking of docked transmitters with the associated wireless access point		
6	Network Connectivity	Ethernet connectivity for networked control and monitoring		
7	Battery Monitoring	Shall provide battery status and battery-health monitoring		
8	Battery Health	Shall monitor charging/discharging cycles and battery health		
9	System Monitoring	Shall integrate with manufacturer software for remote monitoring and control		
10	Status Indication	Individual charging/link/status indication for each docking bay		
11	Construction	Professional tabletop/desktop docking station		

4.16 Ceiling Loudspeaker - Quantity: 8

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	2-Way High-Fidelity Ceiling Speaker		
2	Application	Professional AV conferencing / speech reproduction		
3	LF Driver	6" Woofer or Better		
4	HF Driver	1" / 25mm Dome Tweeter		
5	Frequency Response	70Hz – 20kHz or Better		
6	Sensitivity	91dB @ 1W/1m		
7	Maximum SPL	113dB @ 1m		
8	Power Handling	75W RMS Or Better		
9	Nominal Impedance	16Ω		
10	Dispersion	130° conical		
11	Backcan	Fire-resistant aluminium		
12	Mounting	Suitable for installation in drop-ceiling applications with necessary mounting kits		

4.17 Power Amplifier - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	Professional 4-channel power amplifier		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
2	Channels	4 channels Outputs- 8Ω : 4 × 150W RMS Outputs- 8Ω : 4 × 150W RMS Bridged- 70V: 2 × 250W RMS Bridged -100V : 2 × 240W RMS		
3	Peak/Dynamic Output	4 × 200W @ 8Ω; 4 × 275W @ 4Ω		
4	Amplifier Technology	UMAC™ Class-D		
5	Frequency Response	20Hz – 20kHz, ±0.3dB		
6	THD	≤0.006%		
7	Dynamic Range	104dB, A-weighted		
8	Input Level	Maximum +24dBu		
9	Input Impedance	10kΩ		
10	Input	4 × balanced analogue Phoenix/Euroblock		
11	Output	4 × 2-pin Phoenix/Euroblock, 5.08mm pitch		
12	Gain	26dB / 32dB selectable		
13	HPF	80Hz, selectable		
14	LPF	100Hz, selectable		
15	Warranty	3 Years		

4.18 4-Channel Wireless Access Point Transceiver - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	Professional digital wireless Access Point Transceiver		
2	Wireless Channels	Minimum 4 simultaneous wireless audio channels		
3	Wireless Technology	Digital DECT-based wireless technology or equivalent		
4	Frequency Management	Automatic frequency management with spectrum scanning and automatic interference avoidance		
5	RF Coverage	Suitable for minimum 45 m line-of-sight wireless operation, subject to site conditions		
6	RF Output	Selectable RF output power		
7	Antenna	Integrated internal antenna system		
8	Audio Outputs	Analog audio output and Dante digital audio		
9	USB	USB-C audio connectivity for PC/video-conferencing applications		
10	DSP	Built-in DSP with automatic mixing, acoustic echo cancellation, noise reduction, automatic gain control and EQ		
11	Network	Minimum 2 × Gigabit RJ45 network ports		
12	Dante	Dante-enabled digital audio transmission over standard Ethernet		
13	Power	PoE-powered through Ethernet		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
14	Network Modes	Support switched, split and redundant network configurations		
15	Security	AES encryption for secure wireless/audio/control communication		
16	Control	PC/web-based configuration, monitoring and system management		
17	Expansion	Multiple access points shall be capable of supporting larger multi-channel systems		
18	Installation	Suitable for wall or ceiling mounting with supplied mounting accessories		
19	Microphone Compatibility	Compatible with bodypack, handheld, boundary and gooseneck digital wireless transmitters		

4.19 WALL PLATE - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1		4K Auto-switching HDBaseT 2.0 wall-plate extender kit		
2	Configuration	Transmitter wall plate + Receiver		
3	HDMI Input – TX	1 × HDMI 2.0 or More		
4	USB-C Input	1 × USB-C, up to 4K UHD or More		
5	USB-C Charging	Up to 100 W USB Power Delivery		
6	USB-B Host	1 × USB-B host interface or More		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
7	HDMI Output – RX	1 × HDMI 2.0 or More		
8	Additional HDMI Input – RX	1 × HDMI 2.0 or More		
9	HDMI Resolution	Up to 4K @ 60 Hz, 4:4:4		
10	HDMI Bandwidth	18 Gbps		
11	HDCP	HDCP 2.2 / 1.4 compliant		
12	Transmission Distance	Up to 100 m at 4K@60 Hz 4:4:4 using CAT6 STP cable or Better		
13	USB Device Ports	USB-A ports for camera, microphone, speakerphone, keyboard/mouse etc.		
14	Auto Switching	Automatic and manual source switching		
15	Audio De-embedding	Balanced analog audio + optical digital audio at receiver		
16	Analog Audio Output	5-pin Phoenix connector		
17	Digital Audio Output	Optical		
18	RS232	Bi-directional/pass-through control; default 9600 baud		
19	Ethernet	Ethernet access for USB-C/USB-B host connection		
20	PoC	48 V Power over Cable from receiver to transmitter		
21	EDID	EDID copy from display + 16 built-in EDID presets		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
22	CEC	HDMI CEC pass-through		
23	Warranty	3 Years onsite		

4.20 SWITCHER - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Matrix Switcher	Professional 8x8 HDMI 2.0 Matrix Switcher		
2	HDMI Inputs	8 x HDMI Type-A female		
3	HDMI Outputs	8 x HDMI Type-A female		
4	HDMI Version	HDMI 2.0 / 2.0b		
5	HDCP	HDCP 2.2 and HDCP 1.4 compliant		
6	Video Bandwidth	18 Gbps		
7	Maximum Resolution	4K x 2K @ 60 Hz, 4:4:4		
8	1080p Support	1080p including 3D		
9	HDR	HDR10, HDR10+, Dolby Vision and HLG		
10	Audio Pass-through	LPCM 2/5.1/7.1, Dolby Digital, DTS, Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos, DTS:X		
11	Audio De-embedding	8 x coaxial digital audio outputs + 8 x analogue L/R outputs		
12	Downscaling	Independent 4K to 1080p downscaling per output		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
13	ARC	YES		
14	CEC	YES		
15	EDID Management	Smart/manual EDID management		
16	Control – Front Panel	Front-panel buttons		
17	Control – IR	IR remote control		
18	Control – RS-232	1 × RS-232		
19	Control – LAN	1 × RJ45 TCP/IP		
20	Web GUI	Web-based configuration/control		
21	Display	Front-panel OLED/status display		

4.21 HDMI Extender - Quantity: 5

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	TX & RX extender SET	Professional HDMI 2.0 point-to-point extender kit		
2	Configuration	1 × Transmitter + 1 × Receiver		
3	HDMI Version	HDMI 2.0		
4	HDMI Bandwidth	18 Gbps		
5	Maximum Resolution	4K × 2K @ 60 Hz, 4:4:4		
6	HDR	Supported		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
7	HDCP	HDCP 2.2 compliant		
8	Transmission Medium	Single CAT6/CAT6A cable		
9	Transmission Distance	Up to 70 m / 230 ft for 4K@60 Hz 4:4:4 / 1080p or Higher		
10	TX HDMI Input	1 × HDMI Type-A		
11	TX HDMI Loop Output	1 × HDMI Type-A		
12	TX CAT Output	1 × RJ45 CATx OUT		
13	RX CAT Input	1 × RJ45 CATx IN		
14	RX HDMI Output	1 × HDMI Type-A		
15	RX Audio Output	1 × SPDIF optical/digital audio output		
16	IR Control	Bidirectional IR pass-through		
17	IR Connectors	3.5 mm mini-jack IR IN / IR OUT on TX and RX		
18	EDID	EDID pass-through		

4.22 Tablet Touch Screen - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Size	10.2-inch Or Higher		
2	Display	10.2-inch Retina LED-backlit Multi-Touch display with IPS technology		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
3	Resolution	2160 × 1620 pixels @ 264 ppi		
4	Brightness	500 nits or better		
5	Processor	Bionic chip with Neural Engine or Better		
6	Storage	64GB or Higher		
7	Connectivity	Wi-Fi 802.11a/b/g/n/ac, dual-band, MIMO		
8	Bluetooth	Bluetooth 4.2		
9	Security	Touch ID fingerprint authentication		
10	Operating System	OS or Better		
11	Connector	Lightning connector		
12	Battery	Built-in rechargeable lithium-polymer battery; up to 10 hours Wi-Fi usage		
13	Control Application	Supply, installation and configuration of required AV control application/software license, compatible with the proposed AV control system		
14	License	Control application license for one Tablet touch screen, including activation/configuration		
15	Integration	Application shall provide control of AV equipment such as display/projector, audio system, video conferencing system, source selection, volume, power ON/OFF		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
		and other required room-control functions		
16	Programming	Control application shall be configured/programmed as per approved AV control logic and room requirements		
17	Training	Basic user training and demonstration shall be included		

4.23 Processor - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Architecture:	Processor & Memory -control engine; real-time, preemptive multi-threaded/multitasking or Higher		
2		Memory Capacity: 1 GB SDRAM and 8 GB Flash memory built-in or Higher		
3		External Storage: Supports external USB mass storage devices up to 1 TB via USB OTG. - Or Higher		
4		File System: Transaction-Safe Extended FAT (exFAT) file system.		
5	Control Capabilities	Program Execution-of-the-box support for a single program; scalable up to 10 simultaneous programs running concurrently or better		
6		Software Platform: Native .AV Framework™ configuration-based application engine.		
7	Physical I/O Interfaces	COM Ports: 1 x 3-pin 3.5 mm terminal block; Bidirectional RS-		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
		232 / RS-422 / RS-485 port up to 115.2k		
8		IR / Serial Ports: 2 x 4-pin 3.5 mm terminal blocks; Comprises 2 x IR output ports up to 1.2 MHz (or 1-way serial TTL/RS-232, 0–5V).		
9		Digital Inputs: 1 x 3-pin 3.5 mm terminal block; 2 x Digital Inputs (0–24 VDC rated, 2.2k Ω pull-up to 5V).		
10		Relays: 1 x 4-pin 3.5 mm terminal block; 2 x Normally Open, Isolated Relays (Rated 1 A, 30 VAC/VDC, MOV arc suppression).		
11		Device Network Port: 1 x 3-pin 3.5 mm terminal block		
12		USB Interface: 1 x USB Type Micro-AB female; front panel USB OTG port for computer console or mass storage.		
13	Network & Security	Ethernet Port: 1 x 8-pin RJ-45 female; 100BASE-T Ethernet client.		
14		Network Protocol: IPv4 or IPv6 ready; TCP/IP, UDP/IP, CIP, DHCP, HTTPS web server, SMTP email client.		
15		Enterprise Security: FIPS 140-2 compliant encryption, SSL, TLS, SSH, SFTP, IEEE 802.1X, Active Directory® authentication.		
16		IT Remote Admin: SNMP v3 network management protocol native client.		
17		Building Automation: Native BACnet/IP network support (up to		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
		50 objects free, expandable up to 500 via license).		
18	Physical & Electrical	Power Source: Power over Ethernet (PoE); IEEE 802.3at Type 1 (802.3af compatible) Class 0 Powered Device (PD).		
19		Power Consumption: 6.5 Watts maximum.		
20		Third-Party User Interfaces: control architecture must support remote UI interfaces across Windows PC, macOS (via XPanel), iOS (iPhone/iPad), and Android environments		

4.24 Network Switch - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Physical Interfaces	8 # 1Gbps POE+ , 2 # 1Gbps Base-T, 2 # 1Gbps SFP ports, Ethernet: Out-of-band 1G port, Console: RJ45 RS232 , Console: USB-C, Storage: USB-A, PSU with On/Off switch		
2	CPU/ Memory	ARM A9 1.25Ghz 32-Bit 2GB RAM Packet buffer memory: 16 MB Flash: 256 MB		
3	Performance	Switching fabric: 24 Gbps Line-Rate (non blocking fabric), Throughput : Min. 17.86Mpps, Latency: <2.27µs 1G, IP Multicast Routing Entries : 512 IPv4 & 128 IPv6., Address database size: 16,000 MAC addresses (48-bit MAC address), Number of VLANs: 4,093 (IEEE 802.1Q) simultaneously, Jumbo Frames Up to 12K, Multicast IGMP Group membership : 2K IPv4 & 2K IPv6, DHCP Server: IPv4: 256 pools IPv6: 16 pools,		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
		Software-controlled fan adjustments, Pre-configured for audio and video over IP out of the box with zero touch configuration, For audio, profiles for Dante, and AES67 AVB lincese should be available. Auto-Trunk and Auto-LAG, static, RIP and PIM-SM, DM and SSM multicast routing, DHCP Server and Pv2 Transparent Clock, Voice VLAN with SIP, H323 and SCCP protocols detection, authentication tiering with successive DOT1X, MAB and Captive, Portal methods for streamlined BYOD, Mean Time Between Failures (MTBF): 778,769 hours or more, Power Consumption (All ports used, line-rate traffic, maximumAll ports used, max PoE load, line-rate traffic, maximum): 163.9W - 559.55 BTU/hr, Power Consumption (Standby, no connection on any port): 8.53W - 29.12BTU/hr, 125W PoE Power Budget,		
4	L3 & L2 Services	Industry standard SNMP, RMON, MIB, LLDP, AAA, sFlow, RSPAN and PTPv2, Voice VLAN with SIP, H323 and SCCP protocols detection and LLDP-MED, Advanced IPv4/IPv6 security implementation including malicious code detection, DHCP Snooping, IP Source Guard protection and DoS attacks mitigation, 8 LAGs with up to 8 ports per group, Number of IP interfaces 128, Multicast VLAN Registration Protocol (MVRP), RIPv1/RIPv2, Policy Based Routing (PBR), Malicious Code Detection, 802.1x MAC Address Authentication Bypass (MAB), IEEE 1588 PTPv2, IEEE 802.1BA-2011 Audio Video Bridging		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
		(AVB), Radius Users, IGMPv3 MLDv2 Snooping, Proxy ASM & SSM, Control Packet Flooding, 802.1AS, 802.1Qav, 802.1Qat MSRP, 802.1ak MMRP, 802.1ak MVRP, Per VLAN Rapid STP (PVRSTP), BPDU/STRG Root Guard, VLAN routing, DHCP Relay, Stateful DHCPv6 Server,		
5	QoS	IEEE 802.1p CoS, DiffServ QoS, WRED (Weighted Deficit Round Robin), Single Rate Policing, Strict Priority queue technology, MAC ACL Support, Auto-VoIP, IP DSCP, IP Precedence, IP TOS, L3 IPv6 Flow Label, Interface Traffic Shaping, PHB Support, Minimum Bandwidth per-interface,		
6	Security	Broadcast, Multicast and Unicast Network Storm Protection, CPU Protection, DoS attack protection, ICMP throttling, Management ACL, Radius accounting, L2/L3/L4 Access Control List (ACL): MAC, IPv4, IPv6, TCP, UDP ACL, Protocol based ACL, ACL over VLAN, Dynamic ACL, IEEE 802.1x Radius Port Access Authentication, Port Security, Dynamic ARP Inspection, MAC Filtering, Port MAC Locking, Private Edge VLAN		
7	IEEE Network Protocols	IEEE 802.3 10Base-T, IEEE 802.3u 100BASE-T, IEEE 802.3ab 1000BASE-T, IEEE 802.3ae 10-Gigabit Ethernet, IEEE 802.3af — Power over Ethernet, IEEE 802.3at — Power over Ethernet Plus, IEEE 802.3ad Trunking (LACP), IEEE 802.1AB LLDP with ANSI/TIA-1057 (LLDP-MED), IEEE 802.1D Spanning Tree (STP), IEEE 802.1s Multiple Spanning Tree (MSTP), IEEE 802.1w Rapid Spanning Tree (RSTP), IEEE		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
		802.1p Quality of Service, IEEE 802.1Q Virtual LANs / port-based VLANs, IEEE 802.3ac — VLAN tagging, IEEE 802.1v protocol-based VLAN, IEEE 802.1X Radius Network Access Control, IEEE 802.3x flow control, GMRP — Dynamic L2 multicast registration, GVRP — Dynamic VLAN registration, GARP -Generic Attribute Registration Protocol		
8	Management	ISDP (Industry Standard Discovery Protocol), Out of band Management, SNMP v1, v2 and v3, RMON 1, 2, 3, 9, sFlow, Command Line Interface (CLI), Web-based graphical user interface (GUI), Admin access control via Radius and TACACS+, Telnet, IPv6 Management, Dual Software (Firmware) images, Dual Configuration file, Radius accounting, SNMP, XMODEM, Port Mirroring, Cable Test Utility, SSH v1/v2, SSL v3 and TLS v1.2 for HTTPS web-based access, File Transfer (uploads, downloads) through TFTP/HTTP, SCP/ SFTP/ HTTPS, Syslog, Non disruptive Config Management, Remote Port Mirroring (RSPAN), Persistent log supported		
9	LEDs	Per port: Speed, link, activity, PoE, Per device: Power, Fan		
10	Environmental	Operating Temperature: 32° to 113°F (0° to 45°C), Operating Humidity: 90% maximum relative humidity, non-condensing, Storage Temperature: – 4° to 158°F (– 20° to 70°C), Storage Humidity: 95% maximum relative humidity, non-condensing,		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
11	Certifications	CE: EN 55032:2015, Class A; EN61000-3-2:2014, Class A; EN 61000-3-3:-:2013; EN 55024:2010; EN 55035:2017, FCC Part 15 Class A, VCCI-CISPR 32:2016, Class A, RCM: AS/NZS CISPR 32:2015 Class A, ISED: ICES-003:2016 Issue 7, Class A, ANSI C63.4:2014, BSMI: CNS 13438 Class A, CB report / certificate IEC 62368-1, UL listed (UL 1950)/cUL IEC 950/EN 60950		

4.25 Wireless Access Point - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Physical Interfaces	One 100/1000/2.5GBASE-T Gigabit Ethernet (RJ-45) ports with Auto Uplink (Auto MDI-X) supporting IEEE 802.3af or 802.3at Power over Ethernet (PoE)		
2		Internal 3.8/4.5dBi (2.4GHz/5GHz)		
3		speed; 2.4GHz status; 5.0GHz status		
4		Wall/ceiling mount kit should be included from the day 1		
5	Standards	IEEE 802.11ax, IEEE 802.11ac		
6		WMM - Wireless MultiMedia Prioritization		
7		WDS- Wireless Distribution System		
8		Power over Ethernet (PoE) IEEE 802.3af/802.3at		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
9	Security	Wi-Fi Protected Access (WPA, WPA2, WPA3), 802.11i 802.1x RADIUS support with EAP TLS, TTLS, PEAP		
10		Neighbor AP detection Link Layer Discovery Protocol		
11		Dynamic VLAN Support		
12		Wireless access control to identify authorized wireless network devices		
13		MAC address filtering with access control Security Socket Layer remote management		
14	Network Management	Remote configuration and management through Web browser		
15	Manageability	As standalone		
16	Advanced Wireless Features	Wireless Distribution System (WDS)		
17		Minimum 4 SSID per radio		
18		Bridge mode: Point-to-point wireless WDS mode		
19		Bridge mode: Point-to-multipoint wireless WDS mode		
20		Adjustable Transmit Power Control (TPC)		
21	Other Specifications	PoE power consumption:15.3 Watts maximum Bandsteering Support OFDM and OFDMA		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
22		Business class with superior 802.11ax performance (up to 1.8Gbps)		
23		Block SSID Broadcast		
24		2 x 2 MU-MIMO support		
25		Deployment Options: Standalone, Cloud Management		

4.26 AV RACK - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Rack Type	Floor-standing, enclosed AV equipment rack		
2	Rack Size	12U standard		
3	Dimensions	Approx. 600x600 mm		
4	Mounting	Standard equipment mounting rails		
5	Construction	Heavy-duty GI steel construction with rigid welded/bolted frame		
6	Mounting Rails	Front and rear adjustable 19" mounting rails with cage nuts/screws		
7	Front Door	Lockable toughened glass/acrylic viewing door with suitable ventilation		
8	Rear Door	Lockable split/rear metal door, ventilated		
9	Side Panels	Removable, lockable side panels		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
10	Cable Entry	Cable entry provisions at top and bottom, with brush/grommet protection		
11	PDU	Minimum 2 vertical/horizontal rack-mount PDUs, 230V, with adequate IEC/Indian sockets as required		
12	Power Protection	Individual MCB/overload protection and proper electrical earthing		
13	Cable Management	Vertical and horizontal cable managers with adequate routing provisions		
14	Shelves	Minimum 3 nos. adjustable heavy-duty rack shelves for non-rack-mountable equipment		
15	Equipment Support	Rack support brackets where required for heavy AV equipment		
16	Mounting Hardware	Cage nuts, screws, washers and all required mounting hardware shall be included		
17	Castors	Heavy-duty castors with locking arrangement		

4.27 Projector Mount - Quantity: 4

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Mounting Kit	Universal Projector Ceiling Mount Kit		
2	Construction	Heavy-duty MS steel construction		
3	Finish	Black powder-coated finish		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
4	Compatibility	Suitable for all LCD/DLP/Laser projectors		
5	Load Capacity	Minimum 15 kg or higher		
6	Projector Mounting	Universal adjustable mounting arms		
7	Tilt Adjustment	Minimum $\pm 15^\circ$		
8	Swivel / Rotation	Adjustable for accurate image alignment		
9	Height / Extension	Adjustable ceiling drop; suitable extension pipe/rod to be 2ft x 2ft		
10	Cable Management	Provision for concealed cable routing		
11	Installation	Ceiling mounted with all required hardware		

4.28 Display Ceiling Mount Kit - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	Universal Projector Ceiling Mount Kit		
2	Application	Suitable for LCD / DLP / LED Displays		
3	Construction	Heavy-duty MS / high-strength metal construction		
4	Finish	Black powder-coated finish		
5	Load Capacity	Minimum 15 kg of Higher		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
6	Mounting	Universal adjustable mounting plate/arms		
7	Tilt Adjustment	Minimum $\pm 15^\circ$		
8	Swivel Adjustment	Minimum $\pm 15^\circ$		
9	Rotation	360° adjustable		
10	Height Adjustment	Adjustable ceiling drop/extension provision 2ft x 2ft - Extension Rod		
11	Cable Management	Provision for concealed cable routing through mount/extension		
12	Installation	Suitable for RCC/concrete ceiling and structural ceiling support		

4.29 Camera Mounting Kit - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Compatibility	Compatible with professional PTZ cameras having proper mounting interface		
2	Construction	Heavy-duty steel / MS construction		
3	Finish	Black or white powder-coated finish, suitable for professional AV installation		
4	Mounting	Direct ceiling mounting with suitable anchors and fasteners		
5	Camera Mounting	Adjustable/slotted mounting provision for proper camera alignment		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
6	Orientation	Suitable for inverted/ceiling installation of PTZ camera		
7	Cable Management	Provision for concealed cable routing through/along the mounting bracket		
8	Ceiling Type	Suitable for RCC, concrete, masonry and suitable false-ceiling structures with appropriate reinforcement		
9	Adjustment	Provision for leveling and accurate camera positioning		
10	Load Capacity	Minimum 5 kg, or higher		
11	Installation	Supply, installation, alignment and secure fixing of camera mount shall be included		

4.30 USB CABLE - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	High-speed USB 3.0 active extension cable		
2	Length	15 metres		
3	USB Standard	USB 3.0 / USB 3.2 Gen 1 compatible		
4	Data Transfer Rate	Minimum 5 Gbps		
5	Connectors	USB Type-A Male to USB Type-B Male / Type-C as required		
6	Signal Type	Active signal extension		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
7	Bandwidth	Up to 5 Gbps		
8	Backward Compatibility	USB 2.0 / USB 1.1 compatible		
9	Power	Bus-powered, with active signal conditioning/repeater		
10	Plug & Play	Driver-free operation		
11	Shielding	High-quality shielded construction for EMI/RFI protection		
12	Compatibility	Compatible with Windows, macOS and Linux systems		
13	Certification	CE / RoHS compliant or equivalent		

4.31 USB CABLE - Quantity: 1

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	High-speed USB 3.0 active extension cable		
2	Length	5 metres		
3	USB Standard	USB 3.0 / USB 3.2 Gen 1 compatible		
4	Data Transfer Rate	Minimum 5 Gbps		
5	Connectors	USB Type-A Male to USB Type-B Male / Type-C as required		
6	Signal Type	Active signal extension		
7	Bandwidth	Up to 5 Gbps		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
8	Backward Compatibility	USB 2.0 / USB 1.1 compatible		
9	Power	Bus-powered, with active signal conditioning/repeater		
10	Plug & Play	Driver-free operation		
11	Shielding	High-quality shielded construction for EMI/RFI protection		
12	Compatibility	Compatible with Windows, macOS and Linux systems		
13	Certification	CE / RoHS compliant or equivalent		

4.32 HDMI CABLE - Quantity: 2

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	High-Speed HDMI 2.0 active cable		
2	Length	3 metres		
3	HDMI Version	HDMI 2.0 / HDMI 2.0b		
4	Bandwidth	Minimum 18 Gbps		
5	Maximum Resolution	4K x 2K @ 60 Hz		
6	Chroma Sampling	4:4:4		
7	Colour Depth	Up to 12-bit		
8	HDR	HDR10 / HDR10+ support		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
9	HDCP	HDCP 2.2 compliant		
10	Audio	Supports multi-channel digital audio, including Dolby/DTS formats		
11	ARC / eARC	ARC supported; eARC where supported by cable/device		
12	3D	3D video support		
13	Ethernet	HDMI Ethernet Channel, where supported		
14	Connector Type	HDMI Type-A Male to HDMI Type-A Male		
15	Connector Housing	Gold-plated/high-quality corrosion-resistant contacts preferred		
16	Compatibility	Backward compatible with HDMI 1.4/1.3 devices		
17	Certification	HDMI compliant; RoHS/CE or equivalent		

4.33 HDMI CABLE - Quantity: 6

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	High-Speed HDMI 2.0 active cable		
2	Length	1.5 metres		
3	HDMI Version	HDMI 2.0 / HDMI 2.0b		
4	Bandwidth	Minimum 18 Gbps		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
5	Maximum Resolution	4K × 2K @ 60 Hz		
6	Chroma Sampling	4:4:4		
7	Colour Depth	Up to 12-bit		
8	HDR	HDR10 / HDR10+ support		
9	HDCP	HDCP 2.2 compliant		
10	Audio	Supports multi-channel digital audio, including Dolby/DTS formats		
11	ARC / eARC	ARC supported; eARC where supported by cable/device		
12	3D	3D video support		
13	Ethernet	HDMI Ethernet Channel, where supported		
14	Connector Type	HDMI Type-A Male to HDMI Type-A Male		
15	Connector Housing	Gold-plated/high-quality corrosion-resistant contacts preferred		
16	Compatibility	Backward compatible with HDMI 1.4/1.3 devices		
17	Certification	HDMI compliant; RoHS/CE or equivalent		

4.34 HDMI CABLE - Quantity: 2

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Type	High-Speed HDMI 2.0 active cable		
2	Length	10 metres		
3	HDMI Version	HDMI 2.0 / HDMI 2.0b		
4	Bandwidth	Minimum 18 Gbps		
5	Maximum Resolution	4K x 2K @ 60 Hz		
6	Chroma Sampling	4:4:4		
7	Colour Depth	Up to 12-bit		
8	HDR	HDR10 / HDR10+ support		
9	HDCP	HDCP 2.2 compliant		
10	Audio	Supports multi-channel digital audio, including Dolby/DTS formats		
11	ARC / eARC	ARC supported; eARC where supported by cable/device		
12	3D	3D video support		
13	Ethernet	HDMI Ethernet Channel, where supported		
14	Connector Type	HDMI Type-A Male to HDMI Type-A Male		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
15	Connector Housing	Gold-plated/high-quality corrosion-resistant contacts preferred		
16	Compatibility	Backward compatible with HDMI 1.4/1.3 devices		
17	Certification	HDMI compliant; RoHS/CE or equivalent		

4.35 Audio Cable - Quantity: 50 Meters

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Cable Type	Professional Balanced Audio/Microphone Cable		
2	Conductor	Oxygen Free Copper (OFC), stranded		
3	Number of Conductors	2 Core + Overall Shield		
4	Conductor Size	Minimum $2 \times 0.22 \text{ mm}^2$ (24 AWG)		
5	Shielding	100% Foil or High-Density Braided Copper Shield		
6	Drain Wire	Tinned Copper Drain Wire		
7	Insulation	Polyethylene (PE) or PVC		
8	Outer Jacket	Flexible PVC, Black		
9	Outer Diameter	5.5 mm to 7.0 mm		
10	Capacitance	$\leq 70 \text{ pF/m}$ (Core to Core)		
11	Conductor Resistance	$\leq 85 \Omega/\text{km}$		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
12	Shield Resistance	$\leq 25 \Omega/\text{km}$		
13	Characteristic Impedance	Suitable for Balanced Analog Audio Applications		
14	Operating Temperature	-20°C to +70°C		
15	Flame Retardant	FR/LSZH preferred		
16	Applications	Microphones, Mixers, DSPs, Amplifiers, Audio Processors, XLR/TRS Connections		
17	Standards	RoHS Compliant		
18	Cable Length	As per Site Requirement		

4.36 Speaker Cable - Quantity: 200 Meter

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
1	Cable Type	Professional Speaker Cable		
2	Conductor Material	High-Purity Oxygen Free Copper (OFC), Stranded		
3	Number of Conductors	2 Core		
4	Conductor Size	Minimum $2 \times 1.5 \text{ mm}^2$ (16 AWG)		
5	Insulation	PVC or Polyethylene (PE)		
6	Outer Diameter	6.0 mm to 9.0 mm		
7	Voltage Rating	Minimum 300 V		

S. No.	Parameter	Minimum / Required Specification	Compliance YES / NO	Offered Make/Model & Datasheet/Page Ref.
8	Conductor Resistance	$\leq 13.5 \Omega/\text{km}$		
9	Insulation Resistance	$\geq 100 \text{ M}\Omega/\text{km}$		
10	Operating Temperature	-20°C to +70°C		
11	Flame Retardant	FR or LSZH (Preferred)		
12	Compliance	RoHS Compliant		
13	Cable Length	As per Site Requirement		

4.37 CAT 6 Cable - Quantity: 200 Meters

Sl. No.	Parameter	Minimum / Required Specification	Bidder Compliance (YES/NO)	Offered Make/Model & Datasheet/Page Ref.
1	Supply	CAT 6 cable - 200 metres, as per system/site requirement. Cable shall be suitable for the proposed AV/network connectivity.		

4.38 Connectors - Quantity: 1

Sl. No.	Parameter	Minimum / Required Specification	Bidder Compliance (YES/NO)	Offered Make/Model & Datasheet/Page Ref.
1	Supply	All connectors, adapters, couplers, terminations and miscellaneous accessories required for complete AV system integration and commissioning - 1 Lot.		

5. Bidder Compliance, Installation and Handover Conditions

- All specifications are minimum requirements. The bidder shall clearly state YES/NO compliance for each parameter and identify any deviation.
- For active equipment, exact Make/Model shall be indicated along with OEM datasheet/brochure page reference supporting the claimed compliance.
- The successful bidder shall conduct a site survey before execution and shall verify mounting locations, cable routes, ceiling/RCC support and equipment placement.
- All mounting, alignment, termination, programming, configuration, testing, commissioning and training are included in the scope.
- Cables and connectors shall be neatly routed, labelled and secured. Concealed cabling with casing/capping shall be provided wherever required by the site.
- The bidder shall hand over operating instructions / user operation template and demonstrate normal system operation to designated users.
- The complete system shall be demonstrated for projector/display routing, PTZ camera operation, wireless microphones, audio reinforcement, Dante/USB connectivity, AV control, network connectivity and all wired/wireless presentation functions applicable to the offered system.
- Local service support in Hyderabad with response/service within 48 hours of call logging is mandatory.
- Manufacturer Authorization Letter shall be submitted wherever applicable for the supplied products.

6. Minimum Acceptance Tests

Sl. No.	Test / Demonstration	Acceptance Requirement	Result / Remarks
1	Projection & Screens	All four projectors and four motorised screens shall operate correctly, including source display and control functions.	
2	Interactive & Display Systems	86-inch interactive flat panel and 43-inch display shall operate at specified resolution and connectivity.	
3	PTZ Camera	Camera shall demonstrate PTZ, optical zoom, tracking/framing functions and required HDMI/IP/USB/SDI outputs/control.	

Sl. No.	Test / Demonstration	Acceptance Requirement	Result / Remarks
4	Wireless Microphones	Two handheld, one bodypack/lapel and one tabletop/gooseneck wireless microphone path shall operate without interference.	
5	Audio Processing / Interface	Dante/USB audio routing and all offered DSP/matrix functions shall be demonstrated.	
6	Ceiling Audio	All 8 ceiling loudspeakers and amplifier channels shall be tested for uniform, intelligible audio.	
7	AV Switching	8x8 matrix switching and five HDMI extender links shall be tested for stable 4K/HD routing as applicable.	
8	Podium / Wall Plate	HDMI, USB-C and USB connectivity, auto switching and power-delivery functions shall be demonstrated.	
9	Control System	Tablet-based control application and control processor shall operate the programmed AV functions.	
10	Network Infrastructure	Managed PoE switch, wireless AP and associated network/control connectivity shall be tested.	
11	Cabling & Rack	Rack, mounts, cable routes, terminations, connectors, earthing, labelling and concealed casing/capping shall be verified.	
12	Documentation & Training	User operation template, configuration details, training and final handover shall be completed.	

Bidder Name	
Authorized Signatory	
Date / Seal	
Compliance Declaration	We confirm that the offered solution complies with the tender requirements except deviations explicitly stated in the compliance column.

For any technical query related to enquiry, you may contact

Mr. Vijay Chakravarthi, CSE Department, vijay.chakry@cse.iith.ac.in
CSE Office, office@cse.iith.ac.in

For Commercial query:

Mr. M Venkatesh – Senior Assistant Registrar, Email: ar.purchase@iith.ac.in
Mr. Ramesh Kumar – Senior Assistant Registrar Email: ar.stores@iith.ac.in
Ms. D Chanchala Devi– Joint Registrar, Email: hos.snp@iith.ac.in
With CC: office.stores@iith.ac.in

TERMS AND CONDITIONS

1. **Delivery period:** Material should be delivered and installed within **6-8 weeks** from the date of issue of the purchase order. The delivery period offered has to be strictly adhered to in case an order is placed.
2. **Payment:** - **No advance payments are allowed under any circumstances.** 100% payment will be made against Delivery, Installation, Commissioning, Training & acceptance by IIT Hyderabad and submission of **Performance Bank Guarantee** for the value of 5% of the order value, valid for a period of **Warranty/Support period plus 60 days.**
3. **Earnest Money Deposit:**
 - i. **The tender documents must be accompanied by an Earnest Money Deposit (EMD) of Rs. 80,000/- in the form of Account Transfer/Demand Draft/Bank guarantee from any commercial bank on any Scheduled/Nationalized Bank in favor of the Director, Indian Institute of Technology Hyderabad.**
 - ii. **The original document in case of EMD (other than MSME/NSIC) should be posted/couriered/given in person to the Stores & Purchase Section of IIT Hyderabad on**

or before the opening of Technical Bid. In case of non-receipt of original document before the due date of opening of technical bid, the uploaded bid will be summarily rejected.

For Online Payment of EMD /& Tender Fees: The EMD/Tender Fees can also be paid online, the bank details are as follows:

Canara Bank Account Details	
Name of the Bank	Canara bank
Branch Name & Bank Code	IIT KANDI & 3458
Account Number	110171129768
Pan No. of the institute	AAAAI2661J
GST no. of the institute	36AAAAI2661J1ZP
Bank Branch IFSC code	CNRB0003458
Bank Branch MICR code	500015066
SWIFT:	CNRBINBBBFD

The Online payment proof needs to be uploaded along with the Technical Bid.

The firm registered with NSIC/MSME/Udyam Adhaar must give proof of registration along with their quotation failing which the bid will not be considered.

Exemption from submission of EMD/Tender Fees against valid and relevant NSIC /MSME Certification is permitted, however it shall be subject to scrutiny by the IITH and if during scrutiny, it is found that the NSIC Certificate is invalid and/or irrelevant, then that bid is liable

to be rejected as “not-accompanying EMD”. Therefore, Bidders claiming exemption from EMD/Bid Securing Declaration against NSIC certificate, should ensure the same carefully, while submission of their bids.

Note: If in the view of bidder, any exemption / relaxation is applicable to them from any of the eligibility requirements, under any Rules / Guidelines/ Directives of Government of India, bidder may submit their claim for the applicable exemption /relaxation, quoting the valid Rule/Guidelines/ Directives with a copy of such notification. In this case the bidder must submit necessary and sufficient documents along with the technical bid, in support of their claim. The relevant and valid certificates in support of claim of exemption must be submitted along with the Technical Bid.

i) The BIDDER who submits the tender on behalf of their principals should produce documentary evidence in support of their authority to quote or submit Proforma invoice of their principals for this tender.

ii) The successful BIDDER, on award of contract / order, must send the contract / order acceptance in writing, within 15 days of award of contract.

iii) Bids submitted without Bid Securing Declaration / relevant MSME/NSIC Certificates will be rejected & no correspondence in this regard shall be entertained.

iv) These exemptions /relaxations are meant for procurement of only goods produced and services rendered by MSEs. Traders/ distributors/ sole agent/ Works Contract are excluded from the purview of the policy.

This Bid is also governed by the latest General terms and conditions as per GeM.

4. Bid Opening and Evaluation Process:

a. Technical Bids will be opened as per the Date Schedule & Time.

b. Financial Bids/Commercial Bids of the eligible bidders will be opened at a later date. The date and time for opening of Financial Bids /Commercial will be announced later.

c. Bids would be summarily rejected if the tender is submitted other than through an online portal. The Bid is to be submitted within the stipulated date / time.

Technical Committee

(i) On the due date the Technical bids will be opened and referred to a duly constituted technical committee which is duly constituted. The committee will go through the technical aspects of the tender and recommend short listed firms. The recommendation of the technical committee is the final and binding on all the parties.

(ii) The technical evaluation will be an assessment of the Technical Bid. IIT Hyd representatives will proceed through a detailed evaluation of the Technical Bids as defined in Annexure - A (Schedule of requirements, specifications and allied technical details), in order to determine whether they are substantially responsive to the requirements set forth in the tender. In order to reach such a determination, IIT Hyd will examine the information supplied by the BIDDERS, and shall evaluate the same as per the specifications mentioned in this tender.

(iii) The technical committee may formulate evaluation criteria in addition to the specifications and requirements indicated in the tender, in the interest of IIT Hyd and these criteria/recommendation will also form as a part of short-listing of the firms.

(iv) The Technical Committee will examine all the Technical aspects of the bids received. Further, the Technical Committee may seek additional information from the existing users at IIT Hyd or from other Institutes, these feedbacks will be considered for technical evaluation, the bidders will also be called for technical presentations if it is required so. The bidder will have to provide the details/any additional documents as and when sought by the Technical committee.

(v) The information received and the bids already submitted together will be examined with reference to the tendered specifications and evaluation is made by the Technical Committee.

(vi) After the technical evaluation is completed and approved, IIT Hyd shall inform to the BIDDERS whose bids have been rejected technically with the reasons for rejection.

(vii) The successful BIDDERS will be informed regarding the date and time of Commercial bid opening.

(viii) In the event of seeking any clarification from various BIDDERS by IIT Hyd , the BIDDERS are required to furnish only technical clarifications that are asked for. No amendment

to commercial bid will be entertained at that stage. In case if a BIDDER fails to quote for a particular item it amounts to non-compliance and hence such bid will not be considered for further evaluation. Further during this process if any BIDDER indicates the price during the clarification such bids also will not be considered for further evaluation.

5. The Director, IIT Hyd reserves the right to accept the offer in full or in parts or reject summarily or partly.

6. Bid Validity Period:

a. The prices must be valid at least for a period of **90 days** from the date of opening of the Tender. No changes in prices will be acceptable in any condition after opening of tender till the validity of the offer or execution of the order whichever is later

b. IIT Hyd may ask for the BIDDER's consent to extend the period of validity. Such request and the response shall be made in writing only. The BIDDER is free not to accept such request. A BIDDER agreeing to the request for extension will not be permitted to modify his bid.

c. Bid evaluation will be based on the bid prices without taking into consideration the above corrections

7. AWARD OF CONTRACT:

a. IIT Hyd, shall award the contract to the technically qualified eligible BIDDER whose bid has been determined as the lowest evaluated commercial bid.

b. If more than one BIDDER happens to quote the same lowest price, IIT Hyd reserves the right to award the contract to more than one BIDDER or any BIDDER.

8. IIT Hyd reserves the right to vary quantities at the time of Award:

a. IIT Hyd reserves the right at the time of Contract award to increase or decrease the quantity of goods and services originally specified in the tender document without any change in unit price or other terms and conditions. Further, at the discretion of IIT Hyd, the quantities in the contract may be enhanced by 25% within the delivery period.

b. Firms which have already supplied similar equipment to IIT Hyd and have not completed required installation/commissioning/after sales service/Warranty/Support replacements etc.

such firms offer will not be considered for further evaluation and no enquiries thereafter will be entertained.

9. Fraud and Corruption:

IIT Hyd requires that bidders, suppliers, contractors and consultants, if any, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy,

(a) The terms set forth below are defined as follows:

- (i) “Corrupt practice” means the offering, giving, receiving, or soliciting, directly or in directly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
- (ii) “Fraudulent practice” means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
- (iii) “Collusive practice” means a scheme or arrangement between two or more bidders, designed to establish bid prices at artificial, non -competitive levels; and
- (iv) Coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract

(b) IIT Hyd will reject a proposal for award if it determines that Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent collusive or coercive practices in competing for the Contract in question

10. Interpretation of the clauses in the Tender Document / Contract Document

In case of any ambiguity / dispute in the interpretation of any of the clauses in this Tender Document, Director, IIT Hyd’s interpretation of the clauses shall be final and binding on all parties.

11. Security Deposit:

- a. Within fifteen (15) days of the award of contract, the vendor shall furnish a Security Deposit amounting to **5%** of the purchase order value in the form of Insurance

Surety Bonds, Account Payee, Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank guarantee from any commercial Banks or payment online of a scheduled bank in the name of Director, IIT Hyd favouring the Director, IIT Hyd.

b. The Security Deposit will be encashed/claimed if the vendor fails to execute the order as per the Purchase Order.

c. The Security Deposit should be valid for a period of 03 Year Warranty/Support + 60 days, as the same will extend the same as Performance Bank Guarantee. Hence while preparing the BG, the time required for delivery and installation and Warranty/Support + 60 days needs to be accounted for to cover the BG validity period.

d) This Security Deposit will be refunded to the vendor only on satisfactory completion of all contractual including Warranty/Support obligations as per this Tender and Purchase Order issued against this Tender.

e) Bank Guarantee wherever mentioned in this document may be read as "Bank Guarantee from any Scheduled Bank" only. The Bank Guarantee should be submitted in Hard Copy to IITH and the issuing Bank should send the IFN 760 COV Bank Guarantee Advice Messages to our bankers through SFMS (Structured Finance Messaging System). Our Bank details are as follows:

Canara Bank Account Details	
Name of the Bank	Canara bank
Branch Name & Bank Code	IIT KANDI & 3458
Account Number	110171129768

Pan No. of the institute	AAAAI2661J
GST no. of the institute	36AAAAI2661J1ZP
Bank Branch IFSC code	CNRB0003458
Bank Branch MICR code	500015066
SWIFT:	CNRBINBBFD

12. Pre-installation: The BIDDER must state in detail the Electrical Power/UPS requirements, floor Space, head room, foundation needed and also to state whether Air-conditioned environment is needed to house the system and to run the tests. i.e. pre-installation facilities required for installation may please be intimated in the technical bid. Subsequently, before the consignment lands in IIT Hyd the bidder shall confirm that the pre-installation requirements are sufficient for installation of the equipment. The BIDDER should continuously monitor the pre-installation requirements and see that everything is ready before the consignment is taken to the site for installation.

13. Installation:

- BIDDER shall be responsible for installation / demonstration wherever applicable and for after sales service during the Warranty/Support and thereafter.
- Installation demonstration to be arranged by the supplier free of cost and the same is to be done within 15 days of the arrival of the equipment at site, unless otherwise instructed by the Institute
- After successful installation what will be the minimum down time of equipment/instrument in case of breakdown. If the identified firm or person fails to put the system into working condition what is the further alternative course of action suggested to adhere to minimum down time should be covered in the Technical Bid.

14. Inspection:

- a) The inspection of the system will be done by our technical expert /Scientist in the presence of firm's representative.
- b) In case of receipt of the material in short supply or damaged condition the supplier will have to arrange the supplies/ replacement of goods free of cost pending the settlement of the insurance case wherever applicable on FOR at the IIT Hyd.

15. **Training:** Wherever needed, Scientist/Technical persons of the Institute should be trained by the supplier at the project site free of cost. In case the person is to be trained at supplier's site abroad or in India it should be mentioned in the quotation clearly. The supplier should bear all the expenses for such training including 'to & fro' fares and lodging & boarding charges.

16. **Warranty/Support:**

- a) The items covered by the schedule of requirement shall carry minimum **03 Years** Warranty/Support from the date of acceptance of the equipment by IIT Hyd. Warranty/Support shall include free maintenance of the whole equipment supplied including free replacement of parts. The defects, if any, shall be attended to on immediate basis but in no case any defect should prolong for more than 24 hours. The comprehensive Warranty/Support includes onsite Warranty/Support with parts.
- b) The defects, if any, during the guarantee/Warranty/Support period are to be rectified free of charge by arranging free replacement wherever necessary. This includes cost, insurance, freight, custom duty, local taxes if any should be borne by the beneficiary or his agent. No cost will be borne by IIT Hyd.
- c) The Warranty/Support on the associated software should cover providing of upgraded version/s, if any, released during the Warranty/Support period free of cost.
- d) The Bidder shall assure the supply of spare parts after Warranty/Support is over for maintenance of the equipment supplied if and when required for a period of 10 years from the date of supply of equipment on payment on approved price list basis.
- e) The equipment must be supported by a Service Centre in India manned by the technical support engineers. Also it should be possible to contact the Principal's vendor support

Centre on a toll free number/web/mail. The support through this Centre must be available during all working days and hours.

f) The manufacturer/OEM is should facilitate the bidder/Agent on regular basis with technology / product updates & extend support for the Warranty/Support as well.

g) The vendor will have to arrange for all the testing equipment & tools required for installation, testing & maintenance etc.

h) The principal vendor must have a local logistics support by maintaining a spares in the country of deployment of the equipment, with the Indian Agent. This is to ensure immediate delivery of spares parts from Principal Vendor of equipment to its channel partner/system integrator.

i) Details of the agency who shall maintain during Warranty/Support and undertake Annual Maintenance Contract/Comprehensive Service Maintenance Contract beyond Warranty/Support shall be given in the offer. In case of foreign quote, the Indian Agent who shall maintain during Warranty/Support and AMC beyond Warranty/Support shall be given in the Technical Offer

j) **Commencement of Warranty/Support Period:** The Warranty/Support period of an item shall commence from the date of successful installation, commissioning and demonstration & Training at IIT Hyd. The Warranty/Support period and validity of Performance Guarantee shall be extended for the period of delay in satisfactory installation and delay in Warranty/Support services.

17. **Reasonability of Prices:** The prices quoted must be the prices applicable for a premiere Educational and Research Institute of national importance. The bidder must give details of identical or similar equipment, if any, supplied to other IITs/ IISERs/ CSIR lab/ CFTI's during last three years along with the final price paid and Performance certificate from them.

18. **Annual Maintenance Contract (Not applicable):** The bidder must mention in the quotation, the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the Warranty/Support period. This is mandatory to mention, wherever applicable. No sub-contracting will be allowed for installation or maintaining system/ equipment / instrument during or after Warranty/Support period.

19. **Indemnity:** The vendor shall indemnify, protect and save IIT Hyd against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc. or such other statutory infringements in respect of all the equipment's supplied by the bidder/OEM.
20. **Freight & Insurance:** The equipment'/items to be supplied will be insured by the vendor against all risks of loss or damage from the date of shipment till such time it is delivered at IIT Hyd site
21. **Amalgamation/Acquisition etc.:** In the event the Manufacturer/Supplier proposes for amalgamation, acquisition or sale of its business to any firm during the contract period, the BUYER/Successor of the Principal Company are liable for execution of the contract and also fulfilment of contractual obligations i.e. supply, installation, commissioning, Warranty/Support, maintenance/replacement of spares accessories etc. while submitting your bid, you may confirm this condition.
22. **Liquidity Damage for delayed Services**
- i) As time is the essence of the contract, Delivery period mentioned in the Purchase Order should be strictly adhered to, failing which, IIT Hyd encash/claim the Security Deposit and also LD clause will be applicable /enforced.
 - ii) If the supplier fails to Supply, Install and Commission the system as per specifications mentioned in the order within the due date, the Supplier is liable to pay liquidated damages of 0.5 % of order value per every week of delay subject to a maximum of 10% beyond the due date. Such money will be deducted from any amount due or which may become due to the supplier.
 - iii) IIT Hyd reserves the right to cancel the order in case the delay is more than 10 weeks. Penalties, if any, will be deducted from the Security Deposit.
23. **Requirement of registration:** Vide Ministry of Finance OM No. 6/18/2019-PPD dated 23rd July 2020.

- a. Any bidder from a country sharing a land border with India will be eligible to bid in this tender only if the bidder is registered with the Department for Promotion of Industry and Internal Trade (DPIIT).
- b. "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.
- c. "Bidder from a country which shares a land border with India" for the purpose of this Order means:
 - i. An entity incorporated, established or registered in such a country; or
 - ii. A subsidiary of an entity incorporated, established or registered in such a country; or
 - iii. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - iv. An entity whose beneficial owner is situated in such a country; or
 - v. An Indian (or other) agent of such an entity; or
 - vi. A natural person who is a citizen of such a country; or
 - vii. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- ii. For details about registration procedures please visit the above mentioned OM. Mandatory documentary evidence regarding the bidder's registration with DPIIT is to be submitted along with the tender, failing which the tender shall be liable for rejection. Bidders are also requested to submit the Model Certificates as **per Annexure** for this tender as mentioned in the Ministry of Finance OM No. 6/18/2019-PPD dated 23rd July 2020.

24. Public Procurement (Preference to Make in India), Order 2017:

- i. IIT Hyd shall compare all substantially responsive bids to determine the lowest valued bid. This Institute is following and abide with the Public Procurement (Preference to Make in India),

Order 2017, DIPP, MoCI Order No. P-45021/2/2017-B.E. II dated 15th June 2017 and its subsequent amendments. Accordingly, preference will be given to the Make in India products while evaluating the bids, however, it is the sole responsibility of the bidder(s) to specify the product quoted by them is of Make in India product along with respective documentary evidence as stipulated in the aforesaid order in the technical bid itself.

- ii. As per the above order and its subsequent amendments “Local Content” means the amount of value added in India which shall be value of the item procured (excluding net domestic indirect taxes) minus the value of the imported content in the item (including all the custom duties) as a proportion of the total value, in percent. Accordingly, the suppliers will be classified in following categories.

1. **Class I local Supplier – has local content minimum 50%**
2. **Class II local Supplier – has local content minimum 20%**

- b. **Verification of Local Content:** The Class I Local Supplier /Class II Local Supplier at the time of bidding shall be required to indicate the percentage of local content and provide self-certification as per **Annexure** that the items offered meet the local content requirement. The details of the location(s) at which the local value addition is made also needs to be specified.

The bidders can be debarred for a period up to two years as, per Rule 151(iii) of GFR 2017, in case of false declaration.

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 a product, the same shall be referred to competent authority at IITH or the relevant Ministry.

The bidder against whom the complaint is received shall be required to furnish the necessary documentation in support of the domestic value addition claimed in the product to authority. If no information is furnished by the bidder, such laboratories may take further necessary action, to establish the bonafides of the claim

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 Procuring Institute. 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.

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.

- 25. Note for MSME/NSIC/Start up Bidder:** If in the view of bidder, any exemption / relaxation is applicable to them from any of the eligibility requirements, under any Rules / Guidelines/ Directives of Government of India, bidder may submit their claim for the applicable exemption /relaxation, quoting the valid Rule/Guidelines/ Directives with a copy of such notification. In this case the bidder must submit necessary and sufficient documents along with the technical bid, in support of their claim. The relevant and valid certificates in support of claim of exemption must be submitted along with the Technical Bid.

These exemptions /relaxations are meant for procurement of only goods produced and services rendered by MSEs. Traders/ distributors/ sole agent/ Works Contract are excluded from the purview of the policy.

This Bid is also governed by latest General terms and conditions as per GeM

- 26. Force Majeure:** IIT Hyd may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that the delay, in performance or other failure to perform its obligations under the Contract, is the result of a Force Majeure. Force Majeure is defined as an event of effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, storms etc.) acts of states, the direct and indirect consequences of wars (declared or undeclared) hostilities, national emergencies, civil commotion and strikes at successful Bidder's premises.

- 27. Dispute Settlement:** IIT Hyd and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

If, after twenty-one (21) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the IIT Hyd or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration.

Arbitration may be commenced prior to or after delivery of the Goods under the Contract. The dispute settlement mechanism/arbitration proceedings shall be concluded as under:

- (a) In case of Dispute or difference arising between the IIT Hyd and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director IIT Hyd, if he is unable/unwilling to act, to the sole arbitration of some other person appointed by his willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.
 - (b) In the case of a dispute between the Purchase and a Foreign supplier, the dispute shall be settled by arbitration in accordance with provision of sub-clause (a) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules. The venue of the arbitration shall be the place from where the purchase order or contract is issued.
28. **Jurisdiction:** The disputes, legal matters, court matters, if any, shall be subject to Hyderabad Jurisdiction only.
29. The Director, IIT Hyd reserves the right to accept the offer in full or in parts or reject summarily or partly and also reserves the right to cancel the tender at any stage without assigning reasons.

Checklist for BIDDERS

BIDDERS to indicate whether the following are enclosed/mentioned by striking out the non-relevant option

Sl. No.	Content	File Types	Document Attached
1	FORMAT OF COMPLIANCE STATEMENT OF SPECIFICATIONS- Annexure- B	.PDF	(Yes /No)
2	UNPRICED TECHNICAL BID – Annexure-‘C’	.PDF	(Yes /No)
3	MANUFACTURER’S AUTHORIZATION & WARRANTY/SUPPORT SUPPORT DECLARATION – Annexure D	.PDF	(Yes /No)
4	Declaration for Local Content from OEMs Letter Head – ANNEXURE – E	.PDF	(Yes /No)
5	CERTIFICATE BY BIDDER- DPIIT REGISTRATION- ANNEXURE –F	.PDF	(Yes /No)
6	DECLARATION REGARDING CLEAN TRACK/NO LEGAL ACTION - ANNEXURE G	.PDF	(Yes /No)
7	Bidder Information form as per Annexure-‘H’	.PDF	(Yes /No)
8	PREVIOUS SUPPLY ORDER LIST FORMAT - ANNEXURE I	.PDF	(Yes /No)
9	ACCEPTANCE OF TENDER TERMS (To be given on Company Letter Head) - ANNEXURE – J	.PDF	(Yes /No)

ANNEXURE -B

FORMAT OF COMPLIANCE STATEMENT OF SPECIFICATIONS

1	2	3	4	5	6
S. N.	Name of specifications/part / Accessories of tender enquiry As per Annexure A of the Tender Document.	Specifications of quoted Model/ Item	Compliance Whether “YES” Or “NO”	Deviation, if any, to be indicated in unambiguous terms	Whether the compliance / deviation is clearly mentioned in technical leaflet/ literature
1					
2					
3					
n					

NOTE: The bidder should also submit the Brochure with technical details of the product supporting the compliance statement.

ANNEXURE - C

UNPRICED TECHNICAL BID
(Bidder should provide the following details on Letter head)

Quotation No :

Date:

Name of the Bidder _____
No. _____

GeM bid

Sr.No	Item Description	Country of Origin	Make & Model	HSN Code	GST %	Qty
1						
2						
3						
n						

Other Terms & Conditions

1	Payment terms	:
2	Delivery Period from the date of Issue of PO	:
3	Warranty/Support	:
4	Any other additional terms	:

ANNEXURE – D

MANUFACTURER’S AUTHORIZATION & WARRANTY/SUPPORT DECLARATION

(ON OEMs Letter head)

Date:

Tender No / GeM bid no:

To

The Director,
Indian Institute of Technology Hyderabad,
Kandi, Hyderabad – 502 284

We, _____ [name of Manufacturer], who are official manufacturers of [Insert type of goods manufactured] having factories at [insert full address of Manufacturer’s factories], do hereby authorize [insert complete name of Bidder] to submit a bid the purpose of which is to provide the following goods, manufactured by us [insert name and or brief description of the goods], and to subsequently negotiate and sign the contract.

We hereby extend our full guarantee, Warranty/Support, availability of spare parts and AMC support in accordance with the Terms and Conditions of Contract with respect to the Goods offered by the above firm.

Authorized representative of the Manufacturer

Authorized representative Bidder

Signature:

Signature:

Name:

Name:

Address:

Address:

Mobile No:

Mobile No:

ANNEXURE E

Declaration for Local Content (on OEM's Letter Head)

(To be given on Company Letter Head - For tender value below Rs.10 Crores)

(To be given by Statutory Auditor/Cost Auditor/Cost Accountant/CA for tender value above Rs.10 Crores)

Date: _____

To,
The Director,
Indian Institute of Technology Hyderabad,
Kandi, Sangareddy 502284

Sub: Declaration of Local content

Tender Reference No: _____

Name of Tender / Work: - _____

1. Country of Origin of Goods being offered: _____
2. We hereby declare that items offered has _____% local content (**Please provide exact %**).
3. Details of location at which local value addition will be made / made: (Complete address to be mentioned) _____

“Local Content” means the amount of value added in India which shall, be the total value of the item being offered minus the value of the imported content in the item (including all customs duties) as a proportion of the total value, in percent.

“*False declaration will be in breach of 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.”

Yours Faithfully,
(Signature of the Bidder/OEM, with Official Seal)

ANNEXURE F

CERTIFICATE BY BIDDER- DPIIT REGISTRATION

“ I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, / if from such a county, has been registered with the Competent Authority (copy of the Registration Certificate enclosed) . I hereby certify that his bidder fulfils all requirements in this regard and is eligible to be considered.

Signature with Date and Stamp
Of the Bidder

ANNEXURE G

DECLARATION REGARDING CLEAN TRACK/NO LEGAL ACTION

(to be provided on letter head of the firm)

I hereby certify that the above firm namely _____ is neither blacklisted by any Central/State Government/Public Undertaking/Institute nor 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 any every respect and in any case at a later date it is found that any of the details provided above are incorrect, any contract given to the above firm may be summarily terminated and the firm blacklisted.

OR

I hereby certify that our firm namely _____ was blacklisted by _____ for a period of _____ years/months at the Institute Level/ All Indian Level.

Date:

Authorized Signatory

Name:

Place:

Designation:

Contact No.:

ANNEXURE –H

BIDDER INFORMATION FORM

Company Name : _____

Registration Number : _____

Manufacturer /Distributor for the quoted product :

Registered Address : _____

Name of Partners /Director: _____

City : _____

Postal Code : _____

Company's Establishment Year : _____

Company's Nature of Business : _____

Company's Legal Status 1) Limited Company
(tick on appropriate option) 2) Undertaking
 3) Joint Venture
 4) Partnership
 5) Others (In case of Others please specify)

Company Category 1) Micro Unit as per MSME
 2) Small Unit as per MSME
 3) Medium Unit as per MSME
 4) Ancillary Unit
 5) SSI

6) Others (In case of Others please specify)

CONTACT DETAILS

Contact Name : _____

Email Id : _____

Designation : _____

Phone No : (_____) _____

Mobile No : _____

BANK DETAILS

Name of Beneficiary : _____

A/c. No. CC/CD/SB/OD: _____

Name of Bank : _____

IFSC NO. (Bank) : _____

Branch Address and Branch Code: _____

Other Details

Vendor's PAN No. _____

Vendor's GST _____

ANNEXURE – I

PREVIOUS SUPPLY ORDER LIST FORMAT

Order placed by <i>{Full address of Purchaser}</i>	Order No. and Date (Copies Need to be attached)	Description and quantity of ordered equipment	Value of order	Contact Person along with Telephone no., Fax no. and e-mail address.

Note: Technical Committee may seek additional information from the existing users at IIT Hyd or from other Institutes, these feedbacks will be considered for technical evaluation.

Signature and Seal of the Manufacturer/ bidder

Place:

Date:

ANNEXURE – J

ACCEPTANCE OF TENDER TERMS
(To be given on Company Letter Head)

Date: DD/MM/YYYY

To,

The Director
Indian Institute of Technology Hyderabad
Kandi – 502 285.Telangana, India

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No/GeM Bid no: _____

Name of Tender / Work: -

Dear Sir,

1. I/ We have downloaded / obtained the tender document(s) for the above mentioned 'Tender' from the web site(s) namely _____ as per your advertisement, given in the above mentioned website(s).

2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents (including all documents like annexure(s), schedule(s), etc .,), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/ organisation too have also been taken into consideration, while submitting this acceptance letter.

4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.

5. I / We certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organisation shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,

(Signature of the Bidder, with Official Seal)

ANNEXURE -K

FORMAT FOR PERFORMANCE BANK GUARANTEE

To
Indian Institute of Technology Hyderabad.
Kandi, Sangareddy 502284

Dear Sirs,

In consideration of the Indian Institute of Technology Hyderabad (hereinafter referred to as the "Buyer" which expression shall unless excluded by or repugnant to the context or meaning thereof, include its successors administrators and assigns) having issued to (Name of the seller) with its Registered / Head Office at (hereinafter referred to as the "Seller" which expression shall unless excluded by or repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) an order bearing Purchase Order No. dated and the same having been unequivocally accepted by the seller resulting into a Contract between the buyer and the seller for supply of, more fully described in the said Purchase Order and the buyer in terms of one of the provisions of the said Purchase Order and whereas the Seller has undertaken to produce a Bank Guarantee amounting to Rs. _____, which is **5%** of the Contract value in aggregate for Performance and Warranty/Support to the Buyers.

We, the _____ bank hereby expressly, irrevocably and unreservedly undertake the guarantee as Principal obligators on behalf of the SELLER that, in the event that the BUYER declares to us that the amount claimed is due by way of loss or damage caused to or would be caused or suffered by the BUYER by reason of breach/failure to perform by the said SELLER of any of the terms and conditions in the contract related to the Performance and Warranty/Support clauses, we will pay you, on demand and without demur, all and any sum upto (**5%** of the contract value) Rs. _____ only at any one instance under this Guarantee. Your written demand shall be conclusive evidence to us that such repayment is due under the terms of the said contract. We shall not be entitled to ask you to establish your claim or claims under this guarantee but will pay the same forthwith without any protest or demur. We undertake to effect the payment upon receipt of such written demand.

We shall not be discharged or released from the undertaking and guarantee by any arrangements, variations made between you and the SELLER, indulgence to the SELLER by you, or by any alterations in the obligations of the SELLER or by any forbearance whether as to payment, time performance or otherwise.

We further agree that any such demand made by the BUYER on the Bank shall be conclusive, binding, absolute and unequivocal notwithstanding any difference or dispute or controversy that may exist or arise between you and the Seller or any other person.

In no case shall the amount of this guarantee be increased.

This Performance-cum-Warranty/Support guarantee shall remain valid for a period until 60 days beyond the Warranty/Support period i.e. upto _____

Subject to the terms of this Bank Guarantee, the issuing bank hereby irrevocably authorizes the beneficiary to draw the amount upto Rs. _____ (5% of the total contract value) for breach/failure to perform by the Seller of any of the terms and conditions of the contract related to performance and Warranty/Support clause. Notwithstanding anything mentioned herein, the total drawings under the Guarantee by the buyer shall not exceed 5% of the total contract value. Partial drawing and multiple drawings under this Bank Guarantee are allowed within the cumulative amount and subject to each such drawing not exceeding 5% of the contract value.

This guarantee shall be continuing guarantee and shall not be discharged by any change in the constitution of the Bank or in the constitution of M/s. _____. We undertake not to revoke this guarantee during the currency except with previous consent of BUYER in writing.

Notwithstanding anything contained herein above:

- a) Our liability under this Guarantee shall not exceed Rs. _____ (Rupees _____ only (in words)
- b) This Bank Guarantee shall remain valid until 2 months from the date of expiry of Warranty/Support period of the contract i.e. upto _____ (mention the date) which is 2 months after expiry of the Warranty/Support period and the BG shall cease to be valid after _____ irrespective whether the Original Bank Guarantee is returned to us nor not.

- c) We are liable to pay guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written demand or a claim in writing on or before _____ (Expiry Date)

Dated the _____ day of _____ (month and year)

Place

Signed and delivered by _____ (name of the bank)

Through its authorized signatory
(Signature with Seal)

ANNEXURE – L

Bid Securing Declaration Form

Date: _____

Tender No. _____

To (insert complete name and address of the purchaser)

I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported with EMD of Rs. 80,000/-

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of two year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

- a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
- b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: _____ (insert signature of person whose name and capacity are shown)
in the capacity of _____ (insert legal capacity of person signing the Bid Securing Declaration)

Name: _____ (insert complete name of person signing he Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing)

Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)

ANNEXURE –M

BANK GUARANTEE FORMAT FOR EARNEST MONEY DEPOSIT

To
Indian Institute of Technology Hyderabad.
Kandi, Sangareddy 502284

WHEREAS _____ (Name of Bidder) (hereinafter called "the Bidder" has submitted its Bid dated _____ (Date) for the execution of (Name of Contract) _____ Tender no & Date: _____ (hereinafter called "the Bid") in favour of _____ hereinafter called the "Employer" (IFSC Code: SBIN0014182 ;
KNOW ALL MEN by these presents that we, _____ (name of the issuing Bank), a body corporate constituted under the _____ having its Head Office at _____ amongst others a branch/office at _____ (hereinafter called "the Bank" are bound unto the employer for the sum of Rs _____ (Rupees _____ only) for which payment well and truly to be made to the said Employer, the Bank binds itself, its successors and assigns by these presents;

THE CONDITION of this obligation is:

If the bidder withdraws or amends their offer of empanelment before finalization of empanelment by the employer,
We undertake to pay to the Employer up to the above amount upon receipt of his first written demand without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence the above condition.

Notwithstanding anything contained herein

- i. Our liability under this Bank Guarantee shall not exceed Rs. _____ (Rupees _____ only)
- ii. This Bank Guarantee **(it should be valid six months from the date of issue of BG)** is valid up to _____ and
- iii. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before _____ (mention period of guarantee as found under clause (ii) above plus claim period)

Dated _____ day of _____ 20____
SIGNATURE OF THE BANK