

RAJIV GANDHI INSTITUTE OF PETROLEUM TECHNOLOGY, JAIS, AMETHI

Dated: 17.01.2020

CORRIGENDUM – 1

Reference: E-Procurement of Audio –Visual System for Auditorium

Tender No. RGIPT/JAIS/E-OPN/IT/2019-20/2

This is to inform that the technical committee has reviewed the technical specifications after the response received from the bidders (in pre-bid meeting). The revised technical specifications along with the modifications of deadlines will be uploaded on the institute website.

The bidders are requested to upload the tender following the revised technical specifications following the corrigendum.

Note: Please see our website www.rgipt.ac.in for more information.

Approved by:-



Dr. Susham Biswas
Chairman, CCIS



RAJIV GANDHI INSTITUTE OF PETROLEUM TECHNOLOGY
 [An Institute of National Importance established under an Act of Parliament]
 Mubarakpur, Mukhetia, Bahadurpur Post: Harbanshganj, Jais, Amethi Pin Code- 229 304

Website: www.rgipt.ac.in

E-Procurement of Audio- Visual System for Auditorium

Type of Tender	E-TENDER (OPEN)
E-Tender No.	RG IPT/JAIS/E-OPN/IT/2019-20/2
Item Description	Procurement of Audio- Visual System for Auditorium
Tender Type	Two-Part Bid System: Tender should be submitted on the schedule to tender. (i) Techno-Commercial Bid and (ii) Financial Bid The Financial bid will be opened only of those firms, who will be found technically qualified after evaluation of their technical bids.
Earnest Money Deposit (EMD)	Rs.287450/- (Rupees Two Lakh Eighty Seven thousand Four hundred Fifty only) – Through online mode only.
Mode of Submission	Online Mode
E-Tender Date	6 th January 2020
Pre Bid Meeting	13 th January 2020
Last date of submission of E-Tender	30 th January 2020 at 3 PM
Date & Time of Opening of Techno- Commercial bid	30 th January 2020 at 4 PM
Date of Technical Presentation	3 rd February 2020 at 11 AM, Participated bidders should make technical presentation at the above time.
Date & Time of Opening of Financial Bid	Will be announced later
Place of Opening of E-Tender	Conference Room, 2nd Floor, Administrative Building, Rajiv Gandhi Institute of Petroleum Technology, Jais, Amethi, UP
E-Tender Processing Fee (ITI Limited)	Rs.7500/- + (Applicable GST @18%) through e-payment Gateway available on https://rgipt.euniwizarde.com
Bid Address to	The Director Rajiv Gandhi Institute of Petroleum Technology, Mubarakpur, Mukhetia, Bahadurpur POST: Harbanshganj, Jais, Amethi – 229304
Chairman Purchase Committee	Name: Dr. Susham Biswas Department: CCIS Email: susham@rgipt.ac.in Contact Nos.0535 270 4527, 8318994302/9919556965

Tenders can be downloaded from www.rgipt.ac.in and <https://rgipt.euniwizarde.com/>
 E Tendering Helpdesk Number: 011-49606060/9205898228/9650970101/8210817180
 E Tendering Helpdesk email ID: ewizardhelpdesk@gmail.com, ewizardhelpdesk89@gmail.com

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Online Tenders from reputed System Integrator for procurement of **Audio- Visual System for Auditorium** are invited by the Rajiv Gandhi Institute of Petroleum Technology, Amethi- 229 304 in **Two-Part Bid System** as per specifications mentioned below:

ITEM PARTICULARS

Revised Technical Specification

Enquiry No: - RGIPT/JAIS/E-OPN/IT/2019-20/2 Date:

Technical Specification of Audio- Visual System for Auditorium

Audio System

Approved Make for point (1 to 13):- Bose, JBL, L-Acoustics		
Main LR Flying Speaker		
s/n	Product Description	Qty(No.)
1	Supply, Installation, Testing and Commissioning of Two way passive / Biamp Line array speakers flyable at left & Right of the stage ; frequency response 70hz to 18.5Khz with Lf drivers 2x10" or 2x8" and with 1x1.7" HF Unit; with minimum sensitivity of 99db & Peak max SPL of 136db (minimum) per box; with minimum Power handling 450 watts continuous RMS power as required. (Similar or better).	12 pcs
2	Supply, Installation, Testing and Commissioning OF Speaker flying Frame from the OEM complete with all accessories. (Similar or better).	2 pcs
Main Center Flying Speaker		
3	Supply, Installation, Testing and Commissioning of Two way passive / Biamp Line array speakers flyable at Center of the stage ; frequency response 70hz to 18.5Khz with Lf drivers 2x10" or 2x8" and with 1x1.7" HF Unit; with minimum sensitivity of 99db & Peak max SPL of 136db (minimum) per box; with minimum Power handling 450 watts continuous RMS power as required. (Similar or better).	3 pcs
4	Supply, Installation, Testing and Commissioning OF Speaker flying Frame from the OEM complete with all accessories. (Similar or better).	1 pcs
Control Room Monitor Speaker		
5	SITC of Control Room Monitor Speaker:- 2-way full range, 120W RMS, 8 ohms, LF Custom made 6" driver ferrite magnet, 1.5" in/out Voice coil + 0.75" exit HF, Frequency Response 65Hz-20khz, Average Sensitivity - 90dB/W/m, Max SPL 117db peak, Nominal Directivity - 85° conical Above 800Hz), Size - 260 x 190 x 250 mm, Weight: 5.5Kgs net/ 7Kgs Gross (Similar or better).	2 pcs
Subwoofer		
6	Supply, Installation, Testing and Commissioning of High Performance Subwoofer, 1x18" (4" VC), Max SPL (Peak) : 136dB / 1m (Minimum), with minimum sensitivity of 99dB Nominal Impedance 8ohms ; with 1000 - 1200 watts continuous RMS power. (Similar or better).	8 pcs
7	Supply, Installation, Testing and Commissioning OF Subwoofers Flying Frame from the OEM complete with all accessories. (Similar or better).	2 pcs
Stage Monitor		

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8	SITC of Stage Monitor:- 2-way low profile coaxial monitor,400W RMS, 8 ohms, LF Custom made 8" driver Neodymium magnet, 3" in/out Voice coil + 1" exit HF, Frequency Response 69Hz-18khz, Average Sensitivity 100dB/W/m, Max SPL 132db peak ,Nominal Directivity - 70° conical, Cabinet - CNC made with tongue & groove assembly 15 and 18mm birch plywood (Similar or better).	4 pcs
LR Surround Speaker		
9	SITC of Surround Speaker:- 2-way full range, 250W RMS, 8 ohms, LF Custom made 8" driver ferrite magnet, 2.5" in/out Voice coil + 1" exit HF, Frequency Response 90Hz-18khz, Average Sensitivity - 97dB/W/m, Max SPL 127db peak ,Nominal Directivity - 60° conical Above 1200Hz) (Similar or better).	4 pcs
Rear LR Surround Speaker		
10	SITC of Speaker:- 2-way full range, 150W RMS, 8 ohms, LF Custom made 8" driver ferrite magnet, 2" in/out Voice coil + 1" exit HF, Frequency Response 95Hz-22khz, Average Sensitivity - 93dB/W/m, Max SPL 121db peak ,Nominal Directivity - 60° (conical) (Similar or better).	8 pcs
Amplifier for Main and Subwoofer		
11	SITC of Amplifier:- Professional Dual channel Power amplifier, 4 x 1400W @ 8 ohms, 4 x 2600W @ 4 ohms, Frequency Response - 20 - 20000Hz, Sensitivity - 2./82Vrms Input Impedance - 20K, Crosstalk - >75dB, S/ N ratio - > 110dB, Damping Factor - 800, THD - < 0.05% , Slew Rate - 60V / us, Weight 13kg (Similar or better).	3 pcs
Amplifier for Stage Monitor Surround Speaker		
12	SITC of Amplifier:- Professional Dual channel Power amplifier, 4 x 800W @ 8 ohms, 4 x 1400W @ 4 ohms, Frequency Response - 20- 20000Hz, Sensitivity - 1.6Vrms Input Impedance - 20K, Crosstalk - >70dB, S/ N ratio - > 110dB, Damping Factor - 800, THD - < 0.05% , Slew Rate - 30V / us, Weight 19kg (Similar or better).	3 pcs
Control Room Amplifier		
13	SITC of Amplifier:- Professional Dual channel Power amplifier, 2x 400W @ 8 ohms, 2 x 600W @ 4 ohms, Sensitivity - 0.775v Input Impedance - 20K, Crosstalk - >65dB, S/ N ratio - > 110dB, Damping Factor - 500, THD - < 0.1% , Slew Rate - 15V / us, Weight 14kg (Similar or better).	1 pcs
Approved Make for point (14 & 15) :- Allen & Heath, Yamaha, Digico		
32 Channel Digital Mixer		
14	SITC of Digital Mixer:- 32 Mono Mic/Line Inputs (TRS + XLR),Recallable AnaLOGIQTM Preamps,3 Stereo Inputs (TRS),24 Mix Outputs (XLR),4 Stereo Groups (switchable to Mix mode),Up to 11 Monitor Mixes (4 mono + 7 stereo),32x32 USB Audio Interface, dSNAKETM Remote Audio Port,33 Motor Faders With Stage Box (Similar or better).	1 pcs
32 Channel Stage Box		
15	SITC of Stage Box:- 32 Mic Preamps on XLR, 16 XLR Line Outs, dSNAKE Connection with locking Ethercon port Expander Ethercon port for connection to an AR84 or AB168 Dedicated port for ME personal mixing system (Similar or better).	1 pcs
Approved Make for point (16 & 17):- Bose, BSS, Bi-amp		
Digital Signal Processor		
16	SITC of DSP:- 12 Analog Inputs (with 48v Phantom Power per Channel), 8 Analog Outputs, Configurable Signal Processing, Rich Palette of Processing and Logic Objects, 48 Channel, Low Latency, Fault Tolerant Digital Audio Bus, Clear Front Panel LED Indication Bi-Directional Locate Functionality,12 Control Inputs and 6 Logic Outputs for GPIO Integration, Soundweb London Interface Kit for Third Party Control System Integration (Documentation),HiQnet Device Configuration, Control and Monitoring from HiQnet London Architect (Similar or better).	1 pcs

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	Wall Plate	
17	SITC of Wall Plate:- Programmable Controller, Control In - Ethernet, Display - Touch Screen, Controls - two buttons, rotary encoder, touch-screen (Similar or better).	1 pcs
	Approved Make for point (18):- Yamaha, Marantz, Pioneer	
	Surround Preamp	
18	SITC of AVR Preamp:- 11.2-channel preamplifier with balanced XLR outputs (including subwoofer outputs),Dolby Atmos and DTS:X (Up to 7.1.4-ch), Built-in Wi-Fi, Bluetooth, Airplay, Spotify Connect,4K Ultra HD video upscaling with HDCP 2.2 support MusicCast wireless multiroom audio system (Similar or better).	1 pcs
	Approved Make for point (19,20,21,22,23):- Sennheiser / Shure / Audio Technica	
	Microphone	
19	Supply, Installation, Testing and Commissioning of UHF Wireless Handheld Microphone System, Receiver: Frequency range 506 - 530 MHz, 668 - 692 MHz, Switching bandwidth 18 MHz, SN ratio >100 dB, T.H.D. < 0.5% at 1 kHz, Transmitter: Transducer type: Dynamic, Polar pattern: Supercardioid etc. complete with installation as per the site requirement. (Similar or better).	4 pcs
20	Supply, Installation, Testing and Commissioning of UHF Wireless Lapel Microphone System, Receiver: Frequency range 506 - 530 MHz, 668 - 692 MHz, Switching bandwidth 18 MHz, SN ratio >100 dB, T.H.D. < 0.5% at 1 kHz, Modulation FM, Frequency response 50 Hz - 18,000 Hz etc. complete with installation as per the site requirement. (Similar or better).	2 pcs
21	SITC of Microphone:- Dynamic Vocal Microphone, polar pattern Supercardioid, Frequency Range 50-15000 Hz, Sensitivity 1.8mV/Pa, Impedance <=300 ohms (Similar or better).	4 pcs
22	SITC of Microphone:- Dynamic Instrumental Microphone, polar pattern Supercardioid, Frequency Range 40-15000 Hz, Sensitivity 1.9mV/Pa, Impedance <= 310 ohms (Similar or better).	4 pcs
23	SITC of Gooseneck Microphone:- Cartridge Type- Electret Condenser, Frequency Response - 70-16000 Hz, Polar Pattern - Cardioid with table top ON/OFF switch (Similar or better).	2 pcs
	Approved Make for point (24,25,26 & 27):- Krystal / Belden / Klotz	
	Cables	
24	SITC of Speaker Lines:- 2-Core, High definition Speaker Cable, PVC insulated in PVC jacket laid in existing conduits (Similar or better).	1000 Mtrs.
25	SITC of Speaker Lines:- 2-Core, High definition Speaker Cable, PVC insulated in PVC jacket laid in existing conduits (Similar or better).	500 Mtrs.
26	SITC of Microphone cables:- high grade, professional, low-noise, 2-core high conductivity PVC insulated in PVC jacket, shielded, copper cable (Similar or better).	200 Mtrs.
27	SITC of Cat 6 cables:- Product Type : Conductor 0.57 mm Bare Copper 23AWG x 4pairs , Resistance: 9.38 ohm, PE Insulation, PE Central Cross,	200 Mtrs.

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	Packaged in an Easy-to-pull for Easier Installation Features : LAN Cable , Cat6 1000 Mbps Speed, Unshielded Twisted Pair (UTP) (Similar or better).	
	Approved Make for point (28 & 29):- Ahuja, GS, KNM	
	Mic Stand	
28	SITC of Long mic stand (Similar or better).	4 pcs
29	SITC of Small Mic Stand (Similar or better).	4 pcs

Video System

	Approved Make for point (1):- Barco, Sony, Epson	
	Projector & Display	
s/n	Product Description	Qty(No.)
1	SITC of 12000 lumens or more WQXGA/4K UHD DLP Laser Projector with zoom lens: ANSI lumens-12,000 ANSI lumens, Contrast-1,200:1 full on/off, Display Type-1 Chip DLP, Illumination- Laser phosphor, inputs-2 x HDMI inputs, 1 x HDBaseT input, 1 x HD15, Native Resolution- WQXGA, 4K, UHD, lifetime-20,000 hours, Lens - To be supplied with Long throw zoom lens, Control- Ethernet & RS-232, Power Supply-100-120 VAC / 200-240VAC @ 60/50 Hz, Enclosure- Rack-mountable metal enclosure, (Similar or better). HDCP Compliant- HDCP Compliant, Compliance- CE, UL, BIS	1
	Approved Make for point (2):- Bavit / Dalite / Grandview	
2	SITC of 300 Inch Diagonal Tab Tensioned Motorized Projection Screen with low voltage control: Screen Size-300 inch Diagonal, Motor- Durable motorized, Frame- Durable steel inner frame with black steel case finish and fixed mounting brackets, Fabric- Matte white Screen surface, Native Resolution- WQXGA, 4K, UHD, Control- RF, Low Voltage (LVC) control included, Compliance- CE, BIS (Similar or better).	1
	Approved Make for point (3 & 4):- Samsung / Sony / Panasonic	
3	SITC of 43" 4K/UHD Display with min 1x HDMI. Control: RS232/Ethernet with Mounting arrangements: Screen Size (Diagonal) -43 Inches, Aspect ratio-16:9, Resolution-3840X2160 OR 4096X2160 , Brightness- 300 nit or better, Panel Technology- S-IPS Panel / D-LED, Input Connectivity-1 nos. HDMI, 1 No. DVI-D, 1 No. Display Port, Mounting- Wall mounting, VESA compatibility, Mount type to be supplied along with panel, Remote Control- IR Remote Control, Viewing Angle(H/V)- 178/178, Inbuilt Speaker- 20 watt or more (Similar or better).	2
4	SITC of 65" 4K/UHD Display with min 1x HDMI Control: RS232/Ethernet with Mounting arrangements: Screen Size (Diagonal) -65 Inches, Aspect ratio-16:9, Resolution-3840X2160 OR 4096X2160, Brightness- 400 nit or better, Panel Technology- S-IPS Panel / D-LED, Input Connectivity-1 nos. HDMI, 1 No. DVI-D, 1 No. Display Port, HDCP- HDCP Compliant, Mounting- Wall mounting, to be supplied along with the panel, Remote control- IR Remote Control, Viewing Angle (H/V)- 178/178, Inbuilt Speaker-20 Watt or more, Other- There should be proper arrangement for installing the display outside premises and protection from outside hindrances, (Similar or better). Compliance- CE, BIS	2
	Approved Make for point (5,6,7,8, 9):- Extron, Crestron, Kramer	
	Switching & Interfacing	
5.	SITC of laptop Cable access enclosure with 1x AC power outlet. There should be pass through holes for 1x VGA, 1x Audio, 1x HDMI, 1x LAN etc: General- Each box should have minimum 1 nos. universal type power sockets, pass through holes for 1x HDMI, 1 x VGA with audio, 1x LAN, Enclosure Type- Metal, Finish- Black Anodized, Mount Type- Furniture, (Similar or better). Compliance- CE, RoHS	2
6.	SITC of three input multiformat twisted pair switcher transmitter with 1x VGA+A, 1x HDMI &, 1x HDMI/DP. Transmitter should transmit signal upto 100 mtr or more. Should supply with mounting accessories: Video Input-1	2

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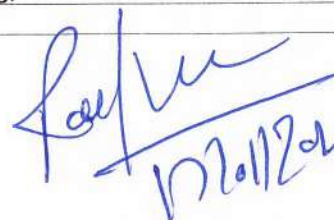
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	x HDMI, 1 x VGA with Audio, 1 x HDMI/DP, Video Output- Twisted pair on RJ 45 port, Resolution Support- 4K or more with minimum 10.2 Gbps data rate on single port, Auto-switching between inputs- Yes, Transmission distance- 100 Mtr or more over twisted pair cable, Transmission Signals- HDMI, VGA with audio, bidirectional RS-232, IR, and Ethernet, power, Compatibility- The transmitter should be compatible with the specified matrix switcher, Remote power- transmitter should support local power supply Other- Should supply with under table mounting accessories, (Similar or better). Compliance- CE, UL	
7.	SITC of Twisted pair Receiver for HDMI and control. Should receive HDMI plus control and analog audio up to 100mtr or more over a shielded twisted pair cable: Input- Twisted pair on RJ 45 port, Video Output- 1 HDMI, Resolution Support- 4K or more with minimum 10.2 Gbps data rate on single port, Transmission distance- 100 Mtr or more over twisted pair cable, Control Input- 1 or More RS232, 1 or More IR, HDCP- HDCP 2.2 Compliant, Remote power- Receiver should support local power supply, (Similar or better). Compliance- CE, UL	4
8.	SITC of All In One Seamless 4K Scaling Presentation Matrix Switcher 8x8 (Full fill the complete system requirement & function ability). Inputs: 4x twisted pair, min 6 or more HDMI. Output: 4 or more twisted pair, 4 or more HDMI: Video Input- Minimum 6 or more HDMI inputs and 4 or more HD BaseT/Twisted Pair Inputs over RJ-45 connector, Video Output- 04 or more HDMI Output, 04 or more HD BaseT/Twisted Pair Output, Signal Extension- 100 Mtrs over shielded twisted pair cable, Resolution Support- 640x480 to 4096x2160, 480i, 480p, 576i, 576p, 720p, 1080i, 1080p, and 2K. 3840x2160 (up to 60 Hz) to 4096x2160 (up to 60 Hz), Data rate of 10.2 Gbps or higher, Scaled resolution- Four or more scaled output, resolution: 640x480 up to 4096x2160 including 4K/UHD. Built in scaling within the matrix switcher or with scaling receiver, Audio input- 4 or more-line inputs, 04 or more microphone inputs with phantom power, Audio Output- 2 or More Line level, Audio de-embedding/ embedding- Shall provide built in audio de-embedding and embedding, Mounting- Rack / Furniture, Chassis Type- Fixed/Modular, HDCP Compliant- 1.4 or better, Control port- Ethernet/RS 232, (Similar or better). Safely Compliance- CE, c-UL, UL	1
9.	SITC of Long Distance Four Output Twisted pair Distribution Amplifiers. Inputs: 1x HDMI. Output: 4 or more twisted pair: Input- One or more HDMI Inputs, Video Output- 04 or more Twisted Pair/HDBaseT output, Audio input- Embedded digital audio on HDMI, Balanced/Unbalanced Analog audio input, Data rate- 10.2 Gbps or higher, Video Resolution- 4K/UHD @ 30 Hz with 4:4:4 Sampling and 4K/UHD @ 60 Hz with 4:2:0 chroma subsampling, Transmission Distance- 100 Mtrs or higher for 4K/UHD, 100 Mtrs or higher for 1080P, Communication- RS-232 and IR Signal Extension over twisted Pair, Local RS-232 insert or injection through Telnet, HDCP- 1.4 or higher, (Similar or better). Safely Compliance- CE, c-UL, UL	1
	Approved Make for point (10):- Extron, Crestron, Kramer	
	Wireless Presentation & Bluray	
10.	SITC of Wireless presentation System Output: 1x HDMI, 1x VGA/HDMI. Content sharing through app. Resolution support upto 1080p: Compatible operating systems- Windows, macOS, iOS, Android, Video Input- 1X RJ45, 1X USB, Video Output- 1x HDMI (Inbuilt or with Converter), Output resolution- 1920x1080 or better, Frame rate- 30 fps or better for Full HD or more resolution, Features- Number of simultaneous connections 64 or more. iPad, iPhone and Android compatibility. Sharing of documents through connected devices, Multiview- Simultaneous viewing of 04 devices on the screen, Connectivity- 1 x LAN (RJ45) with Built-in or External Wireless Access Point, (Similar or better). Compliance- CE, UL	1
	Approved Make for point (11):- Sony, Samsung, Tascam	

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11.	SITC of Bluray cum DVD player: General- 4K Ultra HD Blu-ray™ Player, Play almost any disc and file format, Input- USB, Output- HDMI Output (1 rear), Coaxial Audio Output (1 rear) (Similar or better).	1
	Approved Make for point (12):- Dell/Wacom/Lenovo	
	Annotation & Streaming	
12.	SITC of 22 inches Interactive touch monitor on the podium for annotation. Should have min 1x HDMI and 1x USB: Basic Function- Elegantly Designed Touch monitors built from a solid aluminum/composite with VESA mounting, Size- 21.5", Resolution- 1920 (h) x 1080 (v), Brightness- 250 cd/m2, Contrast ratio- 1000:1, Touch- Touch interactive with USB interface, Frame- anti-reflective coating on the glass surface, Input signal- DVI-D/HDMI, HDCP- 1.3 compliant or better, Control- USB, (Similar or better). Compliance- CE, UL	1
	Approved Make for point (13,14,15):- Extron, Crestron, Kramer	
13.	SITC of Twisted pair Receiver for HDMI and control. Should receive HDMI plus control and analog audio up to 100mtr or more over a shielded twisted pair cable: Input- Twisted pair on RJ 45 port, Video Output- 1 HDMI, Resolution Support- 4K or more with minimum 10.2 Gbps data rate on single port, Transmission distance- 100 Mtr or more over twisted pair cable, Control Input- 1 or More RS232, 1 or More IR, HDCP- HDCP 2.2 Compliant, Remote power- Receiver should support both local power supply and remote powering, (Similar or better). Compliance- CE, UL	1
14.	SITC of Hardware based annotation processor. Input: 1x HDMI, 1x HDMI/DP, Output: 1x HDMI, 1x Twisted Pair. 2 or more USB to connect with touch monitor. Control: RS232/Ethernet: General Description- Hardware based Annotation Processor with 1x HDMI, 1x DisplayPort and 1x VGA inputs. 1x DVI/HDMI, 1 Twisted Pair on RJ 45 (In-built or External) outputs, Video Input- 1x HDMI, 1x DisplayPort and 1x VGA inputs, Video Output- 2x DVI/HDMI, 1 Twisted Pair on RJ 45 (In-built or External), Scaled Output resolution- 640x480 - 2048x1080 including 1080p, 1920x1200 @ 60 Hz, Annotation capabilities- Draw, point, or add text in real-time over live video and graphics presentations, Auto-switching- Auto-switching with priority setting, EDID management- Automatic with Option to manually assign user EDID, HDCP- HDCP Compliant, Control- Ethernet and RS-232, (Similar or better). Compliance- CE, UL	1
15.	SITC of USB extender to extend USB signal upto 100 mtr or more: General Description- Extend USB peripherals up to 330 feet (100 meters) over one twisted pair cable, Tx Input- USB host (USB 3.0, USB 2.0, USB 1.1), USB data rate- high speed (480 Mbps), Interconnection- Twisted Pair connectivity from Tx to Rx over RJ-45, Rx Output- 02 or more USB Port with USB hub built in on the output, Output Voltage- 5 Volts, 500 mA on each port, Transmission distance- 100 Mtr or more over twisted pair cable, (Similar or better). Compliance- CE, UL	1
	Approved Make for point (16):- Dell, HP, Apple	
	Software Based Video Conferencing & Recording System	
16.	SITC of PC for software based video conferencing system: Processor- Intel® Core™ i7-9700 (8 Cores/12MB/8T/3.0GHz to 4.7GHz/65W); supports Windows 10/Linux, Operating System- Windows 10 Pro (64bit) English. Memory- 8GB RAM Hard Disk- 1TB SATA Hard Disk Drive. Output- With 2 HDMI Output and with Graphics Card (Similar or better).	1
	Approved Make for point (17):- Sony, Lumens, Panasonic	
17.	SITC of Full HD PTZ camera. Output: 1x HDMI, Control: 1x RS232/Ethernet, Should be provided with mounting accessories: Sensor- 1/2.8" 2 MP CMOS, Video Output- 1080p @ 60fps, Optical Zoom- 30x, Panning Angle- -170° ~	2

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	+170°, Tilting Angle- -30° ~ +90°, Video Output Interface- DVI-D/HDMI, Resolution- 1920*1080 (Full HD), Viewing Angle(H/V) - 178/178, Video Input- 1 nos. HDMI, 1 No. DVI-D, 1 No. Display Port, HDCP- HDCP 2.2, Video S/N Ratio- > 50dB, Aperture- F1.6 ~ F4.7, White Balance, Exposure Control- Auto, Manual, Image Flip- Yes, (Similar or better). Compliance- CE	
	Approved Make for point (18,19,20):- Extron, Crestron, Kramer	
18.	SITC of Twisted pair Transmitter for HDMI and control. Should transmit HDMI plus control and analog audio up to 100mtr or more over a shielded twisted pair cable: Video Input- 1 HDMI, Video Output- Twisted pair on RJ 45 port, Resolution Support- 4K or more with minimum 10.2 Gbps data rate on single port, Transmission distance- 100 Mtr or more over twisted pair cable, Control Input- 1 or More RS232, 1 or More IR, HDCP- HDCP 2.2 Compliant, Remote power- Transmitter should support both local power supply and remote powering, (Similar or better). Compliance- CE, UL	2
19	SITC of Twisted pair Receiver for HDMI and control. Should receive HDMI plus control and analog audio up to 100mtr or more over a shielded twisted pair cable: Input- Twisted pair on RJ 45 port, Video Output- 1 HDMI, Resolution Support- 4K or more with minimum 10.2 Gbps data rate on single port, Transmission distance- 100 Mtr or more over twisted pair cable, Control Input- 1 or More RS232, 1 or More IR, HDCP- HDCP 2.2 Compliant, Remote power- Receiver should support both local power supply and remote powering, (Similar or better). Compliance- CE, UL	2
	Approved Make for point (20):- Extron, Vaddio, QSC	
20.	SITC of HDMI to Audio USB scaling device to connect and convert High definition PTZ camera with PC on USB. Input: HDMI, 1x Mic/Line audio, Output: 1x HDMI loop through and USB. Control: RS232/Ethernet: Video Input- 1 HDMI, Video Output- 1 HDMI (loop-through), provide one (1) USB Type B connector for digital video and bidirectional 4x2 audio signals, support USB 2.0 standards, Audio Input- One mic/line audio, One balanced/unbalanced line level stereo audio, Audio Output- One balanced/unbalanced line level stereo audio, Processing- provide processing and conversion of video from HDMI to USB encoded video for host PC, provide scaled USB video output from 320x180 to 1080p/15, determined by the soft codec, EDID & HDCP- Automatic EDID management, HDCP-compliant, Control Input- 1 or More RS232/Ethernet, (Similar or better). Compliance- CE, UL	1
	Approved Make for point (21):- Extron, Media pointe, Lumens	
21.	SITC of Recording & streaming Media processor. Input: 1x HDMI, 1x HDMI/DP/DVI, Output: 1x HDMI, & RJ45. Storage options: built-in 32 GB or more, External USB Drive. Streaming Protocols: RTSP/RTMP. Control: RS232/Ethernet: Input Signals- 03 or More HDMI Input, 1 or more Analog Video Input on Composite/Component video, Balanced / Un-Balanced Analog Audio Input, Input resolution support- 1080p/60, Output- 1 HDMI for local output, Compression- H.264. Support both Push and Pull streaming Protocols. Simultaneous multicast and unicast streaming, Video input Resolution range - 480i, 480p, 576i, 576p, 720p, 1080i, 1080p, 640x480 to 1920x1200, Video output Scaled resolution - HDMI output: 480p, 720p, 1080p, 512x288, 1024x768, 1280x1024 Stream: 480p, 720p, 1080p, 512x288, 1024x768, 1280x1024, Bit rate- 200 kbps to 10 Mbps with Selectable bit rate control (variable, constrained, or constant), Stream Frame rate- 30 Frames/second or better, Recording Capacity- Minimum 80 GB, Video recording Layout- Two	1

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	Window Picture In Picture and Picture by Picture, Control- RS232/ Ethernet/IR, (Similar or better). Compliance- CE, UL	
	Approved Make for point (22, 23):- Extron, Crestron, Kramer	
	Controls	
22.	SITC of 7" table top touch panel for control of AV devices. 1280x800 screen resolution with capacitive touch. Should have 4GB storage & 2GB RAM. Should be POE enabled and supplied with compatible POE adapter: General Description- 10" or bigger color capacitive touch screen with minimum 1280 x 800 resolution Integrated Ethernet port compatible with control processors. Shall Be Powered from a POE Power supply/POE Network switch with Table top stand Kit, Screen type- Active matrix TFT color display, Brightness- 400 Nits or better, Contrast- 750:1, Control- Ethernet interface, Operating System- Non iOS , Non Android, Sensors and feedback- Built-in ambient light sensor, Built-in speakers, Memory- 2 GB or more RAM, 4 GB or more Flash, Power- To be supplied with appropriate POE injector, Function- The Touch panel will have features to control all AV devices and room functions. The GUI must be designed by the bidder and the AV controller must be programmed as per the system need, (Similar or better). Compliance- CE, UL	1
23.	SITC of AV control processor of same make as of Switching & touch panel. 8x Bidirectional RS232 (External module acceptable), 8x IR, 8x Relay, 4x Digital IO. Ethernet port for communication: General Description- High-performance AV control processor with specified control ports, advanced security standards and Gigabit Ethernet, compatibility with touch panel using a standard network infrastructure, Serial Port – RS-232/RS-422/RS-485- Minimum six or more bidirectional RS-232 ports, two or more bidirectional RS-232/RS-422/RS-485 serial ports, IR / Serial Control Port- Eight IR/Serial ports, Ethernet Port- 10/100/1000Base-T Ethernet monitoring and control minimum up to 30 or more devices, Proprietary serial BUS- One or more to connect accessories for control system expansion, Low Voltage relay Port- Eight or more low voltage relay ports, Support- Compatible with touch panel, Memory- 4GB or more Flash and 512 MB or more SDRAM, Protocols- DHCP, DNS, HTTP, HTTPS, ICMP, IEEE 802.1X, NTP, SFTP, SMTP, SNMP, SSH, TCP/IP, UDP/IP, (Similar or better). Compliance- CE, UL	1
	Approved Make for point (24):- Netgear, D-Link, Cisco	
24.	SITC of 16 Port network switch with one wireless access point: PLUG AND PLAY- Simple set up with no software or configuration needed, POWER-OVER-ETHERNET- 16 Gigabit PoE+ ports (802.3af and 802.3at) providing up to 30w per port with 183w total PoE power budget or better, FLEXIBLE MOUNTING- Rack ,Desktop or Wall-Mount to be used in any environment, FLEXIBLE POWER- Interchangeable External Power Supply (90W, 130W, 200W) that allows to increase or decrease your PoE Budget, SMALL AND SILENT- Small, sturdy metal case and fan less quiet operation, Other- Supplied with reputed WAP (Similar or better).	1
	Podium & Rack	
	Approved Make for point (25):- Custom	
25.	SITC of Wooden Podium: Feature- The Podium should have provision for AV Connectivity, Power, 1 No. Goose neck Microphone, Design- Elegantly designed Podium with Teak plywood with natural polish finish Wooden Podium, Height- 38"-46", Width- Minimum 24" Inch, Depth- Minimum 24" Inch, Microphone- 1 Nos. 18" Goose Neck Microphone with LED ring (optional), Cable Connectivity- Space for non-retractor type cable cubby on top surface of the podium to be provided along with patch cables of standard length, Monitor- Should accommodate minimum 21.5" touch monitor on a VESA mounting, Tray-	2

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	Foldable Tray for Visualizer, Power Supply- Minimum Two Nos. Universal power outlet on Top Surface of Podium (Similar or better).	
	Approved Make for point (26):- Valrack, Rettal, President	
26.	SITC of AV Rack as per the specification: Features- AV Rack should be supplied with castors, shelves PDU, cooling Fan and all accessories with proper grounding system, Size- 30 U, 19", Dimension- 600mm x 600mm, PDU- Horizontal/Vertical. Adequate number of power sockets to provide power for Rack mountable equipment, Doors- Removable and lockable front and Rear door. Removable Side doors, Castors- Heavy Duty Castors with stabilizing brackets, Fan- 2 Nos. Roof Panel mounted cooling fan (Similar or better).	1
	Approved Make for point (27,28,29,20,31):- Extron, Crestron, Kramer	
	Cable & Connectors	
27.	SITC of 6 feet Ultra Flexible High Speed HDMI Cables. Should be 4K certified: Feature- Premium Speed HDMI Cable with 18.0 Gbps data rate. Resolutions Up to 4K @ 60 Hz (4096x2160), UHD @ 60 Hz (3840x2160) 8 bit color depth, Signal Type- HDMI 2.0, Video Data rate- 18 Gbps or better, Connector Type- Gold plated, (Similar or better). Compliances- UL	12
28.	SITC of 6 feet male to Male 15 pin HD with audio cable: Feature- Flexible VGA with Audio cable for high performance transmission of VGA video and analog audio signals, Signal Type- 15 Pin HD Video with Stereo audio, Isolation- ESD electrostatic discharge protection with EMI electromagnetic interference isolation (Similar or better).	2
29.	SITC of 24 AWG 400 MHz bandwidth Shielded Twisted Pair Cable for twisted pair transmitters & receivers: Bandwidth- 450 MHz or better, Conductor Type- Solid copper conductor of 24 AWG or better, Cable Construction- SF – UTP, pair-to-pair skew- 10-30 ns per 100 meters (Similar or better).	2
30.	SITC of Shielded RJ-45 connector for Shielded Twisted Pair Cable: General- Shielded RJ-45 connectors for Shielded Twisted Pair Cable, Type- Metal strain relief and ground bonding, Shielding for EMI/RFI environments, Conductor- Shall Provide Conductor alignment guide for reduce crosstalk and signal interference, Contacts- Gold Plated (Similar or better).	2
31.	SITC of Other cables & Connectors as required for complete integration (Lot): Make- Reputed, Require Cables & connectors to complete the system integration (Similar or better).	1

Essential: Instruction Manual (Hard Copy) and complete installation & training at RGIPT site. All the technical compliance must be supported by manufacture's printed manual.

Warranty: Comprehensive warranty of minimum 3 years by the System Integrator.

Place:

Date:

Signature and seal of the Manufacturer/ Bidder

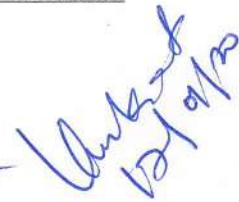
Technical Specifications Compliance Statement of "Audio- Visual System for Auditorium" should be submitted as per format given in Annexure – I (On the Company's Letter Head)

Sunilam
17/11/2020

Ag 17.11.2020


17/11/2020


Rettal


17/11/2020