Tender Document

Live Broadcasting Studio Setup at CUI (Islamabad Campus)

COMSATS University Islamabad
Park Road, Islamabad

Table of Content

Signature & Seal of the Bidder

Tender Notice

COMSATS University Islamabad
CUI-Proc/(TN-550/11/2024)

Live Broadcasting Studio Setup at CUI (Islamabad Campus)

1. COMSATS University Islamabad (CUI), a Public Sector University invites Bids through e-Pak Acquisition & Disposal System (EPADS) https://eprocure.gov.pk on **"Single-Stage Two-Envelope"** method from Income Tax & GST registered Firms/Companies who are on the Active Taxpayer List (ATL) for General Sales Tax and Income Tax of FBR.

2. The Bid Security for the Bid is <mark>**Rs.200,000/-**</mark> in the form of Call Deposit/Bank Draft (refundable) drawn in favor of "COMSATS University Islamabad" **(FTN/NTN: 9013701-9);** scanned copy of which is required to be uploaded through EPADS and hard copy must be submitted physically along with hard-copy of sealed bidding document on the closing date & time of the tender to COMSATS University Islamabad on the address given below.

3. The complete Tendering process shall be carried out through EPADS.

4. Interested bidders are requested to register themselves on the EPADS https://eprocure.gov.pk and submit their tender documents on EPADS.

5. For registration and guidance/training on EPADS, you may contact EPADS UAN: 051-111-137-237.

6. <mark>**Pre-bid Meeting**</mark> will be held on ***November 25, 2024,*** at 1130 Hrs in Room No. G6/G8, Faculty Block I, Ground Floor, CUI for briefing of the project to the prospective bidders and seek clarification on "BoQ" and gain a better understanding for the project requirements (if any) as well as answering of the quires. Any substantial change, if any, as a result of the Pre-Bid Meeting will be uploaded to EPADS as well as CUI website will be considered as part of the tender document.

7. Closing date of submission is ***December 09, 2024,*** **by 1100 hours**. The technical bids shall be opened **half hour after the closing time** in the presence of the bidders who wish to be present, in Room No. G-6/G-8, Ground Floor, Faculty Block-I, COMSATS University Islamabad.

8. As per PPRA Rule 33, CUI may reject all bids or proposals at any time prior to the acceptance of a bid or proposal.

Contact Person and Submission

In-Charge Procurement
COMSATS University Islamabad
2nd Floor, Faculty Block-II, Park Road, Tarlai Kalan, Islamabad,
Tel:0336-5524334,051-90495242,051-9049-5154,051-9049-5122,
Email: wajidkamran@comsats.edu.pk

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Key Points

Table # 1

S.N	Detail	Specification
1.	Validity of Bid	90 Days from the date of Closing of Bids
2.	Award of Contract / W.O	Work Order will be given to the lowest bidder on the basis of Category- Wise
3.	Delivery time	Within 30 Days
4.	Method	Single Stage Two Envelope
5.	Closing Date & Time	December 09, 2024, by 1100 hours
6.	Opening Date & Time	Half Hour after the Closing Time on the same day
7.	Bid Security Amount *(Under Rule 25 of PPRA Rules 2004)*	**Rs.200,000 /- (Refundable)**
8.	Delivery Location (Arrangement of Labor included in the cost)	Store Section entry through Gate 1, behind Main Library Building. The Store (Mr. Noor Wali 051-9049-6035)

Technical Evaluation Criteria:

Table # 2: Mandatory Requirements:

	Detail	Criteria	Envelope
1.	Financial Bid / Quotation (Strictly as per CUI pattern) *Any alteration/addition/deletion shall dis-qualify the bidder from the bidding process*	**Mandatory**	**Financial Bid**
2.	Draft of Bid Security *(To be Physically Submitted to Purchase Section on the Closing Date)*	**Mandatory**	**Technical Bid**
3.	Declaration Form	**Mandatory**	
4.	Active Taxpayer List (ATL) of FBR Status as "Active" in I.T and Compliance Level is 100% in GST	**Mandatory**	
5.	**Certificate of non-blacklisting:** Affidavit on legal paper of appropriate value (duly attested from notary public) OR letterhead that the firm/company is neither blacklisted nor in litigation with any public sector client	**Mandatory**	
6.	**Compliance with CUI requirement/Specification** Blank technical sheet shall be treated as non-compliance and may result rejection of tender / bid	**Mandatory**	
7.	**Professional Experience (Required for Category A)** List of 5 executed/ similar contracts of over Rs.500,000/-each for Different Clients in the last 5 Year (attached proof is mandatory).	**Mandatory**	
8.	Submission of Tender document through EPADS as well as one hard copy (Technical Bid Envelope, Financial Bid Envelope, Bid Security as per prescribed time in the tender notice).	**Mandatory**	

- Failing in any of the mandatory requirement shall disqualify the bidder from the bidding process.
- After evaluation of bidders in technical evaluation process, financial bids of technically qualified bidders shall be only opened later on prior notice.
- DO NOT attach any information or portfolio which is not requested. Only provide the demanded information.

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(On Company's Letterhead)

Ref No: NTN:

Date: GST:

Live Broadcasting Studio Setup

SN	Specification	Qty	Unit Price (GST Excl)	GST Amount (If any)	Unit Price (GST Incl)	Total Cost (GST Incl)
	Category "A"					
1	**Sony PXW-Z150 Camcorder OR equivalent** Technical Specification Sony PXW-Z150 Solid-State Memory Camcorder • Image quality: 4K image quality, 120fps HFR Full-HD slow-motion and built-in advanced networking for live streaming and wireless workflow. • Sensor: 1.0 type stacked CMOS sensor and 120fps HFR Revolutionary imaging performance with Exmor RS™ • Lens: Sony "G" lens with Minimum 24× zoom • Camera body: Maximum 1.9 kg • 4K picture performance support: 4K QFHD (3840x2160) XAVC Long GOP at 100Mbps, • Integration with established broadcast workflows: With Full HD recording in XAVC Long GOP(4:2:2/10bit 50Mbps) and MPEG-2 HD (50Mbps/35Mbps). • Format for the digital recording: Advanced Video Coding High Definition (AVCHD)	2				
2	**Nikon Z50 kit+16-50mm OR equivalent** Technical Specification Nikon Z50 kit+16-50mm • Sensor: 20.9MP DX-Format CMOS Sensor • Image Processor: EXPEED 6 Image Processor • Video Recording: UHD 4K and Full HD Video Recording • Viewfinder: 2.36m-Dot OLED Electronic Viewfinder • Touchscreen: 3.2" 1.04m-Dot 180° Tilting Touchscreen • ISO Standard: ISO 100-51200, Up to 11 fps Shooting • 209-Point Hybrid AF, Eye Detection • Built-In Wi-Fi and Bluetooth • NIKKOR Z DX 16-50mm f/3.5-6.3 VR Lens Lens Mount: Nikon Z Actual: 21.51 Megapixel Sensor Resolution: Effective: 20.9 Megapixel (5568 x 3712) Image Sensor: 23.5 x 15.7 mm (APS-C) CMOS Image Stabilization: Digital (Video Only)	1				

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	ISO Sensitivity Range:	Photo 100 to 51,200 in Auto Mode (Extended: 100 to 204,800) Video 100 to 25,600 in Manual, Auto Mode				
	Continuous Shooting:	Up to 11 fps at 20.9 MP Up to 5 fps at 20.9 MP Up to 4 fps at 20.9 MP Up to 30 fps at 8 MP				
	Internal Recording Modes:	H.264/MOV/MP4 UHD 4K (3840 x 2160) at 23.98/25/29.97 fps 1920 x 1080p at 23.98/25/29.97/50/59.94/100 fps HDMI				
	External Recording Modes:	UHD 4K (3840 x 2160) up to 29.97 fps 1920 x 1080p				
	Media/Memory Card Slot:	Single Slot: SD/SDHC/SDXC (UHS-I)				
	Video I/O:	1x Micro-HDMI (Unspecified Signal) Output				
	Audio I/O:	1x 1/8" / 3.5 mm TRS Stereo Microphone Input				
	Power I/O:	No				
	Other I/O:	1x Micro-USB (USB 3.2 / 3.1 Gen 1) Output				
	Wireless:	2.4 / 5 GHz Wi-Fi 5 (802.11ac) Bluetooth 4.2				
	Display Type:	180° Tilting Touchscreen LCD				
	Battery Type:	1x EN-EL25 Rechargeable Lithium-Ion, 7.6 VDC, 1120 mAh (Approx. 300 Shots)				
3	**Tripods:** Tripods for cameras		3			
4	Mic: Sennheiser / Shure Wireless mic		2			
5	**Shure MV7 Podcast Microphone OR equivalent** Technical Specification Shure MV7 Podcast Mic • Legendary Broadcast Sound in USB Format • USB and XLR Connections • Built-In Pop Filter for Plosives • 3.5mm Jack with Direct Monitoring • Companion App for Sonic Optimization • Cardioid Pattern Minimizes Room Pickup • Integrated Touch Panel for Mic Controls • High-Quality 48 kHz / 24-Bit Audio • Mac, Windows, iOS & Android • Included USB Cables, Integrated Mount		2			
6	**Rode RODE Castor Pro Integrated Podcast Production Studio OR equivalent** Technical Specification RØDE Caster Pro II • Fully integrated audio production studio for streamers, podcasters, musicians and content creators • Ultra-low-noise, high-gain Revolution Preamps™ (-131.5dBV EIN, 76dB gain) • Four high-quality Neutrik® combo inputs for connecting microphones, instruments and line-level devices		1			

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	- Built-in wireless receiver for connecting up to two RØDE Series IV transmitters (including Wireless PRO, Wireless GO II and Wireless ME) - Nine individually assignable channels with six broadcast-quality physical faders and three virtual faders - High-performance quad-core audio engine - Studio-grade APHEX® audio processing and on-board effects - Eight fully programmable SMART pads with bank switching - Dual USB-C interfaces for connecting two computers or mobile devices - Compatible with a range of RØDE USB microphones, allowing for an additional mic input - Advanced Bluetooth® connectivity for high-quality phone call integration - Multitrack or stereo recording to a microSD™ card, USB storage device or computer - Four high-power headphone outputs and balanced ¼-inch line outputs 5.5-inch high-definition touchscreen with haptic feedback and rotary encoder for easy navigation and control - New features and enhancements via regular firmware updates - Included podcasting master class courtesy of MZed - Designed and made in RØDE's state-of-the-art facilities in Sydney, Australia					
7	**Rotational Professional Microphone Arm Stand** Technical Specification Rotational Professional Microphone Arm Stand OR equivalent - With 360° of rotational adjustment and an internal XLR cable - Ideal for Broadcasts and Podcasts - Spring-Loaded Articulating Boom Arm 360° of Rotational Adjustment - Internal XLR Cable for Clean Look Base Type: Table Clamp Boom Arm Type: Articulated Base Type: Table Clamp Construction Material: Steel	2				
8	**Extra Adapter, Battery, Live Charger** 1 × Extra Adapter, 1 × Battery, 1 × Live Charger	3				
9	**Interruptible Foldback (IFB):** Interruptible Foldback (IFB) for communication b/w Producer and host during Recording	2				
10	**Headphones – For Talkback Camera Man** Dimensions: 9.5 x 9.5 x 5 in Microphone: Noise Cancelling Amplified Dynamic	5				

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	Earphones: Two each 32-ohm earphones, wired in stereo. Applications: Television, Camera, intercom, portable radio, computer, smartphone. Ear Seal Type: Protein Leather Ear Seals, Gel Ear Seals, Foam Ear Seals, Foam + Gel Ear Seals Adapter Cord Type: SBG-1 Motorola 2 pin radio plug Item Includes: • *1x* Headset • *1x* Carry bag • *1x* Adapter cable • *1x* Cord clip						
11	**Podium:** Digital podium with built-in PC	1					
12	**VMix Live Production & Streaming Software 4k Pro Version** Technical Specification VMix Live Production & Streaming Software 4k Pro Version OR equivalent • PC Software for Streaming and Recording • Supports up to 4096 x 2160 Resolution • Up to 1000 Sources • 4 x Instant Replay Channels • Effects, Transitions, Virtual Sets • Supports 2 External Outputs • Supports 2 Direct Monitor Outputs • PTZ Control • Compatible with Windows Only Delivery Format: Download License Type: Standard: Perpetual License System Compatibility/Requirements: Operating System: Windows	1					
13	**Deck Link 4K Extreme 12G - 2 x 12Gb/s SD/HD/2K/4K Input and Output Card** Technical Specification Blackmagic Design DeckLink 4K Extreme 12G OR equivalent • 8-Lane PCIe Gen2 I/O Card • Multi-Rate 12G-SDI & HDMI Connections • Supports UHD 4K & DCI 4K up to 60 fps • Single & Dual-Link 4:4:4:4/4:2:2 Signals • 3D Stereoscopic SDI Output at 4:4:4:4 • Up/Down/Cross Conversion • Optional Optical Fiber I/O Modules • Breakout Cable for Analog / RS-422	1					

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	• Genlock & Deck Control
	• Compatible with Mac, Windows & Linux
	• System Connection: PCIe 2.0 x8
	• Video Inputs: 2xBNC (12G-SDI)
	  1x HDMI (2.0b)
	  1x 3BNC (Component/Composite/S-Video)
	• Audio Inputs: No
	• Video Outputs: 2x BNC (12G-SDI)
	  1x HDMI (2.0b)
	  1x 3BNC (Component/Composite/S-Video)
	• Simultaneous Multi-Input Support: Yes: 2 Simultaneous Inputs
	• Input Video Format:
	Component / Composite / SDI (8/10/12-Bit 4:4:4/4:2:2)
	
	DCI 4K at 23.98/24 fps
	
	UHD 4K 23.98/24/25/29.97/30/50/59.94/60 fps
	
	DCI 2K 23.98/24/25 fps
	
	DCI 2KPsF 23.98/24/25 fps
	
	1080p 25/29.97/30/50/59.94/60 fps
	
	1080PsF 23.98/24/25/29.97/30 fps
	
	1080i 50/59.94/60 fps
	
	720p 50/59.94/60 fps
	
	576i / 625 lines 50 fps
	
	480i / 525 lines 59.94 fps
	
	HDMI (8/10/12-Bit 4:4:4/4:2:2/4:2:0)
	
	DCI 4K at 23.98/24 fps
	
	UHD 4K 23.98/24/25/29.97/30/50/59.94/60 fps
	
	1080p 23.98/24/25/29.97/30/59.94/60 fps
	
	1080PsF 23.98/24/25/29.97/30 fps
	
	1080i 50/59.94/60 fps
	
	720p 50/59.94/60 fps
	
	576i / 625 lines 50 fps
	
	480i / 525 lines 59.94 fps
	
	Component
	
	1080p at 23.98/24/25/29.97/30/50/59.94/60 fps
	
	1080PsF 23.98/24/25/29.97/30 fps
	
	1080i 50/59.94/60 fps
	
	576i / 625 lines 50 fps
	
	480i / 525 lines 59.94 fps
	
	Composite
	
	576i / 625 lines
	
	480i / 525 lines
	
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	Input Audio Format:	AES/EBU				
	Output Video Format:	SDI (8/10/12-Bit 4:4:4/4:2:2) DCI 4K at 23.98/24/25 fps UHD 4K 23.98/24/25/29.97/30/50/59.94/60 fps DCI 2K 23.98/24/25 fps DCI 2KPsF 23.98/24/25 fps 1080p 23.98/24/25/29.97/30/50/59.94/60 fps 1080PsF 23.98/24/25/29.97/30 fps 1080i 50/59.94/60 fps 720p 50/59.94/60 fps 576i / 625 lines 50 fps 480i / 525 lines 59.94 fps HDMI (8/10/12-Bit 4:4:4/4:2:2/4:2:0) DCI 4K at 23.98/24/25 fps UHD 4K 23.98/24/25/29.97/30/50/59.94/60 fps 1080p 23.98/24/25/29.97/30/50/59.94/60 fps 1080PsF 23.98/24/25/29.97/30 fps 1080i 50/59.94/60 fps 720p 50/59.94/60 fps 576i / 625 lines 50 fps 480i / 525 lines 59.94 fps Component / Composite 480i / 525 lines at 59.94 fps 576i / 625 lines 50 fps				
	Output Audio Format:	AES/EBU				
	Embedded Audio:	SDI: 16-Channel HDMI: 8-Channel				
	Video Standard Compliance:	SMPTE 259M/292M/296M/372M/425M/435/2108-1/ST-2081/ST-2082/ST-2082-10 ITU -R BT.601/BT.656				
	OS Compatibility:	macOS 10.15 macOS 11.1 or Later Linux Windows 8.1 Windows 10				

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	Power Consumption:	Device: 30 W						

14	**DeckLink Mini Recorder - 1 x 10-bit SD/HD switchable for NLE**
	
	Technical Specification DeckLink Mini Recorder - 1 x 10-bit SD/HD switchable for NLE OR equivalent
	
	• SD/HD/3G/6G-SDI Input
	• HDMI Input
	• PCI-Express 2.0 x4 Interface
	• DCI 4K, UHD, HD, and SD Video Support
	• 10-Bit Processing
	• Hardware Color Space Conversion
	• Software HD Down-Conversion
	• MacOS X, Windows, and Linux Compatible
	
	Video I/O: Input
	     1x BNC (6G-SDI) Female
	     1x HDMI 2.0a Female
	
	Video Resolution: BNC Input (8/10-Bit 4:2:2 YUV)
	     4096 x 2160 at 23.98/24/25 fps
	     3840 x 2160 at 23.98/24/25/29.97/30 fps
	     2048 x 1080p at 23.98/24/25 fps
	     2048 x 1080PsF at 23.98/24/25 fps
	     BNC Input (8/10/12-Bit 4:4:4 RGB)
	     1920 x 1080p at 23.98/24/25/29.97/30 fps
	     1920 x 1080i at 50/59.94/60 fps
	     1920 x 1080PsF at 23.98/24/25/29.97/30 fps
	     1280 x 720 at 50/59.94/60 fps
	     720 x 576i at 50 fps
	     720 x 480i at 59.94 fps
	     HDMI Input (8/10/12-Bit 4:4:4/4:2:2/4:2:0)
	     4096x2160
	     3840x2160
	     1920x1080p
	     1920x1080PsF
	     1920x1080i
	     1280x720
	     720 x 576i
	
	Audio Format: Unspecified Digital Signal Input: 48 kHz / 24-Bit
		14					

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	Embedded Audio:	SDI: 16-Channel HDMI: 8-Channel					
	Video Standard Compliance:	SMPTE: 259M/292M/372M/425M/ST-2081 ITU-R: BT.601/BT.656					
	HDR Support:	Yes, Hybrid Log Gamma					
	Broadcast System Compatibility:	NTSC, PAL					
	OS Compatibility:	Windows 7 or Later macOS 10.14 or Later Linux					
15	**Audio Mixer 12 inputs PRO EL MQ 16 USB** Technical Specification Behringer Xenyx X1204USB 12-Input Mixer with FX and USB Interface OR equivalent - Low-Noise, High-Headroom Analog Mixer 4 x XENYX Mic Preamp with Phantom Power - One-Knob Compressor per Mic Input 3-Band British-Style EQ on Each Input 60mm Logarithmic-Taper Faders 24-Bit multi-FX, 16 Customizable Presets 2 Aux Sends per Channel, 2 Subgroups - Mute, Low Cut, Solo, PFL on All Channels - Stereo Aux Return, 2-Track USB Interface - Includes Rack Ears		1				

Number of Analog Input Channels:	6 (4 Mono / 2 Stereo)
Number of Mic Preamps:	4
Analog Output Channels:	1x Stereo Master Output 1x Stereo ALT Direct Output 1x Stereo Control Room/Monitor Output 1x Stereo Tape/Record Output 1x Stereo Headphone Output 1x Stereo Aux Send Output
Mix Routing:	Stereo Main Mix per Main Mix Channel (LCR Main Mix Combines Stereo and Mono Main Mixes) Stereo Bus/Subgroup

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	Mono FX Bus per Input Channel Stereo Aux Bus/Subgroup per Input Channel 1x Stereo Aux Send 2x Stereo Aux Return 1x Stereo FX Send 1x Stereo FX Return					
EQ:	Input Channels: 3-Band EQ/Parametric					
Built-In Effects:	16x					
USB I/O:	1x USB-B (Audio Playback)					
Wireless:	No					
Rack Mountable:	No					
Max I/O Capacity:	12x Input / 11x Output					
Number of Analog Input Channels:	6 (4 Mono / 2 Stereo)					
Number of Mic Preamps	4					
Analog Output Channels:	1x Stereo Master Output 1x Stereo ALT Direct Output 1x Stereo Control Room/Monitor Output 1x Stereo Tape/Record Output 1x Stereo Headphone Output 1x Stereo Aux Send Output					
Mix Routing:	Stereo Main Mix per Main Mix Channel (LCR Main Mix Combines Stereo and Mono Main Mixes) Stereo Bus/Subgroup Mono FX Bus per Input Channel Stereo Aux Bus/Subgroup per Input Channel 1x Stereo Aux Send 2x Stereo Aux Return 1x Stereo FX Send 1x Stereo FX Return					
Faders & Level Adjustment:	6x 2.4" / 60 mm Channel Fader 2x 2.4" / 60 mm Bus/Subgroup Fader 2x 2.4" / 60 mm Master Fader 40x Channel Knob 2x FX Knob					
Meters:	Main Meter: 1x 8-Segment LED Bus Meter: 1x 6-Segment LED					
Gain/Trim Range:	+10 dB to +60 dB					
Input Pad:	0 dB					
Input Polarity:	Fixed					
Dynamic Processing:	Input Channels, Mono Channels: Compressor					
EQ:	Input Channels: 3-Band EQ/Parametric					
EQ Parameters:	*High:* ±15 dB at 12 kHz *Mid:* ±15 dB at 2.5 kHz *Low:* ±15 dB at 80 Hz					
Graphic EQ:	No					
Filters:	Input Channels, Mono Channels:					

		High-Pass: 75 Hz, 18 dB/Octave				
	Solo/Mute:	Solo, Mute per Input Channel PFL per Master				
	Built-In Effects:	16x				
	Sample Rates:	AD/DA Conversion: 40 kHz				
	Bit Depth:	AD/DA Conversion: 24-Bit				
	Frequency Response:	Mic Input: 10 Hz to 150 kHz -1 dB 10 Hz to 200 kHz -3 dB Mic Input to Main Output: 10 Hz to 90 kHz +0/-1 dB 10 Hz to 160 kHz +0/-3 dB				
	Max Input Leve:l	XLR Mic Input: +12 dBu (Balanced) 1/4" TRS Line Input: 30 dBu (Balanced) 1/4" TRS Line/Stereo Input: +22 dBu (Balanced) RCA Tape Input: +22 dBu (Unbalanced) 1/4" TRS Aux Return: +22 dBu (Balanced)				
	Analog Inputs:	4x XLR 3-Pin Balanced Mic Input 4x 1/4" Unbalanced Line Input 4x 1/4" Unbalanced Stereo Line Input (2 Stereo Pair) 4x 1/4" TRS Return (2 Stereo Pair)				
	Analog Outputs:	2x XLR 3-Pin Balanced Main Output 2x 1/4" TS Unbalanced Mono Alt Output 2x 1/4" TS Unbalanced Control Room Output 1x 1/4" TRS Unbalanced Stereo Headphone Output				
	Phantom Power:	+48 V				
	Digital I/O:	No				
	MIDI I/O:	No				
	USB I/O:	1x USB-B (Audio Playback)				
	USB I/O Capacity:	1x Input / 1x Output				
	Wireless:	No				
	OS Compatibility:	Windows macOS				
	AC Input Power:	100 to 240 VAC, 50 / 60 Hz				
	Power Supply Output:	Included				
16	**XLR CABLE ROLL**: Technical Specification XLR CABLE ROLL OR equivalent • Color: Black • Conductor Size: 0.22 mm2 • Outside Diameter: 6.00 mm • Roll Length: 100 meters • Shield Material: Spiral shield plus 20 AWG tinned copper drain wire		2			

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	• Weight: 4.60 Kg per 100 meters						
17	**BNC CABLE ROLL – L3:** Technical Specification Canare L3CFB Video Cable OR equivalent • 75 Ohm impedance • ≥20dB return loss to 2GHz • Solid annealed copper center conductor • Tinned copper braid shield, aluminum foil, foam polyethylene dielectric	2					
18	**BNC Connector 100 L-3:** Technical Specification BNC Connector 100 L-3 OR equivalent	2					

BNC Connector 100 L-3 (continued)

ELECTRICAL SPECIFICATIONS

- Impedance 50 ohm 75 ohm
- Frequency Range 0–4 GHz 0–1 GHz
- Working Voltage 500 Volts rms. 500 Volts rms.
- Dielectric Withstanding Voltage 1500 Volts rms. 1500 Volts rms.
- VSWR 1.3 max. 0–4 GHz 1.05+0.1f(GHz) DC to 1 GHz
- Contact Resistance Center contact 1.5 milliohm Center contacts 1.5 milliohm Outer contact 1.0 milliohm Outer contact 1.0 milliohm Insulation Resistance 5000 megohms (min) 5000 megohms (min)

MATERIAL SPECIFICATIONS

PARTS NAME		MATERIAL	FINISH
Center Contact	Male	Brass	Gold or Silver plated
	Female	Phosphor Bronze (nominal) or Beryllium Copper	Gold or Silver plated
Metal parts		Brass	Nickel*
Insulators		Teflon, Delrin, PBT polyester	None
Clamp gaskets		Silicone rubber, Synthetic rubber	None

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	Crimp ferrule	Annealed copper	Nickel*					
19	**Studio Wall box 2 A/V:** Technical Specification Studio Wall box 2 A/V • Wall Audio Junction Box Stage Recording Studio 2/4/6/8/10 Way Xlr To 6.35mm Xlr 3-Core Jack Female to Male Stage Junction Box Color: YS1010			50				
20	**Studio Cool Lights :** LED Cool Spot Lights (ILFORDS 50 watts) (3000K) (Back / Kicker Light)			2				
21	LED Dimmable Cool Lights 120 Watts SMD LED (3000K) (Top Light – Fill in & Key Light)			2				
22	Diffuser for SMD Cool Lights			2				
23	Smart Video hub 40x40							
24	**15-inch Teleprompter system:** Technical Specification G2-15 Teleprompter Specifications: • Max Reading distance: 18 feet • Material: aluminum • Monitor Size: 15" LCD • Beam-splitter Mirror: 14" X 14" 70/30 • Supported Inputs: HDMI / VGA • Software: ZaPrompt Pro for four computers			1				
25	**Computer System Tower Casing:** Computers (HP/Dell/Lenovo) Tower Casing Intel Core – i7, 1 1 th Generation, (16 MB cache, 8 cores, 16 threads, 2.50 to 4.90 GHz Turbo, 65W) 16GB RAM – 2x 8GB DDR4 (2666 Mhz or higher) upto 32GB supported, HDD SATA= 1x 1TB SSD HARD DRIVE: 512 GB, M.2, Gen3 PCIe x4 NVMe, SSD, 02 11	P a g e Class 40 Built -in 1 Gbps LAN Card. Optical Drive DVD+/ -RW 9.5mm ODD: Yes Intel Integrated Graphics With Windows 11 or 10 Pro, External Sound Card: 5.1 PCie channel output, 106db SNR and high –end 600 - ohm HDMI Port(s): Yes HDMI Cables for Connecting Desktop with LED Operating System: DOS LEDs: LED Display: (24'') HDMI Port(s): Yes Keyboard, Mouse of same brand with standard accessories. Or equivalent Approved Makes: Dell, HP or Equivalent Which is Seamlessly Compatible			2				

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	• Processor: 2 x Intel® Xeon® E5-2640 v4 Processor (10 Core/2.4 GHz/25M Cache) • Chipset: Intel C612 chipset • RAM: 64GB ECC DDR4 2133 MHz RAM (Max 512GB, 16RDIMMs) • Controller SATA3 (6Gbps) Controller Supports RAID 0, 1, 10 • HDD 2 x 2TB Enterprise SATA 7.2K RPM Hot Swap 3.5" HDD (Max 8 HDDs) 2 x 1TB Enterprise SATA 7.2K RPM Hot Swap 3.5" HDD • Optical Drive Blue-ray rewritable drive • Network 2x RJ45 Gigabit Ethernet LAN ports • Graphics Card 1 x NVIDIA Quadro P5000 16GB • OS Windows 10 Professional 64 Bit • Capture Card PCIe Video Capture Card with Capture Software - DeckLink 4K Extreme 12G • Additional Software for Video editing Supply & Installation of Adobe Premiere Pro Yearly Subscription Plan for Educational Purpose • Peripherals 27" 4K LED Display, Keyboard and Mouse • Supplied Accessories All necessary cables and accessories should be supplied for completeness of the system • Alternate: Equivalent or better configuration in Apple Mac Pro Tower Machine. With all necessary licenses like above mentioned						
26	Graphic Card: Nvidia 12GB DDR6 S+ Or equivalent	1					
27	LEDs (65 -inch): Samsung/LG/Sony Original with wall mount bracket, HDMI cable (10 meters) and installation at the site with the power installation where required. OR equivalent	1					
28	LEDs (40 -inch): LEDs (32 -inch) Samsung/LG/Sony Original with wall mount bracket, HDMI cable (10 meters) and installation at the site with the power installation where required. OR equivalent	4					
29	Motorized M.M White Screen: M 1:1 Motorized Projection Screen Deluxe 300x300, 167" White Edition Article No: 7 350 022 731 745 Article No: 7 350 022 731 745 Format: 1:1 Size: 167" Projection area: 3 x 3 m Diagonal: 4,24 m Motor: Yes Remote: Yes (RF frequency 433 Hz) Cassette color: White Cassette material: Aluminum	1					

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	Surface: Matte white Gain: 1,0 Weight: 19 kg White drop: 30 cm Cassette measurements: 315,4 x 9 x 9 cm (L*W*H)					
30	**White Boards - Size 12' x 4 '** : Ceramic steel magnetic white board with 0.4 mm ceramic steel writing surface having e3 ceramic steel engrave on the surface, 9mm MDF as core material.	1				
31	**Microphone For Voice-Over** Approved Makes: Coles, Sennheiser, AKG or Equivalent Which is Seamlessly Compatible • Type Dynamic vocal microphone • Polar pattern: Super cardioid • Frequency range: 80Hz to 18kHz or Better • SPL: 140dB or Better • Equivalent noise level: -18dB or Better • Sensitivity: 2.6 mV/Pa or Better • Supplied Accessories All necessary cables and accessories should be supplied for completeness of the system	2				
32	**2 IN 1 LAPTOP**: Approved Makes: HP, DELL, or Equivalent • Type: Convertible 2 in 1 Laptop with Stylus • Processor: Intel Core i7 Latest generation or better • Screen: 14-inch or better FHD Touchscreen 2-in-1 • RAM: 8GB RAM or Better • Media: 1TB HDD • OS: Windows 11 • Additional Applications: Microsoft office latest version • Supplied Accessories: All necessary cables and accessories should be supplied for completeness of the system	1				
33	**Enterprise-Class Unified NAS with 50 Tb Usable Storage** Approved Makes: Infortrend, Promise, DDP, QSAN or Equivalent Which is Seamlessly Compatible • Storage Type: Storage system should have 2U Rack mountable & should support minimum 16x 2.5'"/3.5" SATA HDD . • Processor: should have at least 1x Intel Xeon 6 core or higher CPU • Memory: System should have minimum 16GB DDR4 memory & expandable up to 64GB • Host board port options: System should capable for having 2 x 16 Gb/s FC 4 x 8 Gb/s FC 2 x 10 Gb/s iSCSI (RJ45) 4 x 10 Gb/s iSCSI (SFP+) 4 x 1 Gb/s iSCSI • Initially Quote with 4x1GbE + 4x10GbE (SFP+) ports • Supported drives: Support drives including SSD, SATA HDD in the					

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	same enclosure • Features Proposed storage should have true unified storage architecture. should support File, Block and Object storage. All these protocols should be supported and licenses for full storage capacity should be quoted for the duration of the product lifecycle NFS, CIFS/SMB, AFP, FTP, SFTP, WebDAV, REST API, 1Gb/s, 10Gb/s and (RJ-45, SFP+), 10Gb/s FCoE, 8Gb/s, 16Gb/s Fibre Channe, • Features: Storage should be able to separate the File Level share folder control with file protocols for secure file sharing process (like sharing one folder on HTTP or FTP only and share another folder on CIFS or AFP only.) Automated support request Proposed Storage should have option to automatically create support ticket with relevant logs with the OEM support in case of critical event. • Expansion: System should be scalable to minimum 432 drives by using 12G SAS connected expansion enclosure. • Capacity: Should have 50 TB storage capacity after RAID5 + Hot spare • Hot spare drive Should have one Hot spare drive every after 15 drives • File System: Support inbuilt file system which can support single volume size up to 2PB. License for full capacity should be quoted upfront • Cloud Support: Cloud - Support cloud provider: Amazon S3, Aliyun, Microsoft Azure, OpenStack Swift, Google Cloud. If any additional hardware is required for cloud integration it should be quoted for the full capacity upfront • Cloud Support: Cloud Disaster Recovery automatically makes the hidden snapshot to cloud, allow administrator to use the last snapshot for roll-back. • Cloud Support: Support deduplication/compression feature before data migrate to cloud provider • Features: Storage should support Automated Storage Tiering, SSD Cache, Thin Provisioning, Volume Mirror/Copy, Block level Remote replication, File level Remote Replication (Rsync), Snapshot. • Features: Intelligent multi-level drive spin-down • Accessories Required: SFP modules/Optical FC cables • Supplied Accessories: All necessary cables and accessories should be supplied for completeness of the system						
34	**Unmanaged 24 Gigabit Port with 2 Mini GBIC Port** Approved Makes: Dell, Cisco, Edge core, HP or Equivalent Which is Seamlessly Compatible • Type: 24 Port Ethernet Switch • Layer: Layer 2 Switch • Network Media: 22 x 10/100/1000 Mbps, 2 x 10G SFP+ • No of Ports: 24 Port • Supplied Accessories: All necessary cables and accessories should be supplied for completeness of the system	1					
35	Wifi Router : Dual band Wifi Router with Smart UPS 8000mAh Power Backup	1					
	PART B: CHROMA SET, UPS & I&C						
36	Supply Installation Testing and Commissioning of Green Chroma Set Approved Makes: Customized **Feature:** Motorized Chroma set **Specifications**:16 Feet wide, 10 Feet on Wall and at least 6 Feet on Floor	1					

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	with curved edge from Wall to floor. With Proper green fabric to provide rich Chroma key effect **Feature:** Supplied Accessories **Specifications**: All necessary cables and accessories should be supplied for completeness of the system					
37	Supply Installation Testing and Commissioning of UPS System Approved Makes: Customized **Feature:** UPS **Specifications**: 5 KVA 3:1 (3 Phase In: 1 Phase Out) On-Line UPS System with 1(ONE) Hour Backup Should have Hot Standby Redundancy in 1:1 Mode **Feature:** Batteries and Accessories **Specifications**: Suitable rated dry batteries to provide backup for 20 Mins or more along with Battery Rack, interlink battery cables **Feature:** Supplied Accessories **Specifications**: All necessary cables and accessories should be supplied for completeness of the system	1				
38	System Installation Services **Feature:** Cabling Approved Makes: Beldon, Canare, Neutrik, Amphenol or Equivalent Which is Seamlessly Compatible **Specifications**: It is required to set-up the facility for HD/SD operations with 4K and above Cameras Compatibility, therefore all the cabling should seamlessly support required operations. **Feature:** Installation Material **Specifications**: All installation materials including, equipment racks, power cables, interconnection cables, connectors and other accessories (including nuts, bolts, screws etc.) required for installation of the complete system shall be quoted **Feature:** System Completeness **Specifications**: Completeness of the system will be the responsibility of the bidder. Any hardware and/or software including passive and active devices required for completeness of the technical workflow shall be quoted. Bidder shall be responsible for technical and operational completeness of the entire system. **Feature:** System Completeness **Specifications**: Completeness of the system will be the responsibility of the bidder. Any hardware and/or software including passive and active devices required for completeness of the technical workflow shall be quoted. Bidder shall be responsible for technical and operational completeness of the entire system. **Feature:** Workflow Diagram **Specifications**: The bidder must provide schematic diagram of the technical workflow to ensure the workability of the offered solution in all respects. **Feature:** Any Additional Items for Complete the workflow **Specifications**: Bidder must mention any additional items require to complete the workflow with proper justification.	1				
	Total Cost of Category (A)					
	Category "B" Civil and Electrical works					

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39	Dismantling of Existing stair steps made of concrete and dispose the waste material from site to external side of Campus.	01 Job				
40	Providing & laying 3" thick 1:4:8 cement concrete using graded screened bajri ¾ inch (19mm) and down gauge including form work, consolidation, finishing, curing, etc. complete in all respect as per direction of Engineer Incharge.	350 Cft				
41	Providing and Laying first class solid burnt brick masonry set in cement mortar 1: 6 in straight or curved walls 4-1/2 inch, 9-inch, 9-inch thick up to 12' including scaffolding, raking out joints and curing, complete in foundation etc. complete in all respect as per direction by Engineer In charge.	800 Cft				
42	Providing & laying ½ inch (19 mm) thick cement plaster 1:4 on walls etc. including making edges, corners, comers, and curing etc. complete in all respect as per direction by Engineer Incharge.	1000 Sft				
43	Providing and fixing 55mm thick single leaf acoustic Door of size 4'x7' with vision panel including paint as per existing door hardware, door closer handle lock and a door stoper.	02 No				
44	Providing & fixing of 8mm Dual Toughened sand witched Glass observation window between studio and PCR Size 8'x4'	01 No				
45	Providing & Fixing of Acoustic treatment on the studio walls Providing & Fixing of Acoustic treatment on the studio walls Glass Wool of 32 Kg density to be filled between wall and 12mm thick ply which will be finished with laminate (inside of the studio) cotton cloth can also be considered with good color combinations. Rockwool of 40 kg density to be filled between wall and the perforated Gypsum or a good sound absorbing material as being proposed for acoustic	3200 Sft				
46	Providing & Fixing of Carpet including underlaying Jumboloan ½" foam (sample to be approved at the time of Execution)	1600 Sft				
47	Providing white Board size 12'x4' Ceramic steel magnetic white board with 0.4mm ceramic steel writing surface having e3 ceramic steel engrave on the surface, 9mm MDF as core material.	01 No				
48	Providing & applying 2 coats of plastic emulsion Black paint on Roof complete in all respect as per direction of Engineer Incharge	1600 Sft				
49	Providing & lying floor of ½ " thick marble tiles (Botisina/Tevera as existing size 1'x1' fine dressed on the surface and laid over1" thick cement mortar 1:2(1 cement 2 sand) setting the tiles with gray cement slurry over cement mortar, jointing and washing the tiles with white cement slurry curing rubbing and polishing including PCC (1:4:8) where ever required to maintain slop in floor Complete in all rested as per direction of Engineer Incharge	1250 Sft				
50	Providing & lying floor of 1 " thick stair marble (Botisina/Tevera as existing size 5'x1',2'-6"x1' fine dressed on the surface and laid over1" thick cement mortar 1:2(1 cement 2 sand) setting the tiles with gray cement slurry over cement mortar, jointing and washing the tiles with white cement slurry curing rubbing and polishing including PCC	60 Sft				

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	(1:4:8) where ever required to maintain slop in floor Complete in all rested as per direction of Engineer Incharge					
51	Providing, fixing, testing and commissioning of 1.5 Tons Split Inverter type AC (Heat and cool) 18000 BTU Single phase Brand: Gree, Daikin, MIDIA or equivalent	02				
52	Providing and fixing of Extra Copper pipe (As per company size) with insulation sleeves 22 Gauge Brand: Jentum, Popular or equivalent	70+70 (each size) RFT				
53	Providing and fixing of PVC Duct 80x80 mm Brand: Adamjee, Popular or equivalent	70 RFT				
54	Providing and fixing of control wire 110/76, Four core copper Brand: Pakistan cable, Fast cable, Newage Cable or equivalent	80 RFT				
55	Providing and fixing of Drainpipe ¾ upvc complete with fitting Brand: Adamjee, Popular or equivalent	70 RFT				
56	Providing and fixing of Single pole breaker 20 AMP Brand: Schnieder, Chint or equivalent	2 nos				
57	Providing and fixing of Single Power Switch 20 AMP Brand: Clipsal or equivalent	2 nos				
58	Providing and fixing of Outdoor Floor Stand Metal	2 nos				
59	Providing and fixing power cable 7/36 single core (Copper) Brand: Pakistan cable, Fast cable, Newage Cable or equivalent	2 Roll (Black +Red)				
60	Providing and fixing of PVC Duct 16x38 mm Brand: Adamjee, Popular or equivalent	40 RFT				
	Total Cost of Category (B)					

- The bid is submitted without any conditions.
- All the terms and conditions set forth by COMSATS University Islamabad in this tender are acceptable unconditionally, including **bid validity, delivery time.**

Name of Authorized Person: _____

Date: _____

Signature   _____

Official Company Seal: _____

Technical Compliance Performa

<p style="text-align:center">(On Company's Letterhead)</p>

Ref No: _____   NTN: _____

Date: _____   GST: _____

Live Broadcasting Studio Setup

SN	Specification	Brand Name being offered	Compliance	Non-Compliance	Higher if any
	Category "A"				
1	**Sony PXW-Z150 Camcorder OR equivalent** Technical Specification Sony PXW-Z150 Solid-State Memory Camcorder				
	• Image quality: 4K image quality, 120fps HFR Full-HD slow-motion and built-in advanced networking for live streaming and wireless workflow.				
	• Sensor: 1.0 type stacked CMOS sensor and 120fps HFR Revolutionary imaging performance with Exmor RS™				
	• Lens: Sony "G" lens with Minimum 24× zoom				
	• Camera body: Maximum 1.9 kg				
	• 4K picture performance support: 4K QFHD (3840x2160) XAVC Long GOP at 100Mbps,				
	• Integration with established broadcast workflows: With Full HD recording in XAVC Long GOP(4:2:2/10bit 50Mbps) and MPEG-2 HD (50Mbps/35Mbps).				
	• Format for the digital recording: Advanced Video Coding High Definition (AVCHD)				
2	**Nikon Z50 kit+16-50mm OR equivalent** Technical Specification Nikon Z50 kit+16-50mm				
	• Sensor: 20.9MP DX-Format CMOS Sensor				
	• Image Processor: EXPEED 6 Image Processor				

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• Video Recording: UHD 4K and Full HD Video Recording					
• Viewfinder: 2.36m-Dot OLED Electronic Viewfinder					
• Touchscreen: 3.2" 1.04m-Dot 180° Tilting Touchscreen					
• ISO Standard: ISO 100-51200, Up to 11 fps Shooting					
• 209-Point Hybrid AF, Eye Detection					
• Built-In Wi-Fi and Bluetooth					
• NIKKOR Z DX 16-50mm f/3.5-6.3 VR Lens					
Lens Mount: Nikon Z					
Sensor Resolution: Actual: 21.51 Megapixel Effective: 20.9 Megapixel (5568 x 3712)					
Image Sensor: 23.5 x 15.7 mm (APS-C) CMOS					
Image Stabilization: Digital (Video Only)					
ISO Sensitivity Range: Photo 100 to 51,200 in Auto Mode (Extended: 100 to 204,800) Video 100 to 25,600 in Manual, Auto Mode					
Continuous Shooting: Up to 11 fps at 20.9 MP Up to 5 fps at 20.9 MP Up to 4 fps at 20.9 MP Up to 30 fps at 8 MP					
Internal Recording Modes: H.264/MOV/MP4 UHD 4K (3840 x 2160) at 23.98/25/29.97 fps 1920 x 1080p at 23.98/25/29.97/50/59.94/100 fps					
External Recording Modes: HDMI UHD 4K (3840 x 2160) up to 29.97 fps 1920 x 1080p					
Media/Memory Card Slot: Single Slot: SD/SDHC/SDXC (UHS-I)					
Video I/O: 1x Micro-HDMI (Unspecified Signal) Output					
Audio I/O: 1x 1/8" / 3.5 mm TRS Stereo Microphone Input					
Power I/O: No					
Other I/O: 1x Micro-USB (USB 3.2 / 3.1 Gen 1) Output					
Wireless: 2.4 / 5 GHz Wi-Fi 5 (802.11ac) Bluetooth 4.2					
Display Type: 180° Tilting Touchscreen LCD					
Battery Type: 1x EN-EL25 Rechargeable Lithium-Ion, 7.6 VDC, 1120 mAh (Approx. 300 Shots)					

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3	**Tripods:** Tripods for cameras				
4	Mic: Sennheiser / Shure Wireless mic				
5	**Shure MV7 Podcast Microphone OR equivalent** Technical Specification Shure MV7 Podcast Mic				
	• Legendary Broadcast Sound in USB Format				
	• USB and XLR Connections				
	• Built-In Pop Filter for Plosives				
	• 3.5mm Jack with Direct Monitoring				
	• Companion App for Sonic Optimization				
	• Cardioid Pattern Minimizes Room Pickup				
	• Integrated Touch Panel for Mic Controls				
	• High-Quality 48 kHz / 24-Bit Audio				
	• Mac, Windows, iOS & Android				
	• Included USB Cables, Integrated Mount				
6	**Rode RODE Castor Pro Integrated Podcast Production Studio OR equivalent** Technical Specification RØDE Caster Pro II				
	• Fully integrated audio production studio for streamers, podcasters, musicians and content creators				
	• Ultra-low-noise, high-gain Revolution Preamps™ (-131.5dBV EIN, 76dB gain)				
	• Four high-quality Neutrik® combo inputs for				
	• Connecting microphones, instruments and line-level devices				
	• Built-in wireless receiver for connecting up to two RØDE Series IV transmitters (including Wireless PRO, Wireless GO II and Wireless ME)				
	• Nine individually assignable channels with six broadcast-quality physical faders and three virtual faders				
	• High-performance quad-core audio engine				
	• Studio-grade APHEX® audio processing and on-board effects				
	• Eight fully programmable SMART pads with bank switching				
	• Dual USB-C interfaces for connecting two computers or mobile devices				
	• Compatible with a range of RØDE USB microphones, allowing for an additional mic input				
	• Advanced Bluetooth® connectivity for high-quality phone call integration				
	• Multitrack or stereo recording to a microSD™ card, USB storage device or computer				
	• Four high-power headphone outputs and balanced ¼-inch line				

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	outputs				
	• 5.5-inch high-definition touchscreen with haptic feedback and rotary encoder for easy navigation and control				
	• New features and enhancements via regular firmware updates				
	• Included podcasting master class courtesy of MZed				
	• Designed and made in RØDE's state-of-the-art facilities in Sydney, Australia				
7	**Rotational Professional Microphone Arm Stand** Technical Specification Rotational Professional Microphone Arm Stand OR equivalent				
	• With 360° of rotational adjustment and an internal XLR cable				
	• Ideal for Broadcasts and Podcasts				
	• Spring-Loaded Articulating Boom Arm				
	• 360° of Rotational Adjustment				
	• Internal XLR Cable for Clean Look				
	Base Type: Table Clamp ***Boom Arm Type:*** Articulated ***Base Type:*** Table Clamp ***Construction Material:*** Steel				
8	**Extra Adapter, Battery, Live Charger** 1 × Extra Adapter, 1 × Battery, 1 × Live Charger				
9	**Interruptible Foldback (IFB):** Interruptible Foldback (IFB) for communication b/w Producer and host during Recording				
10	**Headphones – For Talkback Camera Man**				
	Dimensions: 9.5 x 9.5 x 5 in				
	Microphone: Noise Cancelling Amplified Dynami				
	Earphones: Two each 32-ohm earphones, wired in stereo.				
	Applications: Television, Camera, intercom, portable radio, computer, smartphone.				
	Ear Seal Type: Protein Leather Ear Seals, Gel Ear Seals,				
	Foam Ear Seals, Foam + Gel Ear Seal,				
	Adapter Cord Type: SBG-1 Motorola 2 pin radio plug.				
	Item includes:				
	• *1x* Headset				
	• *1x* Carry bag				
	• *1x* Adapter cable				

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	• *1x* Cord clip				
11	**Podium:** Digital podium with built-in PC				
12	**VMix Live Production & Streaming Software 4k Pro Version**				
	Technical Specification VMix Live Production & Streaming Software 4k Pro Version OR equivalent				
	• PC Software for Streaming and Recording				
	• Supports up to 4096 x 2160 Resolution				
	• Up to 1000 Sources				
	• 4 x Instant Replay Channels				
	• Effects, Transitions, Virtual Sets				
	• Supports 2 External Outputs				
	• Supports 2 Direct Monitor Outputs				
	• PTZ Control				
	• Compatible with Windows Only				
	Delivery Format: Download ***License Type:*** Standard: Perpetual License ***System Compatibility/Requirements:*** Operating System: Windows				
13	**DeckLink 4K Extreme 12G - 2 x 12Gb/s SD/HD/2K/4K Input and Output Card**				
	Technical Specification Blackmagic Design DeckLink 4K Extreme 12G OR equivalent				
	• 8-Lane PCIe Gen2 I/O Card				
	• Multi-Rate 12G-SDI & HDMI Connections				
	• Supports UHD 4K & DCI 4K up to 60 fps				
	• Single & Dual-Link 4:4:4:4/4:2:2 Signals				
	• 3D Stereoscopic SDI Output at 4:4:4:4				
	• Up/Down/Cross Conversion				
	• Optional Optical Fiber I/O Modules				
	• Breakout Cable for Analog / RS-422				
	• Genlock & Deck Control				
	• Compatible with Mac, Windows & Linux				
	• System Connection: PCIe 2.0 x8				
	• Video Inputs: 2xBNC (12G-SDI) 1x HDMI (2.0b)				

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	1x 3BNC (Component/Composite/S-Video)			
	• Audio Inputs: No			
	• Video Outputs: 2x BNC (12G-SDI) 1x HDMI (2.0b) 1x 3BNC (Component/Composite/S-Video)			
	• Simultaneous Multi-Input Support: Yes: 2 Simultaneous Inputs			
	• Input Video Format: **Component / Composite / SDI (8/10/12-Bit 4:4:4/4:2:2)** DCI 4K at 23.98/24 fps UHD 4K 23.98/24/25/29.97/30/50/59.94/60 fps DCI 2K 23.98/24/25 fps DCI 2KPsF 23.98/24/25 fps 1080p 25/29.97/30/50/59.94/60 fps 1080PsF 23.98/24/25/29.97/30 fps 1080i 50/59.94/60 fps 720p 50/59.94/60 fps 576i / 625 lines 50 fps 480i / 525 lines 59.94 fps HDMI (8/10/12-Bit 4:4:4/4:2:2/4:2:0) DCI 4K at 23.98/24 fps UHD 4K 23.98/24/25/29.97/30/50/59.94/60 fps 1080p 23.98/24/25/29.97/30/59.94/60 fps 1080PsF 23.98/24/25/29.97/30 fps 1080i 50/59.94/60 fps 720p 50/59.94/60 fps 576i / 625 lines 50 fps 480i / 525 lines 59.94 fps **Component** 1080p at 23.98/24/25/29.97/30/50/59.94/60 fps 1080PsF 23.98/24/25/29.97/30 fps 1080i 50/59.94/60 fps 576i / 625 lines 50 fps 480i / 525 lines 59.94 fps **Composite** 576i / 625 lines 480i / 525 lines			
Input Audio Format:				

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AES/EBU				
Output Video Format:				
SDI (8/10/12-Bit 4:4:4/4:2:2)				
DCI 4K at 23.98/24/25 fps				
UHD 4K 23.98/24/25/29.97/30/50/59.94/60 fps				
DCI 2K 23.98/24/25 fps				
DCI 2KPsF 23.98/24/25 fps				
1080p 23.98/24/25/29.97/30/50/59.94/60 fps				
1080PsF 23.98/24/25/29.97/30 fps				
1080i 50/59.94/60 fps				
720p 50/59.94/60 fps				
576i / 625 lines 50 fps				
480i / 525 lines 59.94 fps				
HDMI (8/10/12-Bit 4:4:4/4:2:2/4:2:0)				
DCI 4K at 23.98/24/25 fps				
UHD 4K 23.98/24/25/29.97/30/50/59.94/60 fps				
1080p 23.98/24/25/29.97/30/50/59.94/60 fps				
1080PsF 23.98/24/25/29.97/30 fps				
1080i 50/59.94/60 fps				
720p 50/59.94/60 fps				
576i / 625 lines 50 fps				
480i / 525 lines 59.94 fps				
Component / Composite				
480i / 525 lines at 59.94 fps				
576i / 625 lines 50 fps				
Output Audio Format: AES/EBU				
Embedded Audio:				
SDI: 16-Channel				
HDMI: 8-Channel				
Video Standard Compliance:				
SMPTE 259M/292M/296M/372M/425M/435/2108-1/ST-2081/ST-2082/ST-2082-10				
ITU -R BT.601/BT.656				
OS Compatibility:				
macOS 10.15				
macOS 11.1 or Later				

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	Linux				
	Windows 8.1				
	Windows 10				
	Power Consumption:				
	Device: 30 W				
14	**DeckLink Mini Recorder - 1 x 10-bit SD/HD switchable for NLE**				
	Technical Specification DeckLink Mini Recorder - 1 x 10-bit SD/HD switchable for NLE OR equivalent				
	• SD/HD/3G/6G-SDI Input				
	• HDMI Input				
	• PCI-Express 2.0 x4 Interface				
	• DCI 4K, UHD, HD, and SD Video Support				
	• 10-Bit Processing				
	• Hardware Color Space Conversion				
	• Software HD Down-Conversion				
	• MacOS X, Windows, and Linux Compatible				
	Video I/O: Input 1x BNC (6G-SDI) Female 1x HDMI 2.0a Female				
	Video Resolution: BNC Input (8/10-Bit 4:2:2 YUV) 4096 x 2160 at 23.98/24/25 fps 3840 x 2160 at 23.98/24/25/29.97/30 fps 2048 x 1080p at 23.98/24/25 fps 2048 x 1080PsF at 23.98/24/25 fps BNC Input (8/10/12-Bit 4:4:4 RGB) 1920 x 1080p at 23.98/24/25/29.97/30 fps 1920 x 1080i at 50/59.94/60 fps 1920 x 1080PsF at 23.98/24/25/29.97/30 fps 1280 x 720 at 50/59.94/60 fps 720 x 576i at 50 fps 720 x 480i at 59.94 fps HDMI Input (8/10/12-Bit 4:4:4/4:2:2/4:2:0) 4096x2160 3840x2160				

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	1920x1080p				
	1920x1080PsF				
	1920x1080i				
	1280x720				
	720 x 576i				
	Audio Format:				
	Unspecified Digital Signal Input: 48 kHz / 24-Bit				
	Embedded Audio:				
	SDI: 16-Channel				
	HDMI: 8-Channel				
	Video Standard Compliance:				
	SMPTE: 259M/292M/372M/425M/ST-2081				
	ITU-R: BT.601/BT.656				
	HDR Support:				
	Yes, Hybrid Log Gamma				
	Broadcast System Compatibility:				
	NTSC, PAL				
	OS Compatibility:				
	Windows 7 or Later				
	MacOS 10.14 or Later				
	Linux				
15	**Audio Mixer 12 inputs PRO EL MQ 16 USB**				
	Technical Specification Behringer Xenyx X1204USB 12-Input Mixer with FX and USB Interface OR equivalent				
	• Low-Noise, High-Headroom Analog Mixer				
	• 4 x XENYX Mic Preamp with Phantom Power				
	• One-Knob Compressor per Mic Input				
	• 3-Band British-Style EQ on Each Input				
	• 60mm Logarithmic-Taper Faders				
	• 24-Bit multi-FX, 16 Customizable Presets				
	• 2 Aux Sends per Channel, 2 Subgroups				
	• Mute, Low Cut, Solo, PFL on All Channels				
	• Stereo Aux Return, 2-Track USB Interface				

• Includes Rack Ears				
Number of Analog Input Channels: 6 (4 Mono / 2 Stereo)				
Number of Mic Preamps: 4				
Analog Output Channels: 1x Stereo Master Output 1x Stereo ALT Direct Output 1x Stereo Control Room/Monitor Output 1x Stereo Tape/Record Output 1x Stereo Headphone Output 1x Stereo Aux Send Output				
Mix Routing: Stereo Main Mix per Main Mix Channel (LCR Main Mix Combines Stereo and Mono Main Mixes) Stereo Bus/Subgroup Mono FX Bus per Input Channel Stereo Aux Bus/Subgroup per Input Channel 1x Stereo Aux Send 2x Stereo Aux Return 1x Stereo FX Send 1x Stereo FX Return				
EQ: Input Channels: 3-Band EQ/Parametric				
Built-In Effects: 16x				
USB I/O: 1x USB-B (Audio Playback)				
Wireless: No				
Rack Mountable: No				
Max I/O Capacity: 12x Input / 11x Output				
Number of Analog Input Channels: 6 (4 Mono / 2 Stereo)				
Number of Mic Preamps: 4				
Analog Output Channels: 1x Stereo Master Output 1x Stereo ALT Direct Output 1x Stereo Control Room/Monitor Output 1x Stereo Tape/Record Output 1x Stereo Headphone Output 1x Stereo Aux Send Output				
Mix Routing: Stereo Main Mix per Main Mix Channel (LCR Main Mix Combines Stereo and Mono Main Mixes) Stereo Bus/Subgroup Mono FX Bus per Input Channel Stereo Aux Bus/Subgroup per Input Channel 1x Stereo Aux Send				

2x Stereo Aux Return 1x Stereo FX Send 1x Stereo FX Return				
Faders & Level Adjustment: 6x 2.4" / 60 mm Channel Fader 2x 2.4" / 60 mm Bus/Subgroup Fader 2x 2.4" / 60 mm Master Fader 40x Channel Knob 2x FX Knob				
Meters: Main Meter: 1x 8-Segment LED Bus Meter: 1x 6-Segment LED				
Gain/Trim Range: +10 dB to +60 dB				
Input Pad: 0 dB				
Input Polarity: Fixed				
Dynamic Processing: Input Channels, Mono Channels: Compressor				
EQ: Input Channels: 3-Band EQ/Parametric				
EQ Parameters: *High:* ±15 dB at 12 kHz *Mid:* ±15 dB at 2.5 kHz *Low:* ±15 dB at 80 Hz				
Graphic EQ: No				
Filters: Input Channels, Mono Channels: High-Pass: 75 Hz, 18 dB/Octave				
Solo/Mute: Solo, Mute per Input Channel PFL per Master				
Built-In Effects: 16x				
Sample Rates: AD/DA Conversion: 40kHz				
Bit Depth: AD/DA Conversion 24-Bit				
Frequency Response: Mic Input: 10 Hz to 150 kHz -1 dB 10 Hz to 200 kHz -3 dB Mic Input to Main Output: 10 Hz to 90 kHz +0/-1 dB 10 Hz to 160 kHz +0/-3 dB				
Max Input Level: XLR Mic Input: +12 dBu (Balanced) 1/4" TRS Line Input: 30 dBu (Balanced) 1/4" TRS Line/Stereo Input: +22 dBu (Balanced)				

	RCA Tape Input: +22 dBu (Unbalanced) 1/4" TRS Aux Return: +22 dBu (Balanced)				
	Analog Inputs: 4x XLR 3-Pin Balanced Mic Input 4x 1/4" Unbalanced Line Input 4x 1/4" Unbalanced Stereo Line Input (2 Stereo Pair) 4x 1/4" TRS Return (2 Stereo Pair)				
	Analog Outputs: 2x XLR 3-Pin Balanced Main Output 2x 1/4" TS Unbalanced Mono Alt Output 2x 1/4" TS Unbalanced Control Room Output 1x 1/4" TRS Unbalanced Stereo Headphone Output				
	Phantom Power: +48 V				
	Digital I/O: No				
	MIDI I/O: No				
	USB I/O: 1x USB-B (Audio Playback)				
	USB I/O Capacity: 1x Input / 1x Output				
	Wireless: No				
	OS Compatibility: Windows macOS				
	AC Input Power: 100 to 240 VAC, 50 / 60 Hz				
	Power Supply Output: Included				
16	**XLR CABLE ROLL**: Technical Specification XLR CABLE ROLL OR equivalent				
	• Color: Black				
	• Conductor Size: 0.22 mm2				
	• Outside Diameter: 6.00 mm				
	• Roll Length: 100 meters				
	• Shield Material: Spiral shield plus 20 AWG tinned copper drain wire				
	• Weight: 4.60 Kg per 100 meters				
17	**BNC CABLE ROLL – L3:** Technical Specification Canare L3CFB Video Cable OR equivalent				
	• 75 Ohm impedance				
	• ≥20dB return loss to 2GHz				
	• Solid annealed copper center conductor				
	• Tinned copper braid shield, aluminum foil, foam polyethylene				

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	dielectric				
18	**BNC Connector 100 L-3:** Technical Specification BNC Connector 100 L-3 OR equivalent				
	ELECTRICAL SPECIFICATIONS				
	• Impedance 50 ohm 75 ohm				
	• Frequency Range 0–4 GHz 0–1 GHz				
	• Working Voltage 500 Volts rms. 500 Volts rms.				
	• Dielectric Withstanding Voltage 1500 Volts rms. 1500 Volts rms.				
	• VSWR 1.3 max. 0–4 GHz 1.05+0.1f(GHz) DC to 1 GHz				
	• Contact Resistance Center contact 1.5 milliohm Center contacts 1.5 milliohm Outer contact 1.0 milliohm Outer contact 1.0 milliohm Insulation Resistance 5000 megohms (min) 5000 megohms (min)				
	MATERIAL SPECIFICATIONS				

(MATERIAL SPECIFICATIONS table within item 18:)

PARTS NAME		MATERIAL	FINISH
Center Contact	Male	Brass	Gold or Silver plated
	Female	Phosphor Bronze (nominal) or Beryllium Copper	Gold or Silver plated
Metal parts		Brass	Nickel*
Insulators		Teflon, Delrin, PBT polyester	None
Clamp gaskets		Silicone rubber, Synthetic rubber	None
Crimp ferrule		Annealed copper	Nickel*

19	**Studio Wall box 2 A/V:** Technical Specification Studio Wall box 2 A/V				

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	• Wall Audio Junction Box Stage Recording Studio 2/4/6/8/10 Way Xlr To 6.35mm Xlr 3-Core Jack Female to Male Stage Junction Box				
	• Color: YS1010				
20	**Studio Cool Lights :** LED Cool Spot Lights (ILFORDS 50 watts) (3000K) (Back / Kicker Light)				
21	LED Dimmable Cool Lights 120 Watts SMD LED (3000K) (Top Light – Fill in & Key Light)				
22	Diffuser for SMD Cool Lights				
23	Smart Video hub 40x40				
24	**15-inch Teleprompter system:** Technical Specification G2-15 Teleprompter Specifications:				
	• Max Reading distance: 18 feet				
	• Material: aluminum				
	• Monitor Size: 15" LCD				
	• Beam-splitter Mirror: 14" X 14" 70/30				
	• Supported Inputs: HDMI / VGA				
	• Software: ZaPrompt Pro for four computers				
25	**Computer System Tower Casing:** Computers (HP/Dell/Lenovo) Tower Casing				
	Intel Core – i7, 1 1 th Generation, (16 MB cache, 8 cores, 16 threads, 2.50 to 4.90 GHz Turbo, 65W) 16GB RAM – 2x 8GB DDR4 (2666 Mhz or higher) upto 32GB supported, HDD SATA= 1x 1TB SSD HARD DRIVE: 512 GB, M.2, Gen3 PCIe x4 NVMe, SSD, 02 11	P a g e Class 40 Built -in 1 Gbps LAN Card. Optical Drive DVD+/ -RW 9.5mm ODD: Yes Intel Integrated Graphics With Windows 11 or 10 Pro, External Sound Card: 5.1 PCie channel output, 106db SNR and high –end 600 - ohm HDMI Port(s): Yes HDMI Cables for Connecting Desktop with LED Operating System: DOS LEDs: LED Display: (24'') HDMI Port(s): Yes Keyboard, Mouse of same brand with standard accessories. Or equivalent				
	Approved Makes: Dell, HP or Equivalent Which is Seamlessly Compatible				
	• Processor: 2 x Intel® Xeon® E5-2640 v4 Processor (10 Core/2.4 GHz/25M Cache)				
	• Chipset: Intel C612 chipset				
	• RAM: 64GB ECC DDR4 2133 MHz RAM (Max 512GB, 16RDIMMs)				
	• Controller SATA3 (6Gbps) Controller Supports RAID 0, 1, 10				
	• HDD 2 x 2TB Enterprise SATA 7.2K RPM Hot Swap 3.5" HDD (Max 8 HDDs) 2 x 1TB Enterprise SATA 7.2K RPM Hot Swap 3.5" HDD				
	• Optical Drive Blue-ray rewritable drive				

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	• Network 2x RJ45 Gigabit Ethernet LAN ports				
	• Graphics Card 1 x NVIDIA Quadro P5000 16GB				
	• OS Windows 10 Professional 64 Bit				
	• Capture Card PCIe Video Capture Card with Capture Software - DeckLink 4K Extreme 12G				
	• Additional Software for Video editing Supply & Installation of Adobe Premiere Pro Yearly Subscription Plan for Educational Purpose				
	• Peripherals 27" 4K LED Display, Keyboard and Mouse				
	• Supplied Accessories All necessary cables and accessories should be supplied for completeness of the system				
	• Alternate: Equivalent or better configuration in Apple Mac Pro Tower Machine. With all necessary licenses like above mentioned				
26	Graphic Card: Nvidia 12GB DDR6 S+ Or equivalent				
27	LEDs (65 -inch): Samsung/LG/Sony Original with wall mount bracket, HDMI cable (10 meters) and installation at the site with the power installation where required. Or equivalent				
28	LEDs (40 -inch): LEDs (32 -inch) Samsung/LG/Sony Original with wall mount bracket, HDMI cable (10 meters) and installation at the site with the power installation where required. Or equivalent				
29	Motorized M.M White Screen: M 1:1 Motorized Projection Screen Deluxe 300x300, 167" White Edition Article No: 7 350 022 731 745				
	Article No: 7 350 022 731 745 Format: 1:1 Size: 167" Projection area: 3 x 3 m Diagonal: 4,24 m Motor: Yes Remote: Yes (RF frequency 433 Hz) Cassette color: White Cassette material: Aluminum Surface: Matte white Gain: 1.0 Weight: 19 kg White drop: 30 cm Cassette measurements: 315,4 x 9 x 9 cm (L*W*H)				
30	**White Boards - Size 12' x 4 '** : Ceramic steel magnetic white board with 0.4 mm ceramic steel writing surface having e3 ceramic steel engrave on the surface, 9mm MDF as core material.				
31	**Microphone For Voice-Over**				
	Approved Makes: Coles, Sennheiser, AKG or Equivalent Which is Seamlessly Compatible				
	• Type Dynamic vocal microphone				
	• Polar pattern: Super cardioid				
	• Frequency range: 80Hz to 18kHz or Better				
	• SPL: 140dB or Better				

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	• Equivalent noise level: -18dB or Better				
	• Sensitivity: 2.6 mV/Pa or Better				
	• Supplied Accessories All necessary cables and accessories should be supplied for completeness of the system				
32	**2 IN 1 LAPTOP**: Approved Makes: HP, DELL, or Equivalent				
	• Type: Convertible 2 in 1 Laptop with Stylus				
	• Processor: Intel Core i7 Latest generation or better				
	• Screen: 14-inch or better FHD Touchscreen 2-in-1				
	• RAM: 8GB RAM or Better				
	• Media: 1TB HDD				
	• OS: Windows 11				
	• Additional Applications: Microsoft office latest version				
	• Supplied Accessories: All necessary cables and accessories should be supplied for completeness of the system				
33	**Enterprise-Class Unified NAS with 50 Tb Usable Storage**				
	Approved Makes: Infortrend, Promise, DDP, QSAN or Equivalent Which is Seamlessly Compatible				
	• Storage Type: Storage system should have 2U Rack mountable & should support minimum 16x 2.5'"/3.5" SATA HDD .				
	• Processor: should have at least 1x Intel Xeon 6 core or higher CPU				
	• Memory: System should have minimum 16GB DDR4 memory & expandable up to 64GB				
	• Host board port options: System should capable for having 2 x 16 Gb/s FC 4 x 8 Gb/s FC 2 x 10 Gb/s iSCSI (RJ45) 4 x 10 Gb/s iSCSI (SFP+) 4 x 1 Gb/s iSCSI				
	• Initially Quote with 4x1GbE + 4x10GbE (SFP+) ports				
	• Supported drives: Support drives including SSD, SATA HDD in the same enclosure				
	• Features Proposed storage should have true unified storage architecture. should support File, Block and Object storage. All these protocols should be supported and licenses for full storage capacity should be quoted for the duration of the product lifecycle NFS, CIFS/SMB, AFP, FTP, SFTP, WebDAV, REST API, 1Gb/s, 10Gb/s and (RJ-45, SFP+), 10Gb/s FCoE, 8Gb/s, 16Gb/s Fibre Channel,				
	• Features: Storage should be able to separate the File Level share folder control with file protocols for secure file sharing process (like sharing one folder on HTTP or FTP only and share another folder on CIFS or AFP only.) Automated support request Proposed Storage should have option to automatically create support ticket with relevant logs with the OEM support in case of critical event.				
	• Expansion: System should be scalable to minimum 432 drives by using 12G SAS connected expansion enclosure.				
	• Capacity: Should have 50 TB storage capacity after RAID5 + Hot spare				

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	• Hot spare drive Should have one Hot spare drive every after 15 drives				
	• File System: Support inbuilt file system which can support single volume size up to 2PB. License for full capacity should be quoted upfront				
	• Cloud Support: Cloud - Support cloud provider: Amazon S3, Aliyun, Microsoft Azure, OpenStack Swift, Google Cloud. If any additional hardware is required for cloud integration it should be quoted for the full capacity upfront				
	• Cloud Support: Cloud Disaster Recovery automatically makes the hidden snapshot to cloud, allow administrator to use the last snapshot for roll-back.				
	• Cloud Support: Support reduplication/compression feature before data migrate to cloud provider				
	• Features: Storage should support Automated Storage Tiering, SSD Cache, Thin Provisioning, Volume Mirror/Copy, Block level Remote replication, File level Remote Replication (Rsync), Snapshot.				
	• Features: Intelligent multi-level drive spin-down				
	• Accessories Required: SFP modules/Optical FC cables				
	• Supplied Accessories: All necessary cables and accessories should be supplied for completeness of the system				
34	**Unmanaged 24 Gigabit Port with 2 Mini GBIC Port**				
	Approved Makes: Dell, Cisco, Edge core, HP or Equivalent Which is Seamlessly Compatible				
	• Type: 24 Port Ethernet Switch				
	• Layer: Layer 2 Switch				
	• Network Media: 22 x 10/100/1000 Mbps, 2 x 10G SFP+				
	• No of Ports: 24 Port				
	• Supplied Accessories: All necessary cables and accessories should be supplied for completeness of the system				
35	Wifi Router : Dual band Wifi Router with Smart UPS 8000mAh Power Backup				
	PART B: CHROMA SET, UPS & I&C				
36	Supply Installation Testing and Commissioning of Green Chroma Set Approved Makes: Customized				
	Feature: Motorized Chroma set **Specifications**:16 Feet wide, 10 Feet on Wall and at least 6 Feet on Floor with curved edge from Wall to floor. With Proper green fabric to provide rich Chroma key effect				
	Feature: Supplied Accessories **Specifications**: All necessary cables and accessories should be supplied for completeness of the system				
37	Supply Installation Testing and Commissioning of UPS System Approved Makes: Customized				
	Feature: UPS **Specifications**: 5 KVA 3:1 (3 Phase In: 1 Phase Out) On-Line UPS				

	System with 1(ONE) Hour Backup Should have Hot Standby Redundancy in 1:1 Mode				
	Feature: Batteries and Accessories **Specifications**: Suitable rated dry batteries to provide backup for 20 Mins or more along with Battery Rack, interlink battery cables				
	Feature: Supplied Accessories **Specifications**: All necessary cables and accessories should be supplied for completeness of the system				
38	System Installation Services				
	Feature: Cabling Approved Makes: Beldon, Canare, Neutrik, Amphenol or Equivalent Which is Seamlessly Compatible **Specifications**: It is required to set-up the facility for HD/SD operations with 4K and above Cameras Compatibility, therefore all the cabling should seamlessly support required operations.				
	Feature: Installation Material **Specifications**: All installation materials including, equipment racks, power cables, interconnection cables, connectors and other accessories (including nuts, bolts, screws etc.) required for installation of the complete system shall be quoted				
	Feature: System Completeness **Specifications**: Completeness of the system will be the responsibility of the bidder. Any hardware and/or software including passive and active devices required for completeness of the technical workflow shall be quoted. Bidder shall be responsible for technical and operational completeness of the entire system.				
	Feature: Workflow Diagram **Specifications**: The bidder must provide schematic diagram of the technical workflow to ensure the workability of the offered solution in all respects.				
	Feature: Any Additional Items for Complete the workflow **Specifications**: Bidder must mention any additional items require to complete the workflow with proper justification.				
		Total Cost of Category (A)			
	Category "B" Civil and Electrical works				
39	Dismantling of Existing stair steps made of concrete and dispose the waste material from site to external side of Campus.				
40	Providing & laying 3" thick 1:4:8 cement concrete using graded screened bajri ¾ inch (19mm) and down gauge including form work, consolidation, finishing, curing, etc. complete in all respect as per direction of Engineer Incharge.				
41	Providing and Laying first class solid burnt brick masonry set in cement mortar 1: 6 in straight or curved walls 4-1/2 inch, 9-inch, 9-inch thick up to 12' including scaffolding, raking out joints and curing, complete in foundation etc. complete in all respect as per direction by Engineer In charge.				
42	Providing & laying ½ inch (19 mm) thick cement plaster 1:4 on walls etc. including making edges, corners, comers, and curing etc. complete in all respect as per direction by Engineer Incharge.				
43	Providing and fixing 55mm thick single leaf acoustic Door of size 4'x7' with vision panel including paint as per existing door hardware, door closer handle lock and a door stoper.				
44	Providing & fixing of 8mm Dual Toughened sand witched Glass observation window between studio and PCR Size				

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	8'x4'				
45	Providing & Fixing of Acoustic treatment on the studio walls Providing & Fixing of Acoustic treatment on the studio walls Glass Wool of 32 Kg density to be filled between wall and 12mm thick ply which will be finished with laminate (inside of the studio) cotton cloth can also be considered with good color combinations. Rockwool of 40 kg density to be filled between wall and the perforated Gypsum or a good sound absorbing material as being proposed for acoustic				
46	Providing & Fixing of Carpet including underlaying Jumboloan ½" foam (sample to be approved at the time of Execution)				
47	Providing white Board size 12'x4' Ceramic steel magnetic white board with 0.4mm ceramic steel writing surface having e3 ceramic steel engrave on the surface, 9mm MDF as core material.				
48	Providing & applying 2 coats of plastic emulsion Black paint on Roof complete in all respect as per direction of Engineer Incharge				
49	Providing & lying floor of ½ " thick marble tiles (Botisina/Tevera as existing size 1'x1' fine dressed on the surface and laid over1" thick cement mortor 1:2(1 cement 2 sand) setting the tiles with gray cement slurry over cement mortor, jointing and washing the tiles with white cement slurry curing rubbing and polishing including PCC (1:4:8) where ever required to maintain slop in floor Complete in all rested as per direction of Engineer Incharge				
50	Providing & lying floor of 1 " thick stair marble (Botisina/Tevera as existing size 5'x1',2'-6"x1' fine dressed on the surface and laid over1" thick cement mortor 1:2(1 cement 2 sand) setting the tiles with gray cement slurry over cement mortor, jointing and washing the tiles with white cement slurry curing rubbing and polishing including PCC (1:4:8) where ever required to maintain slop in floor Complete in all rested as per direction of Engineer Incharge				
51	Providing, fixing, testing and commissioning of 1.5 Tons Split Inverter type AC (Heat and cool) 18000 BTU Single phase Brand: Gree, Daikin, MIDIA or equivalent				
52	Providing and fixing of Extra Copper pipe (As per company size) with insulation sleeves 22 Gauge Brand: Jentum, Popular or equivalent				
53	Providing and fixing of PVC Duct 80x80 mm Brand: Adamjee, Popular or equivalent				
54	Providing and fixing of control wire 110/76, Four core copper Brand: Pakistan cable, Fast cable, Newage Cable or equivalent				
55	Providing and fixing of Drainpipe ¾ upvc complete with fitting Brand: Adamjee, Popular or equivalent				

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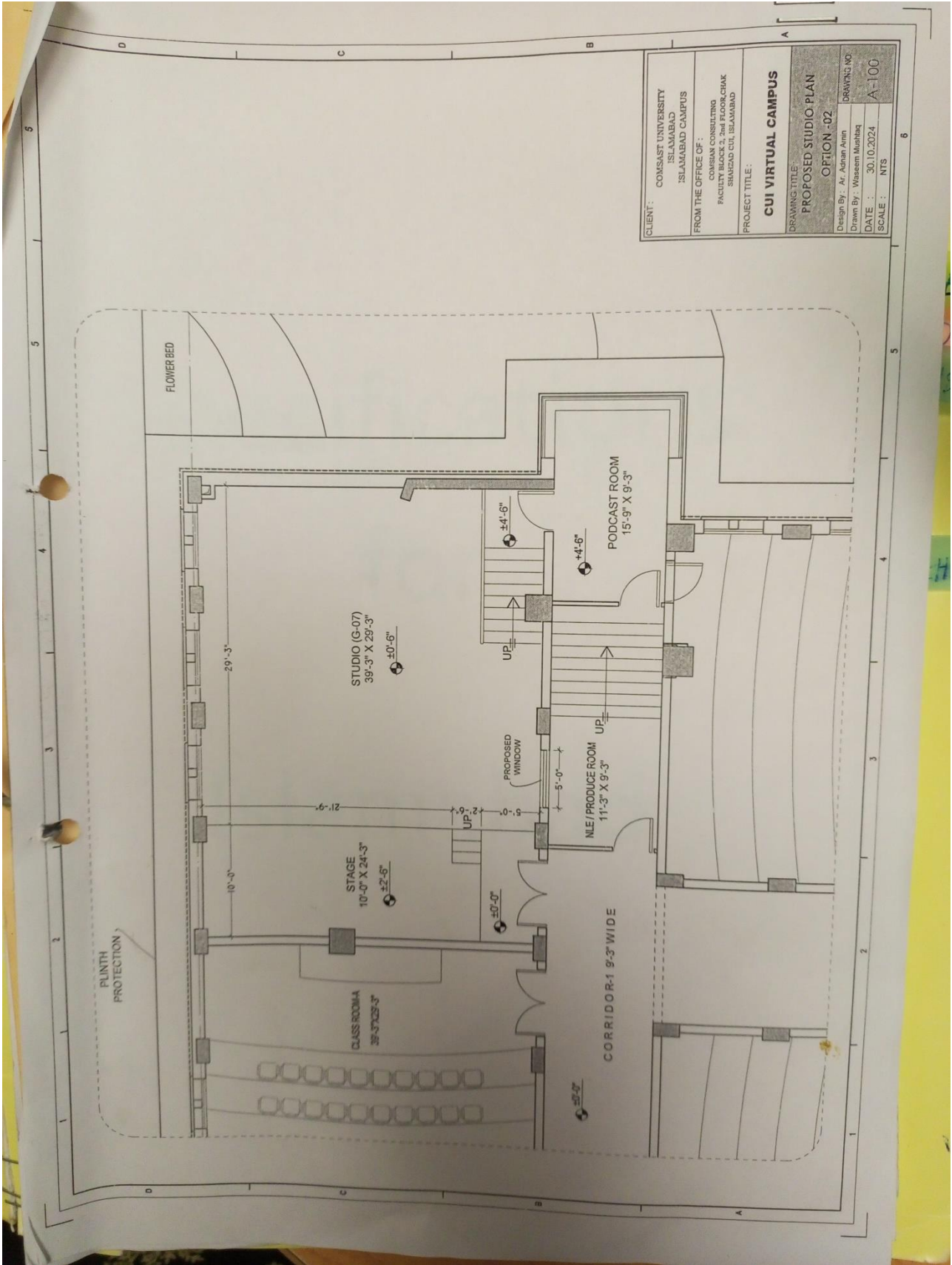|					
56	Providing and fixing of Single pole breaker 20 AMP Brand: Schnieder, Chint or equivalent				
57	Providing and fixing of Single Power Switch 20 AMP Brand: Clipsal or equivalent				
58	Providing and fixing of Outdoor Floor Stand Metal				
59	Providing and fixing power cable 7/36 single core (Copper) Brand: Pakistan cable, Fast cable, Newage Cable or equivalent				
60	Providing and fixing of PVC Duct 16x38 mm Brand: Adamjee, Popular or equivalent				
				Total Cost of Category (B)	

- The bid is submitted without any conditions.
- All the terms and conditions set forth by COMSATS University Islamabad are acceptable unconditionally, including **bid validity, delivery time.**
- I understand that blank technical sheet / non-mentioning of Brand and Model shall make my bid non-responsive and may result rejection of my bid.

Name of Authorized Person: _____

Date: _____

Signature _____

Official Company Seal: _____

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CLIENT: COMSAST UNIVERSITY
ISLAMABAD
!ISLAMABAD CAMPUS

FROM THE OFFICE OF :
COMSIAN CONSULTING
FACULTY BLOCK 2, 2nd FLOOR, CHAK
SHAHZAD CUI, ISLAMABAD

PROJECT TITLE:

CUI VIRTUAL CAMPUS

DRAWING TITLE:
PROPOSED STUDIO PLAN
OPTiON - 02

DRAWING NO:
A-100

Design By : Ar. Adnan Amin
Drawn By : Waseem Mushtaq
DATE : 30.10.2024
SCALE : NTS

FLOWER BED

PODCAST ROOM
15'-9" X 9'-3"

±4'-6"

+4'-6"

STUDIO (G-07)
39'-3" X 29'-3"
±0'-6"

29'-3"

UP

UP

PROPOSED
WINDOW

NLE / PRODUCE ROOM
11'-3" X 9'-3"

UP

5'-0"

21'-9"

2'-6"

5'-0"

UP

10'-0"

STAGE
10'-0" X 24'-3"
±2'-6"

±0'-0"

CLASS ROOM-A
39'-3"X29'-3"

CORRIDOR-1 9'-3" WIDE

PLINTH
PROTECTION

PLINTH
PROTECTION

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General Terms & Conditions of the Tender

i.   No tender/bid shall be considered if: -
   a)   Not uploaded through EPADS.
   b)   Received without required documentation or deficiency in required documentation.
   c)   Received without bid security.
   d)   In contradiction with the specification given by the CUI.
   e)   Received with any condition.
   f)   The bidder is in litigation with CUI or is blacklisted by any organization or is notified as blacklisted on PPRA website.

Contact person and Submission of Bids:

i.   Contact Person for all inquiries, clarifications and bid submission shall be:

   In-Charge Procurement
   COMSATS University Islamabad
   2nd Floor, Faculty Block-II, Park Road, Tarlai Kalan, Islamabad,
   Tel: 0336-5524334, 051-90495242, 051-9049-5154, 051-9049-5122
   Email: wajidkamran@comsats.edu.pk

Validity of Bids:

i.   The Bid shall remain valid as mentioned in **Table 1** of the tender document.

ii.   Any bidder/firm/ company which refuses to accept the Work Order based on market price escalation shall result in forfeiting the bid security. CUI may also impose a ban from business with it for a period of 6 months.

Price of the Bid:

i.   Prices quoted by the Bidder shall be fixed during the period of the contract and not subject to variation on any account.

ii.   Applicable Income tax and GST shall be deducted at source and as per rules. In case of exemption, please mention and attach proper documentation duly verified from the concerned tax authorities. However, CUI may accept the exemption certificate. In case of non-acceptance, CUI shall deduct all applicable taxes as per tax rate. CUI shall provide a certificate of tax deduction and the vendor may claim refunds from Tax Authorities/FBR.

iii.   In the case of tie in rates of the bidders, award of contract shall be decided through balloting in the presence of the of the bidders.

iv.   Unit price shall be taken up to 1 decimal point. The total cost shall be round-up to zero decimal.

v.   In case of any conflict in the price/cost quoted by the bidder, the unit cost (Exclusive of GST) quoted by the bidder shall be considered for calculation.

vi.   In case GST is not mentioned, the prices shall be considered as inclusive of GST.

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Bid Currencies & Bid Security:

i. Bid prices shall be quoted in Pak Rupees.

ii. The currency of the bid security shall also be in Pak Rupees.

iii. The Bidder shall furnish, as part of its bid, bid security as specified in **Table 1** of the tender document. The bid security is required to protect CUI against the risk of Bidder's default which would warrant the security's forfeiture.

iv. The bid security shall be in favor of **COMSATS University Islamabad (FTN/NTN: 9013701-9),** in any of the following form:

      a. Bank Draft
      b. Pay Order

v. A scanned copy of bid security is required to be uploaded through EPADS and hard copy must be submitted physically on the closing date of the tender to COMSATS University Islamabad on the address given in the tender notice.

vi. No personal cheques shall be acceptable at any cost. Also, any previous bid security shall not be considered or carried forward.

vii. The bid security found deficient of the required amount shall not be considered.

viii. Unsuccessful bidders' bid security shall be released and returned promptly as the successful bidder gives consent to the work order or signs the contract agreement, whichever is applicable.

ix. The bid security of the bidder shall be forfeited if the bidder:

      a. Requests for withdrawal of his bid during the evaluation process.

      b. Does not accept the correction of arithmetic errors in its bid.

x. The bid security of the successful bidder shall be forfeited if the bidder:

      a. Fails to accept the work order/sign the contract agreement after announced as successful Bidder.

      b. Fails to comply with the requirement of the bid and contract.

Clarification of Bidding Document:

i. During evaluation of the bid(s), CUI may, at its discretion, ask the Bidder for a clarification of its bid and such information imperative for evaluation. The request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered, or permitted. In case the bidder fails to respond within given deadline, the bidder shall be considered as non-responsive and shall be disqualified from the bidding process.

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Opening of Bids:

i.   CUI shall open all bids through EPADS at the time, date, and place specified in tender notice, in presence of bidders' representatives who wish to attend the meeting and shall sign an attendance sheet as evidence of their presence.

Influencing the evaluation process:

i.   No Bidder shall contact CUI on any matter relating to evaluation of its bid, from the time of bid opening to the time evaluation report is made public. If the Bidder wishes to bring additional information or has a grievance to submit, it should do so through EPADS.

ii.   Any effort by a Bidder to influence CUI during bid evaluation may result in disqualification of the bid.

Qualification & Evaluation of Bids:

i.   CUI shall determine whether the Bidder is qualified to perform the Contract satisfactorily, in accordance with the criteria & qualification specified in the tender document.

ii.   The qualification shall be based upon an examination of the documentary evidence submitted by the Bidder, as well as such other information as CUI deem necessary and appropriate.

iii.   CUI shall technically evaluate and compare the bids which have been determined to be substantially responsive, as per evaluation criteria given in the tender document.

iv.   The bidder's financial evaluation of a bid shall be based on the lowest evaluated bid inclusive of all prevailing taxes and duties.

v.   CUI shall examine the bids as whether:

      a.   They are complete in all respect;

      b.   Any computational errors have been made;

      c.   Required financial sureties have been furnished;

      d.   The documents have been properly signed.

vi.   Arithmetical errors shall be rectified on the following basis:

      a.   If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price (exclusive of tax) shall prevail, and the total price shall be corrected. If the Contractor does not accept the correction of the errors, the bid shall be rejected, and the bid security shall be forfeited.

      b.   If there is a discrepancy between words and figures, the amount in words shall prevail.

vii.   CUI may waive any minor non-conformity, in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.

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a. *Explanation: A minor non-conformity is one that is merely a matter of form and not of substance. It also pertains to some immaterial deficiency in a Bid or variation of a bid from the exact requirements of the tender document that can be corrected or waived without being prejudicial to other bidders. The deficiency is immaterial when the affect on quantity, quality, or delivery is negligible when contrasted with the total cost or scope of the supplies or services being acquired. CUI shall either give the bidder an opportunity to correct any deficiency in a bid or waive the deficiency, whichever is advantageous to CUI.*

viii. Prior to the detailed evaluation, CUI shall determine the substantial responsiveness of each bid to the bidding documents. For the purposes of these clauses, a substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations.

ix. Deficiency in bid security, Applicable Law and Taxes and Duties shall be deemed to be a material deviation. The CUI 's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

x. If a bid is not substantially responsive, it shall be rejected and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

Notification of Evaluation Reports:

i. The evaluation report shall be notified through EPADS.

Corrupt or Fraudulent Practices & Blacklisting:

i. The bidders shall be required to observe the highest standard of ethics during the procurement and execution of contracts. For the purpose of this provision, the terms set forth below are defined as under:

a. "Corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

b. "Fraudulent practice" means a misrepresentation of facts to influence a procurement process or the execution of a contract to the detriment of CUI;

c. "Collusive practice" is an arrangement among bidders (prior to or after bid submission) designed to establish bid prices at artificial, non-competitive levels for any wrongful gains, and to deprive CUI of the benefits of free and open competition.

ii. CUI shall have the right to reject a proposal for award if it determines that the bidder had been engaged in corrupt or fraudulent practices in the past with any organization.

iii. Any bidder/firm/company which is blacklisted by any organization and/or notified as blacklisted by PPRA shall be considered disqualified from the bidding process unless and until it is de-notified on PPRA website.

Signature & Seal of the Bidder

iv.   If it at any time, CUI determines that the firm has engaged in corrupt, fraudulent, or collusive practices in competing for, or in executing the contract, it shall sanction/ban a bidder/firm/company, in accordance with prevailing Blacklisting procedures under Federal Public Procurement Rules.

Right to Accept or Reject Bids:

i.   Under PPRA Rule 33(1), CUI may reject bids or proposals at any time prior to the acceptance of a bid or proposal, without incurring any liability to the bidder(s).

Award of Contract:

iii.   After scrutiny of all bidding documents, the final evaluation report shall be uploaded to EPADS, and the work order/purchase order shall be issued on the basis of most advantageous bid as mentioned in **Table 1** of the tender document.

ii.   The successful bidder shall immediately sign a contract agreement / give consent to the Work Order/Purchase Order. The bidder shall bear all the stamp duties and expenses for the purpose of contract agreement/Work Order/Purchase Order, if any.

Notification of Award:

i.   The notification of award shall constitute the formation of the Agreement/Work Order/Purchase Order.

ii.   Upon the successful bidder's signing the contract agreement/acceptance/consent to the Work Order/Purchase Order, CUI will promptly notify the unsuccessful bidder(s) and will release its bids security.

iii.   Quantity may increase/Decrease as per CUI requirements subject of availability of funds.

Delivery Information for deliverable items:

i.   The supply shall be made to CUI as mentioned in **Table 1** of the tender document.

ii.   In case of delay in delivery and installation the vendor may submit a written request for extension in delivery time, giving valid justification with proof.

iii.   CUI may extend the delivery time and installation according to the reason of delay with the condition of deductions in percentage (0% to 10%) from the total bill as penalty. The decision shall be communicated to the vendor for extension along with [percentage of deduction, if any]. In case of non-responsiveness/non-acceptance by the vendor, the work order shall automatically be cancelled, the bid security shall be forfeited. CUI may also impose a ban from business with it for a period of six months.

iv.   CUI may reject the request for extension, in which case, the work order shall be cancelled, the bid security shall be forfeited. CUI may also impose a ban from business with CUI for a period of six months.

Signature & Seal of the Bidder

v.   The bills along with delivery challan (duly signed by authorized official of CUI) shall be submitted to the Procurement Office for further necessary payment process. Any deficiency in bill/supporting documentation shall be removed by the vendor.

vi.   Any defective item(s) shall be replaced by the vendor during the warranty period, free of cost, within one-week is time. In case of failure to supply the specific item, CUI shall purchase the item on risk and cost of the supplier, to be deducted from the bidder's bid security or performance guarantee.

vii. Payment shall be made as per actual quantity delivered & accepted to CUI.

viii. Samples are mandatory where specifically demanded and bid without samples shall be considered non-responsive. No sample(s) shall be accepted after the closing date of the tender. Sample(s) other than the demanded item(s) shall not be considered.

ix.   After technical evaluation of bids, sample(s) provided by bidders may be picked up from the procurement section within 30 days from the date of technical bid evaluation announcement. Failure on the part of the bidder(s) to collect his samples within the stipulated time shall allow CUI to dispose-off the samples.

x.   In cases lowest evaluated bidder refuses or fails to supply the item(s)/execute the work within the deadline(s), the Work Order may be offered to the next lowest bidder provided that the difference between the 1st lowest bidder and 2nd lowest bidder (2nd-1st) is less than or equal to the earnest money (General Economic Principle). Same principle for 3rd, 4th lowest bidders and so on.

For Services Information:

i.   All services payment shall be released on the completion of the particular service with the provision of evidence/ completion document that the awarded work has been performed successfully.

ii.   Services should be provided with in the defined timeline given in the tender document or as per the project needs.

Legal Document

i.   The Tender document and Contract agreement/Work Order/Purchase Order altogether shall have legal binding on all bidders.

Signature & Seal of the Bidder

Declaration Form

(THIS FORM IS TO BE PROVIDED WITH THE BID)

All the terms & conditions have been carefully read and understood and are hereby unconditionally accepted and it is declared that:

a) I understand that by inserting any condition in my bid consciously or unconsciously shall automatically disqualify me from the bidding process.

b) By altering/adding/deleting any point, clause, condition in the documents provided shall automatically disqualify me from the bidding process.

c) All the information furnished by me here-in is correct.

d) I have no objection if enquiries are made about the work listed by me/us in the accompanying sheets /annexure.

e) I agree that the decision of CUI in selection shall be final and binding to me.

f) I have read the instructions appended to the proforma and I understand that if any false information in the document is noticed at a later stage, CUI is at liberty to act in a manner in accordance with the applicable rules and terms & conditions of the tender, which may include Penalty AND/OR forfeiting of bid security AND/OR blacklisting for future tendering with CUI AND/OR bar from business with CUI for a period of six months.

Tender Title	
Name of Firm/ Company	
Year of Establishment in this business	
Name of Authorized agent	
Office Address	
GST No.	
NTN.	
Valid Cell No.	
Valid E-mail (For all official correspondence)	
Signature & Stamp (Authorized Representative)	

Signature & Seal of the Bidder