(1) Active LED Type to flip chip COB (Chip on Board)1.56 Pixel Pitch		
Sr. No.	**Parameter**	**Specifications**
1	Video Wall Size	Size should be min 10 X 5.5 Feet
4	Total Resolution	Min. 1920 X 1080 pixels brightness 700nits
5	Pixel Pitch (mm)	1.56mm or better
6	Contrast ratio	15,000; 1 or more pixel
11	Refresh Rate	Minimum 3840Hz or higher refresh rate for flicker free experience on video wall
12	Color Temperature	Between 3000～15000（Adjustable）
13	Video Frame Rate	Minimum 30Hz or better
14	HDR support 4K Scaling, Tilling Function, Genlock Function	Yes
14	Average time without failures	≥5000hrs
15	LED Lifetime, Typical(hrs)	100,000 or better
17	Operating Hours	24x7x365
18	Operating Temp Range	-20-+40 / Humidity 10%-60%RH
21	Maintenance	Maintenance of tiles or LED's should be Easy and Damage free process
26	Cabinet Ttype	Cabinet should include Receiving card and Power supply for the each module
27	Connectivity	Inputs 3x HDMI 1.4, 1x HDMI 2.0 (4K compatible), 1x USB Type C (Data: 5V, 1A), 2x USB 3.0, 1x Audio In (3.5mm), 1x RS232 (RJ45) Outputs 1x HDMI Out, 1x Audio Out (3.5mm), 1x USB Out
(1.2) Video Wall Controller		
S. No.	**Parameter**	**Required Parameters**
1	Features	Freely position content from any source, anywhere on the video wall. Easily drag, drop, resize, and scale content on the displays in real time. WITH 4k OUTPUT per Port 4 port and 4 Input and
2	Interfaces	input cards: DisplayPort, DVI, HDMI, IP, SDI VGA, H.264, and more Inputs HDR support Yes 4K Scaling, Tilling Function,
		4xmini dp
		4x HDMI
		4x type-B USB control port
		window 11 pro
(1.3)Transmitter and Reciver for Video		
S. No.	**Parameter**	**Required Parameters**
1	Features	Extend HDMI audio and video, Ethernet, RS232, and USB up to 330ft with 4K
2	Interfaces	HDMI and USB

(2) ELECTRONIC PODIUM with Signage Display		
S. No.	**Parameter**	**Specifications**
1	Top&Body	Top and Body should be Metal.
2	Mechanism	The system should have a Top Sliding Mechanism.
3	Keyboard/Mouse Tray	It should have sliding Tray for Keyboard /Mouse
4	Visualiser Tray	It should have a Provision for Visualiser with a Sliding Tray.
5	Wheels	Its should have Wheels for easy movement.
6	Rack Space	Its should have Rack Space for keeping Amplifier, CPU, Microphone receiver or more equipment.
7	Screen Size	The system should consist of 21.5 Inches Touch Screen Monitor.
8	Type	The monitor should be LED backlit.
9	Resolution	The monitor should have a native resolution of 1920x1080
10	Port	The monitor should come with a USB port for PC Connection.
11	Brightness	The monitor should have a Luminosity of 250 cd/m^2 or more.
12	Input port	The monitor should have a VGA, HDMI or DVI Input port.
13	Supply	The monitor should support Power Supply of 100 ~ 250VAC.
14	Digital Signage Display	The podium should have 32" or better digital signage display in the front for to play the videos and organization logos. The display should atleast have 1x HDMI Inputs
15	Laptop Interface	The system should consist of the atleast following ports on the interface with integrated Switcher having following Ports HDMI Port, 4 USB Ports, Power Outlet. It should come with integrated button.
		It shall have basic selection control buttons for the four inputs, Microphone Control Buttons, Volume Control Buttons, projector Control Buttons, Screen up/Down Buttons.
16	Gooseneck Mic Port	The Microphone should come up with standard 3 PIN XLR Connector.
17	Certifications	It should have CE,FCC and RoHS
(2.1) 12 Channel Pro Audio DSP		
S. No.	**Parameter**	**Specifications**
1	Type	12-channel audio processor
2	Mic/Line Inputs	It Should have 16 or more Microphones/Line input interface with phoenix connector having AEC
3	Line Outputs	It Should have 8 Line output interfaces, usually for external amplifier or active loudspeaker for remote and local audio playback, recording etc, phoenix connector.
4	Other Ports	It should have atleast 8x8 GPIO Ports on phoenix connector,
5	Network Input/Output	It should have at least 8x8 Dante input and outputs
6	Control Port	It should have 2xRS232 for connected to the control terminal, phoenix connector
7	ETHERNET	It should have atleast two Ethernet port for Configuration/control interface, RJ45 connector, at least two Ethernet Port for redundant networked audio like VoIP.
8	USB/Stereo 3.5mm Interface for Soft calls	It should have atleast one USB2.0 type B or C interface, supports bidirectional audio data transmission, can be more convenient to integrate into the OPS or PC as a sound card application, channel count at least 8x8
9	Software	It should support software to achieve special features like Acoustic Echo Cancellation configuration, NLP(Nonlinear Processing) Setting,Noise Reduction Setting,AGC(Automatic Gain Control) Setting, Dereverberation Setting,High-Pass Filter Setting,Low-Pass Filter Setting,Parameter Equalizer Setting,Leveler Setting,Auto Mixer Setting,Level Control Setting,Matrix Mixer Setting
10	Indicators	Power LED and OLED Display
11	Certifications	CE,FCC and RoHS

(3) Main FoH Line Array Speaker		
S. No.	**Parameter**	**Specifications**
1	Type of Speaker	The speaker system shall be a two-way coaxial full range passive line array speaker or better
2	Enclosure Material	The system should be made of High density multi-layer plywood or better
3	LF Drivers	The system shall be equipped with one (1) × 12” (304 mm) coaxial low-frequency driver.
4	HF Drivers	The system shall be equipped with one (1) × 1.5” (38 mm) high-frequency compression driver
5	Frequency Response	The frequency response (-10 dB) shall be 60 Hz – 19 kHz or better
6	Nominal Impedance	The nominal impedance shall be 8 ohms or higher.
7	Sensitivity（1W/1m)	The sensitivity (1W/1m) shall be 98 dB or higher.
8	Max SPL (Continuous/1m)	The maximum continuous SPL (1m) shall be 127 dB or higher.
9	Max SPL (Peak/1m)	The maximum peak SPL (1m) shall be 130 dB or higher.
10	RMS Power	The system RMS power handling shall be 450 W or higher.
11	Peak Power	The System peak power should be 1800W or higher
12	Dispersion	The system dispersion shall be 100° (horizontal) × 10° (vertical).
13	Crossover Mode	The system crossover mode shall be passive.
14	Mounting	The system shall support horizontal mounting or line array mounting
(3.1) Flying Hardware		
1	Flying Hardware	flying hardware designed and certified by the manufacturer.
2	Material	Flying hardware shall be made of high-grade MS / Aluminium
(3.2) Front Fill Speaker		
1	Type of Speaker	The loudspeaker shall be a two-way, full-range passive loudspeaker
2	Enclosure Material	The enclosure shall be high-density multi-layer plywood.
3	LF Drivers	The system shall have 1 × 8" (203 mm) low-frequency driver.
4	HF Drivers	The system shall have 1 × 1.34" (34 mm) high-frequency driver.
5	Frequency Response	The frequency response shall be 70 Hz – 19 kHz (-10 dB).
6	Nominal Impedance	The nominal impedance shall be 8 ohms or higher.
7	Sensitivity（1W/1m)	The sensitivity (1 W / 1 m) shall be 93 dB or higher.
8	Max SPL (Continuous/1m)	The system shall deliver a maximum SPL of 115 dB (continuous, 1m)

9	Max SPL (Peak/1m)	The system shall deliver a maximum SPL of 118 dB (peak, 1m)
10	RMS Power	The power handling capacity shall be 100 watts RMS or higher.
11	Dispersion	The dispersion pattern shall be 90° horizontal × 50° vertical.
12	Crossover Mode	The system crossover shall be passive type.
13	Mounting	The loudspeaker shall be capable of being mounted vertically or horizontally on both axes.
(3.3) Delay Speaker		
1	Type of Speaker	The loudspeaker shall be a two-way, full-range passive loudspeaker
2	Enclosure Material	The enclosure shall be high-density multi-layer plywood.
3	LF Drivers	The system shall have 1 × 8" (203 mm) low-frequency driver.
4	HF Drivers	The system shall have 1 × 1.34" (34 mm) high-frequency driver.
5	Frequency Response	The frequency response shall be 70 Hz – 19 kHz (-10 dB).
6	Nominal Impedance	The nominal impedance shall be 8 ohms or higher.
7	Sensitivity （1W/1m)	The sensitivity (1 W / 1 m) shall be 93 dB or higher.
8	Max SPL (Continuous/1m)	The system shall deliver a maximum SPL of 115 dB (continuous, 1m)
9	Max SPL (Peak/1m)	The system shall deliver a maximum SPL of 118 dB (peak, 1m)
10	RMS Power	The power handling capacity shall be 100 watts RMS or higher.
11	Dispersion	The dispersion pattern shall be 90° horizontal × 50° vertical.
12	Crossover Mode	The system crossover shall be passive type.
13	Mounting	The loudspeaker shall be capable of being mounted vertically or horizontally on both axes.
(3.4) Control Room & Green Room Speaker		
1	Type of Speaker	The loudspeaker shall be a two-way, full-range passive plastic loudspeaker
2	Enclosure Material	The enclosure shall be high-quality plastic material.
3	LF Drivers	The system shall have 1 × 6.5" (203 mm) low-frequency driver.
4	HF Drivers	The system shall have 1 × 1" (25 mm) silk dome high-frequency driver.
5	Frequency Response	The frequency response shall be 65 Hz – 18 kHz (-10 dB)
6	Nominal Impedance	The nominal impedance shall be 8 ohms
7	Sensitivity （1W/1m)	The sensitivity (1 W / 1 m) shall be 88 dB or higher.
8	Max SPL (Continuous/1m)	The system shall deliver a maximum SPL of 109 dB (continuous, 1m)

9	Max SPL (Peak/1m)	The system shall deliver a maximum SPL of 112 dB (peak, 1m)
10	RMS Power	The power handling capacity shall be 40 watts RMS or higher.
11	Dispersion	The dispersion pattern shall be 90° horizontal × 60° vertical.
12	Crossover Mode	The system crossover shall be passive type
13	Mounting	The loudspeaker shall be capable of being mounted vertically or horizontally on both axes.
(3.5) Subwoofer		
1	Type of Subwoofer	The subwoofer shall be a high-performance, front-loaded, enclosure-designed passive subwoofer.
2	Enclosure Material	The enclosure shall be constructed of high-quality Birch Plywood.
3	LF Drivers	The system shall have 1 × 18" high-performance low-frequency driver
4	Frequency Response	The frequency response shall be 38 Hz – 120 Hz (-10 dB)
5	Nominal Impedance	The nominal impedance shall be 8 ohms or higher
6	Sensitivity（1W/1m)	The sensitivity (1 W / 1 m) shall be 96 dB or higher
7	Max SPL (Continuous/1m)	The system shall deliver a maximum SPL of 127 dB (continuous, 1m)
8	Max SPL (Peak/1m)	The system shall deliver a maximum SPL of 130 dB (peak, 1m)
9	RMS Power	The amplifier power handling capacity shall be 750 W RMS or higher
10	Dispersion	The dispersion pattern shall be omnidirectional
(3.6) Speaker Management System		
1	Input	The system shall have a minimum of 2 inputs.
2	Output	The system shall have a minimum of 6 outputs
3	Input Level (Nominal / Max)	The input level (nominal/max) shall be 0 dBu / +12 dBu or better
4	Output Level (Nominal / Max)	The output level (nominal/max) shall be 0 dBu / +12 dBu or better
6	Input Dynamic Range	The input dynamic range shall be 110 dB or better
7	Fequency Response	The frequency response shall be 20 Hz – 20 kHz (±0.5) or better
9	A/D Converters	The A/D converters shall be 24-bit, 48 kHz or better
10	Connectivity	The system shall provide USB connectivity
11	Mains Power Input	Universal switch mode Power Supply 90-264 V / 45-65 Hz
(3.7) Stage Monitor		
1	Type of Speaker	The system shall be a self-powered, two-way coaxial monitor loudspeaker.

2	Enclosure Material	The enclosure shall be high-density multi-layer plywood
3	LF Drivers	The system shall have 1 × 12" low-frequency drive
4	HF Drivers	The system shall have 1 × 1.5" high-frequency compression driver
5	Frequency Response	The frequency response shall be 55 Hz – 19 kHz (-10 dB)
8	Max SPL (Continuous/1m)	The system shall deliver a maximum SPL of 122 dB (continuous, 1m)
9	Max SPL (Peak/1m)	The system shall deliver a maximum SPL of 128 dB (peak, 1m)
10	RMS Power	The amplifier section shall provide 500 watts RMS power or higher.
11	Dispersion	The nominal dispersion shall be 90° (horizontal) × 60° (vertical)
12	DSP Presets	The system shall include DSP presets for Music, Monitor, and Low Cut applications

(4) Digital Wireless Handheld Microphone System		
S. No.	**Parameter**	**Specifications**
1	Wireless Microphone System	It should be supplied with 1 Wireless Handheld microphones
2	Out Put	The receiver should have 1 number balance XLR Output
3	Frequency Band	The Microphones & Receiver should work on UHF frequency band.
4	Frequency Response	It should have a frequency response of 40Hz to 19000 Hz or better.
5	Antennas	It should have as 2x Antennas
6	Interface	It should have 1x output port as 6.3mm phono type. And 1 XLR Balanced output
7	Mount	It should have 1 Rack unit hight with ability to mount in rack.
8	Channel	System should support 46 or more simultaneous Microphone in an area
8	Power	It should be supplied with 12 VDC power adapter.
9	RF Output Power	10mW or more
10	Carrier Frequency Range	470-797MHz
11	Modulation Mode	FM
12	Microphone Elemen	Dynamic, Cardioid
13	Dynamic Range	134 dB or more
14	Current Consumption	< 301mA
15	Controls	Mute/Unmute or Power ON/OFF
16	System Latency	<2ms
(4.2) Digital Wireless Lapel Microphone System		
S. No.	**Parameter**	**Specifications**
1	Wireless Microphone System	It should be supplied with 1 bodypack trasnsmitter and 1 lapel microphones
2	Out Put	The receiver should have 1 number balance XLR Output
3	Frequency Band	The Microphones & Receiver should work on UHF frequency band.
4	Frequency Response	It should have a frequency response of 50Hz to 18000 Hz or better.
5	Antennas	It should have as 2x Antennas
6	Interface	It should have 1x output port as 6.3mm phono type. And 1 XLR Balanced output
7	Mount	It should have 1 Rack unit hight with ability to mount in rack.
8	Channel	System should support 46 or more simultaneous Microphone in an area
9	Power	It should be supplied with 12 VDC power adapter.
10	RF Output Power	10mW or more
11	Max SPL	130dB or more
12	Carrier Frequency Range	470-797MHz
13	Modulation Mode	FM
14	Microphone Elemen	Pre-Polarized Condensor Microphone, Omni-directional
15	Dynamic Range	134 dB or more
16	Sensitivity	16mV/PA or more

17	Current Consumption	< 301mA
18	Controls	Mute/Unmute or Power ON/OFF
19	System Latency	<2ms

(4.3) Digital Wireless Headworn Microphone System		
S. No.	**Parameter**	**Specifications**
1	Wireless Microphone System	It should be supplied with 1 bodypack trasnsmitter and 1 headworn microphones
2	Out Put	The receiver should have 1 number balance XLR Output
3	Frequency Band	The Microphones & Receiver should work on UHF frequency band.
4	Frequency Response	It should have a frequency response of 50Hz to 18000 Hz or better.
5	Antennas	It should have as 2x Antennas
6	Interface	It should have 1x output port as 6.3mm phono type. And 1 XLR Balanced output
7	Mount	It should have 1 Rack unit hight with ability to mount in rack.
8	Channel	System should support 46 or more simultaneous Microphone in an area
9	Power	It should be supplied with 12 VDC power adapter.
10	RF Output Power	10mW or more
11	Max SPL	145dB or more
12	Carrier Frequency Range	470-797MHz
13	Modulation Mode	FM
14	Microphone Elemen	Pre-Polarized Condensor Microphone, Cardioid
15	Dynamic Range	134 dB or more
16	Sensitivity	1.5mV/PA or more
17	Current Consumption	< 301mA
18	Controls	Mute/Unmute or Power ON/OFF
19	System Latency	<2ms

(4.4) Digital Wireless Microphone Lithium-ion Battery with charger		
S. No.	**Parameter**	**Specifications**
1	Battery	Rechargeable Li-ion Battery
2	Capacity	1.72Ah or more
3	Battery Count	2 or more
4	Charging slot	2 or more
5	Adaptor	Should come with charging adaptor

(4.5) 600mm Gooseneck microphone for digital podium		
S. No.	**Parameter**	**Specifications**
1	Microphone	Gooseneck microphone with 600mm or more length
2	Out Put	Should have 1 number balance XLR Output
3	Frequency Response	It should have a frequency response of 40Hz to 19000 Hz or better.
4	Power	Phantom powered
5	Acoustic operation Principle	pressure gradient transducer/ interference tube transducer

6	Pickup Pattern	Super-cardioid/lobar
7	Sensitivity	18mV/PA or more
8	Interference	RF shielding against intermodulation from wireless equipment/devices
9	Flexibility	Gooseneck should have at least two flexible sections

(4.6) External Antenna System		
S. No.	**Parameter**	**Specifications**
1	Frequency Range	it should suppor 470 - 1075 MHz range
2	Apex Angle	approx 100 degree or better
3	Antenna Gain	5dBi or better
4	impedance	50ohm or less
5	Directivity	Passive Directional Antenna
6	Connection	BNC Female, no DC Path
7	Compatibility	Should be from same OEM as of wireless microphone to ensure compatibility

(4.7) Active Antenna Splitter		
S. No.	**Parameter**	**Specifications**
1	Frequency Range	it should suppor 470 - 1075 MHz range
2	Antenna Splitter	2 x 1:4 or 1 x 1:8 Active
3	Gain	in A – out A1 to A4 : 0 ± 1 dB, in B – out B1 ... B4: 0 ± 1 dB
4	Impedance	50ohm or less
5	Reflection Loss	10dB or less
6	Power	Should supply power to Wireless Receivers at A1 to A4, DC 12 V Typically 350 mA, max. 500 mA
7	Operating Voltage	DC +12V
8	Operating Temperature	-10 °C - +55 °C

(5) Amplifier for Line Array Speakers		
1	Type of Amplifier	The amplifier shall be a Professional Class-D Power Amplifier
2	No fo Channel	The amplifier shall have two independent channels.
3	Stereo Power 8Ω	The amplifier shall deliver stereo output power of 1000 W × 2 at 8Ω.
4	Stereo Power $Ω	The amplifier shall deliver stereo output power of 1600 W × 2 at 4Ω.
5	Bridge 8Ω	The amplifier shall deliver bridged output power of 3000 W at 8Ω.
6	Input Power Consumption	The input power consumption shall be 1150 W or lower under normal operation.
7	Frequency Response	The frequency response shall be 20 Hz – 20 kHz (±0.5 dB).
8	S/N Ratio	The signal-to-noise ratio (S/N) shall be 98 dB or higher (A-weighted).
9	Damping Factor	The damping factor shall be 800 or higher (at 1 kHz, 8Ω
10	THD+N	The total harmonic distortion plus noise (THD+N) shall not exceed 0.05% at 1 kHz, 8Ω.
11	Input Sensitivity	The input sensitivity shall be selectable between 0.775 V and 1.44 V.
12	Input Impedance	The input impedance shall be 20 kΩ (balanced) and 10 kΩ (unbalanced).
13	Protection	The amplifier shall incorporate protection features including clip limiters, over-temperature protection, and short-circuit protection.

(5.1) Amplifier for Speakers		
1	Type of Amplifier	The amplifier shall be a professional Class-D amplifier.
2	No fo Channel	The amplifier shall be a four-channel power amplifier.
3	Stereo Power 8Ω	The amplifier shall deliver a stereo output power of 200 W × 4 at 8 Ω.
4	Stereo Power $Ω	The amplifier shall deliver a stereo output power of 300 W × 4 at 4 Ω.
5	Bridge 8Ω	The amplifier shall deliver a bridged output power of 650 W × 2 at 8 Ω.
6	Input Power Consumption	The input power consumption shall be 1035 W
7	Frequency Response	The frequency response shall be 20 Hz – 20 kHz (±0.5 dB).
8	S/N Ratio	The signal-to-noise ratio (S/N) shall be 98 dB (A-weighted).
9	Damping Factor	The damping factor shall be 500 (1 kHz @ 8 Ω)
10	THD+N	The THD+N shall not exceed 0.05% @ 8 Ω, 1 kHz.
11	Input Sensitivity	The input sensitivity shall be selectable between 0.775 V and 1.44 V.
12	Input Impedance	The input impedance shall be 20 kΩ (balanced) / 10 kΩ (unbalanced).
13	Protection	The amplifier shall include protection features including clip limiters, over-temperature protection, and short-circuit protection.

(5.2) Amplifier for Subwoofer		
1	Type of Amplifier	The amplifier shall be a professional Class-D amplifier
2	No fo Channel	The amplifier shall be a two-channel power amplifier
3	Stereo Power 8Ω	The amplifier shall deliver a stereo output power of 1000 W × 2 at 8 Ω
4	Stereo Power $Ω	The amplifier shall deliver a stereo output power of 1600 W × 2 at 4 Ω.
5	Bridge 8Ω	The amplifier shall deliver a bridged output power of 3000 W at 8 Ω
6	Input Power Consumption	The input power consumption shall be 1150 W.
7	Frequency Response	The frequency response shall be 20 Hz – 20 kHz (±0.5 dB).
8	S/N Ratio	The signal-to-noise ratio shall be 98 dB (A-weighted)
9	Damping Factor	The damping factor shall be 800 (1 kHz @ 8 Ω).
10	THD+N	The THD+N shall not exceed 0.05% @ 8 Ω, 1 kHz.
11	Input Sensitivity	The input sensitivity shall be selectable between 0.775 V and 1.44 V.
12	Input Impedance	The input impedance shall be 20 kΩ (balanced) / 10 kΩ (unbalanced).
13	Protection	The amplifier shall include comprehensive protection features such as clip limiters, over-temperature protection, and short-circuit protection.

Ground Floor Training Room

(6) 86" Interactive Display		
S. No.	**Parameter**	**Specifications**
1	Display Panel Diagonal size	86 Inches
2	Resolution	3840 x 2160 (4K or Higher)
3	Display Colour	1.07 Billion or HIgher
4	Brightness	400cd/m2 or better
5	Viewing Angle	±178 ° or better viewing angle
6	Contrast ratio	1200:1
7	Dynamic Contrast Ratio	30000:1
8	Response Time	Not more than 5 ms
9	Lifetime	50,000 hours or more
	Touch Interactive Display - Audio System	
10	Speakers	2 x 20 Watts or Higher
	Touch Interactive Display - Touch Technology	
11	Deployment of Touch Technology	ULTRA FINE Infrared
12	Thickness of the touch glass	4mm Toughened Glass with 9H Toughness or better
13	Surface technology	Anti-Glare
14	Touch accuracy	1mm or better
15	Touch Points in Windows	Must have a touch capability of minimum 20 points
	Touch Interactive Display - Connectivity Ports	
16	Interface	CONNECTIVITY HDMI 2.0 In 3 HDMI 2.0 Out 1 VGA In 1 Audio In 1 Audio Out 1
	Smart System(Android)	
17	CPU	8 core A55 or better
18	GPU	Dual-Core A52
19	Android version	Android 13.0 or Higher (With Playstore)