





Ministry of Culture
Government of India
National Council of Science Museums
33 Block GN, Saltlake Sector V
Bidhannagar, Kolkata 700 091

TENDER NO. I-18012/2/24(205)

Technical Specification

1) Workstation (03 No.)

Features	Requirements
Form Factor	Tower
Processor	Intel Xeon W-series processor 8 Cores, base frequency 3.1 GHz, 22 MB cache or higher
Chipset	Intel W790 chipset or higher
Memory	64GB DDR5-4800MHz ECC memory or higher upgradable up to 2TB; Should include BIOS inbuilt tool for memory reliability required which works with ECC memory and can help to solve multiple hard errors and soft errors within the same block of memory, which can help reduce system downtime as far as memory failure in concern
Hardware Controller	Intel integrated controller supporting RAID 0/1/5/10 or higher
Hard Disk	1TB NVMe SSD or higher
Expansion Slots and Bays	Atleast 5 PCIe slots with atleast 2 PCIe x16 and 1 PCIe 8 slot, 2 x M.2 slots for PCIe NVMe Gen4 SSD, 2 x SATA slots for 2.5/3.5-inch HDD/SSD 2 x External facing storage bays supporting SATA HDD/NVMe SSD
Audio	High Definition (HD) Audio with internal speaker
Graphics Card	2x Nvidia T1000, 8GB or better
Networking Port	2x RJ-45 ports (1x 1GbE and 1x 10GbE) or higher
Wireless	WiFi 6 and BT 5.3 or higher

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I/O Ports (Integrated)	Minimum 10 nos. USB ports with atleast 4 x USB-Type C, 2x RJ-45, 1 universal Audio-out ports
Power Supply	Minimum 1300W power supply or higher
Keyboard and Mouse	USB keyboard and USB Optical Mouse, Should be of Same-OEM make as workstations
Security	Discrete TPM 2.0, TCG certified, Security Slot, Chassis intrusion switch, Local hard drive data wipe through BIOS
Operating System Installed	Preinstalled Factory-Loaded Windows 11 Pro
Operating System Support	Latest Windows, Red Hat Enterprise Linux. Workstation model should be Windows & Linux certified. Certificate to be added in the tender
Workstation Certification	ENERGY STAR, EPEAT india Gold, RoHS
Warranty	3 years On-site service warranty on hardware support. Post supply, 3-year warranty of the product should reflect in the support web site of the OEM from the date of installation.
Compliance	Specification Compliance must be submitted in the OEM letterHead.

Make & Model offered: _____
(To be entered by bidder)

2) Projector (04 Nos.)

Projector type	1-Chip DLP™ projector
DLP™ Chip Panel Size	16.5 mm (0.65 in) diagonal (16:9 aspect ratio)
DLP™ Chip Display Method	DLP™ chip x 1, DLP™ projection system
DLP™ chip Number of Pixels*1	1920 x 1080 pixels or better
Light Source	Laser diodes
Light output *2 *3	6,000 lm or more
Time until light output declines to 50%*5	20,000 hours (NORMAL/QUIET)/24,000 hours (ECO) or more
Resolution	4K (3840 x 2160 pixels) (With Quad Pixel Drive) or equivalent
Contrast Ratio*2	20,000:1 (Full On/Full O) (When [PICTURE MODE] is set to [DYNAMIC] and [DYNAMIC CONTRAST] is set to [1]. HDMI signal input)
Screen Size (Diagonal)	1.02–7.62 m (40–300 in), 16:9 aspect ratio or better
Center-to-corner zone ratio*2	90% or better
Lens	2.0x manual zoom (throw ratio: 1.46–2.93:1), manual focus, F 2.0–3.4, f 21.5–43.0 mm
Lens shift Vertical(From the origin point of the lens mounter)	+71 %, -48 % (manual) or more
Lens shift Horizontal(From the origin point of the lens mounter)	+34 %, -27 % (manual) or more
Keystone Correction Range	Vertical: ±40 °, Horizontal: ±20 ° or more

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Installation	Ceiling/floor, front/rear, free 360-degree installation
Terminals HDMI IN 1/2	HDMI 19-pin x 2 (Compatible with HDCP 2.3, Deep Color, 4K/60p signal input ⁶), CEC supported or better
Terminals Computer In	D-sub HD 15-pin (female) x 1 (RGB/YPBPR/YCBCR) or better
Terminals Monitor Out	D-sub HD 15-pin (female) x 1 (RGB/YPBPR/YCBCR)
Terminals Audio In/Out	M3 stereo mini-jack x 2
Terminals Serial In	D-sub 9-pin (female) x 1 for external control (RS-232C compliant)
Terminals DIGITAL LINK/LAN	RJ-45 x 1 for network and DIGITAL LINK connection (video/network/serial control) (HDBaseT™ compliant), 100Base-TX (Compatible with PJLink™ [Class 2], Art-Net, HDCP 2.3, Deep Color, 4K/60p signal input* ⁷)
Terminals LAN	RJ-45 x 1 for network connection, 10Base-T, 100Base-TX (Compatible with PJLink™ [Class 2], Art-Net) or better
Terminals USB	USB connector (Type A) x 1 for optional AJ-WM50 Series Wireless Module, for USB memory, and for power supply (DC 5 V, maximum 2 A) or better
Power Supply	AC 100–240 V, 50/60 Hz;
Power Consumption	505 W or less
Cabinet Materials	Molded plastic or better
Operation Noise* ²	36 dB (NORMAL/ECO) / 31 dB (QUIET or less
Dimensions (W x H x D)* ⁸	498 x 168 x 492 mm (19 5/8" x 6 5/8" x 19 3/8") or less
Weight* ⁹	Approx. 16.4 kg (36.2 lbs) or less
Operating Environment	Operating temperature: 0–45 °C or more , operating humidity: 10–80 % (no condensation) or more

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Applicable Software	Geometry Manager Pro*11 or equivalent support
Compliance	Specification Compliance must be submitted in the OEM letterHead.

Make & Model offered: _____
(To be entered by bidder)

3) Workstation Class Laptop Computer with carry bag and all accessories (01 Set)

Operating System	: Microsoft Windows 11 Pro, 64-bit with License and recovery HDD configured
Processor	: 13th Generation Intel® Core™ i7-13850HX (30 MB cache, 28 threads, 20 cores [8 P cores & 12 E cores], P cores 2.20 GHz to 5.30 GHz, E cores 1.50 GHz to 3.80 GHz, 55 W)
Video Card	: NVIDIA® RTX™ 4000 Ada Generation, 12 GB GDDR6 VRAM
Display	: 17.3-inch, FHD 1920 x 1080, 60 Hz, anti-glare, non-touch, 99% DCIP3, 500 nits, wide-viewing angle
Resolution	: 1920x1080
Memory	: 128 GB DDR5, 3600 MHz
Storage (Internal)	: SSD: 1 TB, M.2 2280, PCIe NVMe Gen4 x4, Class 40 SSD, Additional 2TB SSD
Ports	: 2 x ThunderBol 4 ports with (USB Type-C) 1 x USB 3.2 Gen 2 Type-C port with DisplayPort alt mode 2 x USB 3.2 Gen 1
Display I/O	: 1 x HDMI 2.1 port
Audio I/O	: 1 x headset (headphone and microphone combo) port
Network I/O	: 1 x RJ45 Ethernet port
Wi-Fi 802.11ax)	: Intel® AX211, 2x2 MIMO, 2400 Mbps, 2.40 GHz/5 GHz/6 GHz, Wi-Fi 6E (WiFi
Audio and Speakers	: Stereo speakers with Dialog, 2 W x 4 = 8 W total
Built-In Microphones	: Yes
Webcam	: 1080p at 30 fps FHD, IR camera with Omni-directional digital Microphone with Proximity sensor
Keyboard	: Backlit, spill-resistant keyboard
Touchpad	: Multi-touch gesture support
Battery	: 6-cell, 93 Wh, Lithium-ion long life-cycle batteries with 3-year warrant.
Bluetooth	: 5.3 version
Power Adapter	: 2 nos. (One additional Power adapter)
Mouse	: 3-Button Bluetooth 5.0 & Wireless 2.4Ghz Mouse
Carry bag	: Laptop backpack should be provided with laptp
Warranty	: Provide on-site comprehensive 3-years (anywhere across India)
Accidental Damage Protection: 3-year Accidental Damage Service	
OS certification	: Certified for latest version of Microsoft Windows Professional

Certifications & benchmarks : Relevant product datasheets, certification, benchmark or reference documents verifiable from publicly available data sources must be submitted along with bill of material for detailed bid evaluation. Links for certifications to be submitted.

Authorization :

- Tender specific OEM authorization (MAF) is to be submitted
- OEM supplied model's Warranty must be visible in OEM website in respect of each product's serial number
- OEM should be operational in India for similar products for at least 10 years.

Make & Model offered: _____
(To be entered by bidder)

4) Projector with extra short throw lens (03 Nos.)

Projector type	1-Chip DLP™ projectors
DLP™ Chip Panel Size	0.8 in diagonal (16:10 aspect ratio)
DLP™ chip Number of Pixels	2,304,000 (1920 x 1200 pixels)
Light Source	Laser diode
Light Output*1 *2	10,000 lm / 10,300 lm (Center)*3
Time until light output declines to 50%*4	20,000 hours (NORMAL/QUIET), 24,000 hours (ECO)
Resolution	WUXGA (1920 x 1200 pixels)
Contrast Ratio*1	25,000:1 (Full On/Full Off, Dynamic Contrast [3])
Screen Size (Diagonal)	70–700 inches (with supplied lens)
Center-to-corner zone ratio*1	90%
Lens	PT-REZ12/REZ10/REZ80: Powered zoom (throw ratio 1.36–2.10:1 for supplied lens), powered focus; PT-REZ12L/REZ10L/REZ80L: Optional powered zoom/focus lenses
Lens shift Vertical(From the origin point of the lens mounter)	±60 % (with ET-C1W400/W500/S600/T700), ±50 % (with ET-C1W300/U100)
Lens shift Horizontal(From the origin point of the lens mounter)	±29 % (with ET-C1W400/W500/S600/T700), ±23 % (with ET-C1W300/U100)
Keystone Correction Range	Vertical: ±40 ° (±5 ° with ET-C1U100; ±10 ° with ET-C1W300; ±16 ° with ET-C1W400; ±22 ° with ET-C1W500), Horizontal: ±40 ° (±3 ° with ET-C1U100; ±5 ° with ET-C1W300; ±10 ° with ET-C1W400; ±15 ° with ET-C1W500)

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Terminals HDMI™ 1/2 IN	HDMI™ x 2 (Deep Color, compatible with HDCP 2.3, 4K/60p signal input*5)
Terminals DisplayPort™	DisplayPort™ x 1 (Deep Color, compatible with HDCP 2.3, 4K/60p signal input*5)
Terminals Multi Sync In	BNC x 1
Terminals Multi Sync Out	BNC x 1
Terminals Serial In	D-sub 9-pin (female) x 1 for external control (RS-232C compliant)
Terminals Serial Out	D-sub 9-pin (male) x 1 for link control (RS-232C compliant)
Terminals REMOTE 1 IN	M3 stereo mini-jack x 1 for wired remote control
Terminals REMOTE 1 OUT	M3 stereo mini-jack x 1 for link control (for wired remote control)
Terminals Remote 2 In	D-sub 9-pin (female) x 1 for external control (parallel)
Terminals LAN	RJ-45 x 1 for network connection, PJLink™ (Class 2) compatible, 10Base-T/100Base-TX, Art-Net compatible
Terminals USB	USB connector (Type A) x 1 for optional AJ-WM50 Series Wireless Module/USB memory
Terminals DC Out	USB Type A x 1 (for power supply, DC 5 V, 2 A)
Terminals Expansion Slot	Open slot for for function boards, Intel® SDM compatible
Protocol versions	IPv4, IPv6*6
Power Supply	AC 100–240 V, 50/60 Hz
Power Consumption*7 Maximum power consumption	840 W (8.8–3.7 A) (850 VA) (Power consumption is 810 W at AC 200–240 V)

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Power Consumption*7 On-mode power consumption (Operating mode) Nomal	700 W (AC 100–120 V), 675 W (AC 200–240 V)
Power Consumption*7 On-mode power consumption (Operating mode) ECO	700 W (AC 100–120 V), 675 W (AC 200–240 V)
Power Consumption*7 On-mode power consumption (Operating mode) QUIET	530 W (AC 100–120 V), 515 W (AC 200–240 V)
Operation noise*1	36 dB (NORMAL/ECO), 33 dB (QUIET)
Dimensions (W x H x D)	PT-REZ12/REZ10/REZ80: 498 x 212 x 648 mm (19 19/32" x 8 11/32" x 25 1/2") (With feet at shortest position)PT-REZ12L/REZ10L/REZ80L: 498 x 212 x 538 mm (19 19/32" x 8 11/32" x 21 3/16") (With feet at shortest position)
Weight*7	PT-REZ12/REZ10/REZ80: Approx. 28.7 kg (63.27 lbs) (with supplied lens), PT-REZ12L/REZ10L/REZ80L: Approx. 27.0 kg (59.52 lbs) (without lens)
Operating Environment	Operating temperature: 0–45 °C (32–113 °F)*9, operating humidity: 10–80 % (no condensation)
Applicable Software	Logo Transfer Software, Multi Monitoring & Control Software, Projector Network Setup Software, Early Warning Software, Geometry Manager Pro, Smart Projector Control for iOS/Android™
Control function via LAN	Crestron Connected™ V2, Crestron XiO Cloud™, Art-Net DMX, AMX® DD, and PJLink™ (Class 2)
Lens Specification for Additional lens	
F-Number Display	1.94 - 2.39 or equivalent to achieve same throw ratio
Focal Distance (f)	12.1 mm - 16.9 mm [15/32 - 21/32 in] or equivalent to achieve same throw ratio
Throw Ratio 16:10 Aspect Ratio	0.680 - 0.950:1

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Throw Ratio 16:9 Aspect Ratio	0.680 - 0.950:1
Throw Ratio 4:3 Aspect Ratio	0.820 - 1.14:1
Dimensions (W x H x D)	154 mm [6 1/16 in] x 155 mm [6 3/32 in] x 239mm [9 13/32 in] or less
Weight	2.4 kg (5.29 lb) or less
Projectors compatibility	Supplied lens has to be compatible with the supplied projectors.
Compliance	Specification Compliance must be submitted in the OEM letterHead.

Make & Model offered: _____
(To be entered by bidder)

5. Signage Display (65") (02 Nos.)

Parameters	Specifications
Display Size(Diagonal)	65"
Panel Technology	IPS
Resolution	3840x2160 or more
Backlight Unit Type	Direct
Brightness	400 nits or more
Dynamic Contrast Ratio (Dynamic MCI(Hz))	10,00,000:1 or more
Static(Panel) Contrast Ratio	1200:1 or more
Refresh Rate	60Hz
HDR(10PRO/HLG)	Yes
Speaker (Soud Output)	10W + 10 W
Digital (Terrestrial, Cable, Satellite)	DBV-T2/C
Input Interface	HDMI IN(3(2.0)), Headphone Out (Phone Jack type),RS232(D-SUB9 pin/Phone Jack)(Phone Jack 4 Pin)
Jack Interface	USB 2.0,Digital Audio Out (Optical), External Speaker Out(3.5mm Phone Jack), RJ45(Usage Purpose) (LAN)
Power Supply(Voltage Hz)	AC 120V-50/60 Hz
Typical Power Consumption	170 W or less

Safety Certification	CB,CU,TR
EMC	CE
Test Certificate	BIS
Smart Features	Web Browser, Pre Loaded App, Soft AP, Wifi (802.11ac), Bluetooth, HDMI- ARC, SDP Server Compatibility or equivalent
Screen Share	Miracast, Smart Share or equivalent
Signage Features	Vertical set up, Fail over,NTP Server Setting, CISCO Certified Connectivity, Crestron connected(Network Based control), play via URL, RTC(Real Time Clock), Time Scheduler, NTP Sync Timer, BEACON, Embedded CM(Content Manager) or equivalent
Warranty	3 Years
Compliance	Specification Compliance must be submitted in the OEM letterHead.

Make & Model offered: _____
(To be entered by bidder)

Instruction for submission of Invoice during supply: -

- For all items except workstation (Sl. No. 01), Invoices are to be submitted for each item separately.
- For Workstation (Total Quantity-03 Nos.)- Invoice is to be submitted for 02 Nos. & 01 No. separately.