DIRECTORATE FOR APPLIED SHORT-TERM PROGRAMMES

KOTTAYAM – 686560 Phone: 0481-2731066 Mail: dasp@mgu.ac.in

Re-tender No. 140532/DASP-01/ONLINE EXAM CENTRE-PHASE-II/2021   Date: 15.03.2022

RE-TENDER NOTICE

Online bids (technical & financial) are invited from reputed firms on Turn Key basis for the Phase- II of the Centralized Online Examination Facility which includes supply, installation and setting up of Online Examination facility at DASP. The period of the tender is 180 days from the date of tender.

Sl. No.	DESCRIPTION OF TENDER	
1.	Tender Title	**Centralized Online Examination Facility Phase II for 210 seating capacity**
2.	Name of work	Supply, Installation and Setting up of Online Examination facility at DASP, M G University, on **Turn Key Basis** as per the specifications given as Appendix A to this notice.
3.	Tender submission fee	**Rs 25000 /- + GST** (Tender fee: 0.15 % of PAC rounded to the nearest multiple of Rs. 100, subject to a maximum of Rs. 25000/- + admissible GST)
4.	Earnest money deposit (EMD)	**Rs 3,00,069.00 /-** (1% of the Purchase Assessment Cost(PAC), subject to a minimum of Rs. 1500/-)
5.	Expected Period of Completion of work	120 days
6.	Mode of submission of Bid	Online
7.	Tender Documents	can be downloaded from the website www.etenders.kerala.gov.in
8.	Last date and time of submission of tender by online	

	~~online~~	30/03/2022, 5:00 PM
9.	Date and time of opening of the technical bid	31/03/2022 10:00 AM

DOCUMENTS TO BE SUBMITTED THROUGH ONLINE ALONG WITH THE BID

1. Scanned copy of valid Registration Certificate & Dealership Certificate
2. MAF
3. Scanned copy of other certificate/certificates required, if any, for the acceptance of the tender
4. BOQ

SPECIAL CONDITIONS

1. The intended bidders can verify the proposed site and building (University Front Office Building) between 10.15 am and 4.45 pm on all working days till the last date of the submission of the tender.
2. Quoted price in the BOQ should be inclusive of all taxes, freight, loading & unloading / installation charges.
3. Details such as make, model, mode of operation etc., should be clearly mentioned in the quotation.
4. Quoted rates should have at least six months validity period.
5. The right to accept or reject the quotations without assigning any reason rests entirely with the undersigned.
6. The tender should be of branded quality products
7. Brochure of products and different models quoted should be enclosed.
8. If a negotiation meeting is convened by the undersigned, the authorized person of the firm should attend the meeting in time at their cost.
9. Payment process will be initiated only after satisfactory supply of the items and installation after receiving reports from the experts from the University.
10. If the date of receipt and opening of the tenders is declared a holiday, the same time of the next working day will be the last date and time for the purpose.

The bids shall be opened at the date and time specified. Further details can be had from the Directorate for Applied Short-term Programmes, Mahatma Gandhi University, Kottayam, Kerala-686560 on all working days during working hours. Phone no. 0481- 2731066 (DASP), Mob: 8078010009 (IT Consultant), Mob: 9447507660 (University Engineer). The bidders are advised to submit their bid well in advance to avoid any kind of network problems. The undersigned reserves the right to reject any or all of the tenders without assigning any reason whatsoever.

Director-in-Charge
Directorate for Applied Short-term Programmes
Mahatma Gandhi University

APPENDIX- A

TECHNICAL SPECIFICATIONS

S.NO	DESCRIPTION	SPECIFICATION PARAMETER	UNIT	QTY
A	**CAT 6 UTP COPPER CABLE**			
1	CAT-6 UTP Cable	23 AWG Annealed bare solid copper, LSZH, 700 Mhz, roll of 305 mtrs	Box	16
2	PAIRS Colour code	Blue / White-Blue, Orange / White-Orange Green / White-Green, Brown / White – Brown		
3	Type Of Conductors	4 pair 23 AWG Conductors and star Separator.		
4	Insulation	Polyethylene		
5	Performance Characteristics	Category 6 EIA/TIA 568.C.2		
6	Compliance	ROHS Complaint, ETL Verified & Tested		
B	**CAT 6 RJ45 INFORMATION OUTLET**		Nos	210
1	Contact Material	Copper Alloy		
2	Contact Plating	50 Micron Gold/100 micron Nickel		
3	Dust Cover on the I.O	To avoid dust contaminants. Spring Loaded Shutter		
4	Plastic Housing	Polycarbonate UL94V-0 Rated		
5	Termination Cap	Has to be provided at rear of the Information Outlet.		
6	Compatibility	Should be compatible with 24 port patch panel,RJ 11 & RJ 12		
7	Operating Cycle	Minimum 750 Insertion Cycles		
8	Standards	ETL Verified for CAT 6 Compliance		
9	Compliant	ISO 11801 Class E , EIA/TIA 568.C.2-Componnet		
10	ROHS	ROHS complaint, UL Listed		
C	**24 PORT UTP PATCH PANEL**		Nos	10
1	Standards	ETL Verified and CAT 6 Component Compliance.		
2	Rear Cable Manager	Panel shall have rear cable manger with Proper design to hold all 24 cable.		
3	Material	Cold rolled steel		
4	Coating	Powder Coating		
5	Dust Cover on the I.O	To avoid dust contaminants. Spring Loaded Shutter		
6	Plastic Housing	Polycarbonate,UL 94V-0 rated		
7	Compatibility	Individually removable RJ 45 Port and compatible with STP,Fibre & Coax.		
8	Jack Contact Plating	50 Micron Gold/100 Micron Gold		

9	ROHS Compliant	ROHS Compliant		

D	**CAT 6 PATCH CORD**	2 Mtr	Nos	210
		4 Mtr	Nos	210
1	Standards	Should meet TIA/EIA 568B, ISO Category 6 Performance Requirements.		
2	Jacket	Low Smoke Zero Halogen Sheath (LSZH)		
3	Boot	Transparent Boot		
4	Cable	4 Pair 24 AWG stranded copper wire with star separator		
5	Bend radius	4 X O.D		
6	Operating Temperature	-20 ° C to 60° C		
7	Compatible	568 A & 568 B wiring		
8	Fire Propagation test	CSA FT1,IEC 60332-1,IEC61034		
9	Insertion life cycle	The patch cords will have insertion life of 750 cycles minimum		
10	Length	shall be available in different length based on the site requirement		
11	Standards	CAT 6- TIA-568-C.2,ISO/IEC 11801:2002		
12	ROHS	ROHS Compliant, Should be UL Listed and ETL Verified		
E	**FACE PLATE**		Nos	210
1	Type	British Style Standard Face Plate		
2	Dimensions	a) Color: White		
		b) Width: 86mm		
		c) Height: 86mm		
3	Material	VE10ABS		
4	Compatibility	Shall be compatible with CAT 5e/CAT 6/CAT 6A information outlets.		
5	Labelling Facility	Data voice, Fax, Video		
7	Complaint	ROHS Complaint		
8	Ports	Shall be available in 2 port and 4 port		
F	**BACK BOX**		Nos	210
1	Type	The box shall be two modules with 3X3 size to accept dual face plate		
2	Material	Box shall made of PVC		
3	Environmental Space	Depth shall be 50 -70 mm		
4	Accessories	All accessories required		
G	**SERVER**		No	1
		On board Intel Core i9-9900		

1	Processor	Processor 3.1GHz max 5GHz, 8 Core, 16 Thread Processor, TDP 65W		
2	Operating System	Windows 10 Professional		
3	Storage	1TB M.2 SSD		
4	Memory	16 GB DDR4-2400MHz - 2 x SO-DIMM DDR4 Slot		
5	CPU Technique	14nm		
6	L3 Cache	16MB Cache, CPU Integrated		
7	Audio Card	Integrated Sound Chip		

8	Network Card	On-board PCI-E Ethernet & Wi-Fi		
9	Monitor	1*27 " Monitor		
10	Graphic	GeForce GTX 1650 (G6)		
11	GPU : Base clock	1410 Mhz		
12	Cores	896		
13	Display connectors	1*DP 1.4, 1* HDMI		
14	Max resolution	7680 x 4320 @ 60 Hz or better		
15	Multi Monitor Support	Yes		
16	Keyboard	Wired keyboard with 104 keys		
17	Mouse	Wired Optical with USB interface		
18	Audio ports	1* Mic,1* SPK		
19	Cabinet	Mini/Micro form factor		
20	USB Port	4 x USB 3.0, 3 x USB 2.0		
21	Internal Ports	1xM.2, 1xSSD		
22	Max Power consumption including monitor	120 Watts		
23	Certifications	BIS,ROHS		
H	**Micro PC**		No	210
1	Processor	On board Intel Core I3 8145U or higher Processor with 2.1GHz , 2 Core, 4 MB cache, TDP -15 Watts		
2	Operating System Compatibility	Windows 10 /Linux		
3	Storage	128 GB SSD		
4	Memory	8 GB DDR4-2667MHz - 2 x SO-DIMM DDR4 Slot		
5	Audio Card	Integrated Sound Chip		
6	Network Card	On-board PCI-E Ethernet & Wi-Fi		
7	Monitor	21.5" Monitor		
8	Graphic	Intel HD Graphics 620		
9	Back panel ports	1*HDMI, 1*VGA, 1*LAN, 1*MIC, 1*SPK		

10	Keyboard	Wired keyboard with 104 keys		
11	Mouse	Wired Optical with USB interface		
12	Audio ports	1* Mic,1* SPK		
13	USB Port	4 x USB 3.0, 2 x USB 2.0,		
14	Max Power consumption including monitor	120 Watts		
15	Certifications	BIS,ROHS		
16	Warranty	3 Years		
I	**SWITCH**		Nos	10
1	Shall be 1RU, 19" Rack Mountable			
2	24 RJ-45 autosensing 10/100/1000 ports, with a Gigabit latency of < 3.8 µs (64-byte packets)			
3	The switch shall have four 1G/10-Gigabit ports (SFP+) in addition to the above ports, with a 10- Gigabit latency of < 2.9 µs (64-byte packets)			
4	The switch should be based on Programmable ASIC to deliver performance, robust feature support and programmability for the latest applications			

5	1 dual-personality (RJ-45 or USB micro-B) serial console port		
6	1 GB SDRAM, 4GB Flash/eMMC, Minimum 12 MB of Packet buffer size		
7	Should have switching capacity of 128 Gbps and support at least 32,000 MAC addresses		
8	Jumbo packet support up to 9K bytes		
9	Shall support Layer 3 routing features including RIP, OSPF, OSPFv3, VRRP and PIM Multicast routing on Day 1. If any licenses are required, it shall be included		
10	Shall support concurrent IEEE 802.1X, Web, and MAC authentication schemes per port with minimum 24 authentication sessions per port		
11	Access control lists (ACLs), MAC address based port security and lockout, DHCP protection, Dynamic ARP protection and VxLAN Encapsulation/Tunneling Protocol		
12	SNMP v2c/v3, SSHv1/SSHv2 Secure Shell, RADIUS/TACACS+ for switch management security, RMON/sFlow or equivalent for advanced traffic monitoring		
13	Software defined network (SDN) capability by supporting multiple programmatic interfaces including REST APIs and OpenFlow 1.3		
14	Shall have stacking capability or equivalent to extend the control plane across multiple active switches forming a single virtual switching fabric. Any modules/cables required for the same shall be provided from Day 1		
	IEEE 802.3az Energy-efficient Ethernet (EEE) support to reduce power		

15	IEEE 802.3az Energy-efficient Ethernet (EEE) support to reduce power consumption			
16	Operating temperature 0°C to 45°C			
17	**Warranty and Support**			
	Lifetime Warranty with advanced replacement, directly from the switch OEM			
	Warranty shall cover the switch including power supply			
	Software upgrades/updates shall be covered as part of the warranty			
18	**Industry Certification**			
	The offered switch with the operating system should be Network Device Protection Profile (NDPP) Certified from Day 1. The certificate should be attached for reference			
J	**27U FLOOR MOUNT RACK**		Nos	1
1	Enclosure	Powder Coated (Durable and attractive Epoxy Powder coat finish)		
2	Height	27 U		
3	Width	600		
4	Depth	800		
5	Color	White / Grey		
6	Rack Standard	Conforms to DIN 41494 or equivalent standard		

7	Features	Sturdy Sheet Steel consisting of 1 mm frame or better,		
		1 pair of 19" Mounting angles,		
		Front door with 0.8 mm Sheet Steel or better with toughened thick glass, lock & Key,		
		Rear steel doors – with hexagonal perforations		
		Top and Bottom Cover Welded to Frame,		
		Vented and Field Cable entry exit cut outs,		
		Equipment Mounting: DIN Standard Slots		
8	Power Sockets	2 Nos PDUs, with single phase power supply 230V (32A) Zero U standard rack mount power distribution unit with 12X 5/15A sockets, with power cable and 2 Nos 16A MCB, The PDU		

		input cable should be 3 mtr.		
9	Cable Manager	1U 19" Horizontal cable manager		
10	Fan	4 Nos		
11	Maximum load	850 Kgs		
12	Accessories	2 Packet of mounting hardware, Pack of 20.		
13	Warranty	1 Year		
14	Preferred Makes-	APW/Rittal/Netrack		
K	**15U Wall mount Rack**		Nos	4
1	Enclosure	Powder Coated (Durable and attractive Epoxy Powder coat finish)		
2	Height	15 U		
3	Width	600		
4	Depth	600		
5	Color	White / Grey		
6	Rack Standard	Conforms to DIN 41494 or equivalent standard		
7	Features	Sturdy Sheet Steel consisting of 1 mm frame or better,		
		1 pair of 19" Mounting angles,		
		Front door with 0.8 mm Sheet Steel or better with toughened thick glass,		
		lock & Key,		
		Top and Bottom Cover Welded to Frame,		
		Vented and Field Cable entry exit cut outs,		
		Equipment Mounting: DIN Standard Slots		
8	Power Sockets	Socket strip 5A,19" mounted with 6 sockets, with spike suppressor (Fuse indicator with 2-meter-long cable)		
9	Cable Manager	1U 19" Horizontal cable manager		
10	Fan	2 Nos		
11	Maximum load	40Kgs		
12	Accessories	2 Packet of mounting hardware, Pack of 20.		
13	Warranty	1 Year		
14	Preferred Makes-	APW/Rittal/Netrack		
L	**COLOUR INK TANK PRINTER**		Nos	2

#				
1	PRINT SCAN COPY	Colour Ink tank Printer		
2	Print Method	Precision Core Heat-Free Technology		
3	Maximum Print Resolution	4800 x 1200 dpi		
4	Automatic Duplex Printing	Yes,		
5	Control Panel	Colour LCD Touch Screen 2" or better		
6	Print Direction	Bi-directional printing		
7	Print Speeds	ISO 24734, A4 Simplex (Black / Colour): 15 ipm / 8 ipm		
8	Draft, A4 (Black / Colour)	35 ppm / 20 ppm		
9	ISO 24734, A4 Duplex (Black / Colour)	Up to 7.5 ipm / 5.0 ipm*2		
10	Copy Function			
11	Reduction / Enlargement	25 - 400%		
12	Maximum Copy Size	Legal		
13	Copy Resolution	600 x 600 dpi		
14	Max Copies	999 copies		
15	ISO 29183, A4 Simplex Flatbed (Black / Colour)	10.0 ipm / 5.0 ipm		
16	ISO 24735, A4 Simplex ADF (Black / Colour)	9.0 ipm / 4 ipm		
17	Scanning			
18	Scanner Type	Flatbed colour image scannerSensor		
19	Type	CIS		
20	Optical Resolution	1200 x 2400 dpi		
21	Maximum Scan Area	216 x 297 mm		
22	Scanner Bit Depth (Colour)	48-bit input, 24-bit output		
23	Scanner Bit Depth (Grayscale)	16-bit input, 8-bit		
24	outputScanner Bit Depth (Black & White)	16-bit input, 1-bit output		
25	Scan Speed	Flatbed (Black / Colour): 200dpi: 14 sec / 28 sec; ADF Monochrome (Simplex / Duplex): 200dpi: 6.0 ipm; ADF Colour (Simplex / Duplex): 200dpi: 5.0 ipm		
26	ADF Specifications	Support Paper Thickness: 64-95 g/m2		
		Paper Capacity: 35 sheets (A4 Paper), 10 sheets (Legal)		
		USB 2.0, Wireless IEEE 802.11b/g/n,		

27	Connectivity	Wi-Fi Direct, Ethernet, TCP/IPv4, TCP/IPv6			
28	Paper Sizes	Legal, Indian Legal, Letter, A4, 16K (195 x 270 mm), B5, A5, B6, A6, Hagaki (100 x 148 mm), 8.5 x 13", 5 x 7", 4 x 6", Legal (8.5 x 14") Envelopes: #10, DL, C6			
29	Number of Paper Trays	2 (Front 1, Rear 1)			
30	Standard Paper Input Capacity	Cassette 1: 250 sheets of Plain Paper (80 g/m2), up to 20 sheets of Premium Glossy Photo Paper.			
		Rear Slot: 1 sheet (80 g/m2)			
31	Output Capacity	30 sheets of Plain Paper			
		20 sheets of Premium Glossy Photo Paper			
32	Preferred Makes-	HP/Canon/Epson			
M	**MONOCHROME SINGLE FUNCTION PRINTER**		Nos	2	
1	PRINT	Monochrome Single Function Ink tank Printer			
2	Print Method	Precision Core Heat-Free Technology			
3	Maximum Print Resolution	1200 x 2400 dpi			
4	Automatic Duplex Printing	Yes,			
5	Print Direction	Bi-directional printing			
6	Print Speeds	Draft Text - Memo, A4 (Black) Up to 35 ppm			
		ISO 24734, A4 (Black) Up to 15 ipm			
		First Page Out Time (Black) Approx. 10 sec			
7	Connectivity	USB 2.0, Wireless IEEE 802.11b/g/n, Wi-Fi Direct, Ethernet, TCP/IPv4, TCP/IPv6			
8	Paper Sizes	Legal, Indian-Legal (215 x 345 mm), 8.5 x 13", Letter, A4, 16K (195 x 270 mm), B5, A5, B6, A6, Hagaki (100 x 148 mm) Envelopes #10, DL, C6			
9	Number of Paper Trays	1			
10	Standard Paper Input Capacity	250 sheets-A4 / Letter Plain Paper (80 g/m2); 10-sheets-Envelope			
11	Output Capacity	100 sheets			
12	Preferred Makes-	HP/Canon/Epson			
N	**MONOCHROME MULTI FUNCTION PRINTER**		Nos	2	
1	PRINT SCAN COPY	Monochrome Ink tank Printer			
2	Print Method	Precision Core Heat-Free Technology			
3	Maximum Print Resolution	1200 x 2400 dpi			

4	Automatic Duplex Printing	Yes,		
5	Control Panel	Colour LCD Touch Screen 2" or better		

6	Print Direction	Bi-directional printing		
7	Print Speeds	Draft Text - Memo, A4 (Black) 37 ppm		
		ISO 24734, A4 (Black) Simplex 18 ipm, Duplex 8 ipm		
		First Page Out Time (Black) Approx. 6 sec (simplex) / 13 sec (duplex)		
9	Reduction / Enlargement	25 - 400% Auto Fit Function		
10	Maximum Copy Size	Legal (ADF)		
11	Copy Resolution	600 x 600 dpi		
12	Max Copies	99 copies		
13	Scanner Type	Flatbed colour image scannerSensor		
14	Type	CIS		
15	Optical Resolution	1200 x 2400 dpi		
16	Maximum Scan Area	216 x 297 mm		
17	Scanner Bit Depth (Colour)	48-bit input, 24-bit output		
18	Scanner Bit Depth (Grayscale)	16-bit input, 8-bit		
19	outputScanner Bit Depth (Black & White)	16-bit input, 1-bit output		
20	Scan Speed	Flatbed (200dpi)		
		Monochrome 12sec		
		Colour 27sec		
		ADF (200dpi)		
		Monochrome 7.0ipm		
		Colour 7.0ipm		
21	ADF Specifications	Support Paper Thickness		
		64-95 g/m2		
		Paper Capacity		
		35 sheets (A4 Paper)		
22	Type Of Fax	Walk-up black-and-white and colour fax capability		
23	Receive Memory / Page Memory	2 MB, Page memory, Up to 180 pages (ITU-T No.1 chart)		
24	Error Correction Mode	ITU-T T.30		
25	Fax Speed (Data Transfer Rate)	Up to 33.6 kbps, Approx. 3 sec/page		
26	Fax Resolution	Up to 200 x 200 dpi		
27	Transmission Paper Size (Flatbed)	Letter, A4		
28	Transmission Paper Size (ADF)	Letter, A4, 8.5 x 13", Legal		

29	Receiving Paper Size	Letter, A4, Legal		
30	Speed Dial / Group Dial	Up to 100 numbers, 99 groups		
31	Fax Features	PC Fax (Transmission/Receive), Automatic redial, Address book, Transmit Reservation, Broadcast Fax (Mono Only), Polling Reception, Fax Preview		
32	Connectivity	USB 2.0, Wireless IEEE 802.11b/g/n, Wi-Fi Direct, Ethernet, TCP/IPv4, TCP/IPv6		

33	Paper Sizes	Legal, Indian-Legal (215 x 345 mm), 8.5 x 13", Letter, A4, 16K (195 x 270 mm), B5, A5, B6, A6, Hagaki (100 x 148 mm) Envelopes #10, DL, C6		
34	Number of Paper Trays	2		
35	Standard Paper Input Capacity	Output Capacity 100 sheets		
		Input Capacity Cassette 1 250 Sheets-A4 / Letter Plain Paper (80 g/m2); 10-sheets-Envelope; Rear Slot 1 Sheet-A4 Plain Paper		
32	Preferred Makes-	HP/Canon/Epson		
O	**WHITE BOARD**		Nos	2
1	Color	White		
2	Usage/Application	Presentation,Training & Teaching,General Display		
3	Size/Dimension (minimum)	Min 6 feet x 4 feet		
4	Frame Material	High-strength Alloy Aluminium 6063-T6 in Satin Finish		
5	Input method	Marker		
6	Features	Dry Erase White Marker Surface, Smooth, Warp-free,Flat,Magnetic		
7	Preferred Makes-	Reputed		
P	**INTERACTIVE PANEL**		Nos	1
1	Sub-Segment	Mainstream		
2	Screen Size	65"		
3	Light Source	Direct LED		
4	Panel Type	IPS		
5	Display Orientation	Landscape		
6	Usage (hrs/days)	18 hrs / 7 days		
7	Active Area (mm)	1649.7 (H) x 927.9 (V)		
8	Resolution (pixel)	UHD 3840 x 2160		
9	Aspect Ratio	16:09		

10	Brightness (typical) (nits; cd/m2)	350 cd/m2		
11	Contrast Ratio	1200: 1 (IPS Panel)		
12	Dynamic Contrast Ratio	30,000:1		
13	Response Time (ms)	8		
14	Pixel Pitch(mm)	0.43 (H) x 0.43 (V)		
15	Frame Rate	60Hz		
16	Viewing Angle	178 degree (H) / 178 degree (V)		
17	Light Life (typical) (hrs)	30,000		
18	Panel Surface	AG, Haze 25%		
19	Panel Bit (8 or 10)	10 bit		
20	SOC	Dual core A73+Dual core A53/ 1.5GHz (HV811)		
21	System Memory	4GB Minimum		
22	Storage	32GB Minimum		
23	OS	Android 8.0 or Higher		
24	Voltage	100V~240V, 50-60Hz		
25	Maximum (Watt)	240W (max.)		

26	Standby (Watt)	<0.5W		
27	Wake Up	VGA/HDMI/LAN		
28	Technology	IR		
29	Resolution (points area function)	32767 x 32767		
30	Capacity	20 points		
31	Touch Response Time (Continuous/First)	<15ms / 8ms		
32	Accuracy	±1.0mm		
33	Touch Output	2 (USB type B)		
34	OS Supported	Win 7, Win 8, Win 10 / Mac OS X10.12 /Chrome OS 58 / Ubuntu 16.04 /Fedora 28 /		
35	OS for Touch Driver Free	Win 7, Win 8, Win 10 / Mac OS X10.12 /Chrome OS 58 / Ubuntu 16.04 /Fedora 28 /		
36	Touch Pen Requirement	single-touch ≥Φ3mm and multi-touch ≥Φ6mm		
37	Tempered Glass (Thickness, Mohs scale)	4mm, 7H		
38	Operation Temp (°C)	0°C ~ 40°C		
39	Storage Temp (°C)	-20°C ~ 60°C		
40	Storage Humidity	10% ~ 90% RH Non-Condensing		
41	Operating Humidity	10% ~ 90% RH Non-Condensing		
42	Internal Speaker	16Wx2 or better		

43	Input	VGA X 1 HDMI X1 3, PC Audio Input (3.5mm) x1, RJ45 Port x1, USB (Type A) x3		
44	Output	HDMI X1, SPDIFx1, Line out (3.5mm) x1		
45	OPS slot	1		
46	Housing Material	Metal		
47	Pen Tray	1		
48	Remote Controller	1		
49	Stylus	2		
50	Ambient Light Sensor	Yes		
51	Internal Temperature Sensor	Yes		
52	TUV certified Flicker Free	Yes		
53	TUV Certified Low Blue Light	Yes (to Protect Presenter Eye)		
54	WPS (office viewer APP)	Yes		
55	Wireless Display&mirroring app	Instashare		
56	Broadcasting Software	Yes		
57	Mounting	Suitable Trolley with or without Wheel to be provided		
58	Preferred Makes- for Display	LG/Panasonic/Benq/Samsung/Senses		
Q		**CCTV**		
		SUPPLY AND INSTALLATION OF 16 CH NVR	Nos	1
1	Storage Support	upto 64TB		
2	Channel Support	16POE 16Ch 1080p 4K Hpt265 RAID5 6 UL		

3	Recording Capability	High decoding capability for Ultra 4K HD viewing and recording Up to 12 MP (4K) resolution live view, preview and playback		
4	Video Output	2 HDMI/VGA simultaneous video outputs (the second HDMI output is programmable)		
5	Alarm	Supports up to 16 alarm input channels and 6 alarm relay output channels		
6	Notification support	Supports sending notifications through email, FTP, and/or HTTP UL listed		
7		Supports recording a video clip of events for distribution		
		Supports uploading still images at the time of the event through email and/or FTP Configurable to automatically detect		

8		and respond to motion in the scene, alarm inputs, and network failure or tampering		
9	Bandwidth	Maximum incoming and outgoing bandwidth of 320 Mbps		
		Supports visual or auditory notifications (a flashing light, bell, or siren)		
10	Fish Eye camera support	Supports fisheye video de-warping in local and web user interface 3D PTZ control, 360° camera support, and intelligence events.		
11	Preferred Makes-			
		AXIS/BOSCH/HONEYWELL/PELCO		
R	**Supply and installation of4MP Network Bullet IR Camera**		Nos	10
1	VIDEO STANDARD-	NTSC/PAL,		
2	SCANNING SYSTEM -	Progressive scan,		
3	IMAGE SENSOR	4MP(2560×1440)		
4	Micro SD/SDHC/SDXC card slot	Yes and supports upto 128 GB		
5	ILLUMINATION	Color: 0.001Lux- @f/1.6, B/W: 0Lux @f/1.6(IR on),		
6	S/N RATIO-	50 dB or more,		
7	ELECTRONIC SHUTTER SPEED-	Auto, Manual, 1/3(4)-1/10 000 s,		
8	IR DISTANCE-	30m,		
9	DAY/NIGHT	Auto(ICR)/Color/BW		
10	Approved Makes-	AXIS/BOSCH/HONEYWELL/PELCO		
S	**Supply and installation of 4MP Network Eyeball IR Camera**		Nos	2
1	VIDEO STANDARD-	NTSC/PAL, SCANNING SYSTEM - Progressive scan,		
2	IMAGE SENSOR	4MP(2560×1440)		

3	Image sensor/ size	1/2.8" 4Megapixel progressive scan CMOS,		
4	Resolution	NUMBER OF PIXELS (H×V)1920 × 1080,		
5	Features	MINIMUM User account and password protection, HTTPS, IP Filter,		
6	Audio	One way,		
7	Inbuilt Micrphone	Yes		
8	Material	Metal housing with coating TLS1.2, AES-128/256		
9	ILLUMINATION	Color: 0.001Lux- @f/1.6, B/W: 0Lux		

9	ILLUMINATION	@f/1.6(IR on),		
10	S/N RATIO-	50 dB or more,		
11	Micro SD/SDHC/SDXC card slot	Yes and supports upto 128 GB		
12	ELECTRONIC SHUTTER SPEED-	Auto, Manual, 1/3(4)-1/10 000 s,		
13	IR DISTANCE-	20-30m,		
14	DAY/NIGHT	Auto(ICR)/Color/BW		
15	Approved Makes-	AXIS/BOSCH/HONEYWELL/PELCO		
T	**Supply and installation of 8 TB surveillance HDD**		Nos	1
1	Capacity	up to 8TB , Support for up to 32 cameras per drive , AllFrame TM technology ,Up to 16 AI channels for Deep Learning analytics on AI-enabled NVRs •		
2	MTBF	up to 1.5 million hours		
3	INTERFACE	SATA		
4	Speed	6 Gb/s		
5	FORM FACTOR	3.5-inch ,		
6	PERFORMANCE CLASS	7200 RPM Class ,		
7	Approved Makes-	Seagate/WD/SkyHawk		
U	**Supply and installation of Professional LED Display**		Nos	1
1	Screen Type	Commercial Professional		
2	Screen Size	43"/108cm		
3	Aspect Ratio	16:9		
4	Resolution	UHD9 3840x 2160		
5	Pannel Type	IPS		
6	Display Colour	1.07 Billion		
7	Viewing Angle	178/178		
8	Audio	20W or better		
9	Input	RF x 1, AV x 1, HDMI x 2, USB x 2,		
10	Internal Memmory/RAM	16GB/2GB or Higher		
11	OS	Android		
12	Preferred Makes-	LG/SONY/PANASONIC		
V	**ACCESS CONTROL**		Nos	2
1	Biometric	Face plus Finger		
2	RF Option	HON-FL-DB: 125kHz EM & 13.56Mhz MIFARE, MIFARE Plus,		

		DESFire/EV1, FeliCa, NFC & 2.4GHz BLE		
3	RF read range	MIFARE/DESFire: 50 mm, EM/Felica: 30 mm, BLE: 50 mm		

4	LFD	Supported		
5	CPU	1.2GHz Quad Core		
6	Memory	8GB Flash + 1GB RAM or higher		
7	LCD type	2" color TFT LCD or better		
8	LCD resolution	320 x 240 or higher		
9	IR LED	8ea (940nm)		
10	Sound	24 bit Voice DSP		
11	Operating temperature	-20°C - 50°C		
12	Storage temperature	-40 °C - 70 °C		
13	Operating humidity	0% - 80%, non-condensing		
14	Storage humidity	0% - 90%, non-condensing		
15	Camera type	CMOS		
16	Camera resolution	720 x 480 or better		
17	Camera angle IR Lens:	Diagonal 58°		
18	Certificates	CE, FCC, KC, RoHS, REACH, WEEE, BT SIG		
19	Max. User (1:1)	30000 or higher		
20	Max. Template (1:1)	900000 or higher		
21	Ethernet	10/100 Mbps, auto MDI/MDI-X		
22	RS-485	1ch Host or Slave (Selectable)		
23	Wiegand	1ch Input or Output (Selectable)		
24	TTL input	2ch Inputs		
25	Relay	1 Relay		
26	USB	USB 2.0 (Host)		
27	Power Voltage:	24 VDC, Current: Max. 2.5 A		
28	Preferred Makes-	HID/Honeywell/Any Reputed Firm		
W	**SOLAR UPS**		Nos	2
1	Sequence of power drawing	(Solar/Grid /Battery)		
2	Rated out put power of Integrated Online SPV UPS in KVA.	10		
3	AC to DC conversion technology (Switching medium).	MOSFET /IGBT		
4	DC to AC conversion technology (Switching medium).	MOSFET /IGBT		
5	No. of Phase (in Nos.).	1		
6	Inverter output wave form.	Pure sine wave		
7	Whether inverter MPPT based	Yes		

8	No.of MPPT (in Nos.).	2		
9	No. of string at input side of inverter (input port +ve and -ve) (hint: 1 sets contains 1 +ve and 1 -ve port)	4 set		
10	Operating Voltage Range, DC, Input	180V-320V DC		
11	Maximum input current for each MPPT (in A).	32 A		
12	Cooling medium for Integrated online SPV UPS	Intelligent fan cooling		
13	Manual switch for disconnecting DC supply	Yes		
14	Integrated online SPV UPS mounting type	Floor Mount		
15	Overall Efficiency (in %).	88%		
16	Power Rating of Convertor AC in Watts	10K W		
17	Input Voltage Range AC.	300-460 V AC 3 PHASE		
18	Frequency range AC input	50Hz+/- 3%		
19	Maximum output current for single phase inverter (in A).	44A		
20	Type of Invertor Output (AC/DC)	AC		
21	Invertor Output Voltage and Power	230 V AC, 10000 W		
22	Frequency range out put	50 Hz +/-1		
23	Type of Battery.	EXIDE EL Series		
24	Minimum VAH of battery	10000 VAH		
25	3 stage battery charging (float, boost and equalize stage) for long life of the battery	Yes		
26	Warranty of Solar Photovoltaic Panels in Years	20		
27	Warranty of SPV Conversion System in Years	5		

28	Warranty of battery in Years	4		

29	Output over current protection.	Yes		
30	Output over voltage protection	Yes		
31	Short circuit protection	Yes		
32	Overload protection.	110% for 1 Minute		
33	THD (in %).	<3%		
34	Power factor at rated out put power.	0.8		
35	Inverter body material	SHEET METAL CABINET		
36	Operating temperature	0 to +40 deg. C		
37	Relative Humidity (in %).	0-90 % (non-condensing		
38	Type of display	LED & LCD		
39	Display for AC Current and Voltage.	Yes		
40	Display for DC Voltage and Current.	Yes		
41	Display for Output frequency.	Yes		
42	PV Module Bundled	Yes		
43	Nos. of PV modules in an array	28		
44	PV Module rating (in Wp).	380/390/410		
45	Efficiency for PV Modules (in %)	19%		
46	Reverse polarity protection for PV modules	Yes		
47	Material of mounting structure	Galvanised steel		
48	Cable size for input side (PV Module to Inverter, DC) (in Sq. mm) / Conductor material / No. of core	As per IS:694 6 Sq. Mm / Copper / Single core		
49	Cable Length for input side (PV Module to Inverter, DC) (in m).	20-40 Mtr		
50	Cabling work at input side for each system	With PVC Conduit pipe with necessary clamps and screws		

51	Lightning Protection as per Electrical Standards.	As per Electrical Standards		
A	**ELECTRICAL WORKS**			
	Supply and wiring light point using 1.5 sqmm copper wire [finolex,			

No.	Description	Unit	Qty
1	havells, vguard] with all special such as 6 amp modular switch [craptree, legrand, MK] base light plate, 1 controlled by one switch including labour charge	Nos.	30
2	Supply and wiring light point using 1.5 sqmm copper wire finolex, havells, vguard]with all special such as 6 amp modular switch [craptree, legrand, MK] base plate, 4 light controlled by one switch including labour charge	Nos.	20
3	Supply and wiring light point using 1.5 sqmm copper wire [finolex, havells, vguard]with all special such as 6 amp modular switch [craptree, legrand, MK] base plate, 3 light controlled by one switch including labour charge	Nos.	20
4	Supply and wiring Wall fan point using 1.5 sqmm copper wire [finolex, havells, vguard with all special such as 6 amp switch modular crptree legrand, MK] base plate, 1 fan controlled by one switch including labour charge	Nos.	20
5	Supply and wiring 6 amp 5 pin plug point using 1.5 sq mm copper wire with earth including supply and fixing 6 amp switch and 3 pin socket modular switch on suitable size base plate including labour charge.	Nos.	10
6	Supply and errection of 20 / 32 amp ac socket controlled by 20 / 32 amp modular Switch mounted on suitable boxes	Nos.	12
7	Supply and errection of 16amp sockets controlled by 16amp modular switch mounted on suitable boxes	Nos.	4
8	Supply and erection of 10nos 6A socket outlet and 1no. 6A SP switch controlling the socket outlets in independent position.	Nos.	210
9	Supply & Laying of 3R 1.5 Sqmm Insulated Copper Flexible Wire in 20/ 25 mm PVC Conduit along with all accessories clamped to wall /ceiling partitions or Concealed as per site Conditions	Mtr.	4000
10	Supply & Laying of 3 R 2.5 Sqmm Flexible Wire in 20/ 25 mm Insulated Copper 10 PVC Conduit along with all 10 accessories clamped to wall /ceiling partitions or Concealed as per site conditions	Mtr.	1400
11	Supply & Laying of 3R 4 Sqmm Copper Flexible wire in 20 Sqmm Insulated 25 mm PVC Conduit along with all accessories Mtr. Clamped to wall/ ceiling / partitions or Concealed as per site conditions	Mtr.	500
12	Supply and Erection of 2 nos. 6A Socket outlet and 2no. 6A SP Switch controlling the Socket outlets in independent positions	Nos.	20
13	Supply, erection, 32 A 4 Pole MCB housed in a suitable indoor type enclosure including all terminations, interconnections, accessories etc as required for UPS I/C	Nos.	1

| | Supply, laying, testing & commissioning of PVC insulated 1.1Kv grade | | |

14	Conductor cables of following sizes either clamped to ceiling 14 wall or concealed or laid in Mtr. 50 Earth etc. The rate shall include the cost of all accessories. 4 Core 70 sqmm size AL armored cable	Mtr.	50
15	Supply of all materials and termination of PVC insulated armoured copper / aluminium LT cables using Compression 15 glands. Copper crimped type cable lugs, cable Identification tags and including glad earthing Conductor of 16 SWG for cables of size 6/10 sqmm.	Nos.	2
16	Plate Installation, Testing Earth Supply, and Commissioning of 3.0 mtr long 40 mm dia Gl Earth Pipe with funnel arrangement and 2R 25 X 3 mm Copper Flat brazed with 600 X 600 X 3 mm copper plate & bolted to the Gl Pipe using SS bolts, nuts and washers etc. Copper flange & bus to be provided at top end for termination. The rate shall include excavation & refilling complete as required including heavy duty Pre Cast Cover and all associated civil works like construction of chamber and rough plastering etc as required. (UPS)	Nos.	1
17	Supply and Laying of No. 10 bare copper	Mtr.	50
18	Supply and Erection of 4 way VTPN DD MCCB DB / Incomer : 125 Amps 4 pole 18 MCCB 1 No. / Outgoing 63 A 3 Pole MCB 10 Nos., 32 A 3 pole MCB-2 Nos, 40 A 4 pole MCB -1 No	Nos.	1
19	Supply and Erection of 8way SPN DD MCB DB / Incomer: 32 Amps 2 pole 19 MCB 1 No. / Outgoing: 16/10/6 Amps MCB 6 No	Nos.	1
20	Supply and Erection of 4way TPN MCB DB (LDB) / Incomer: 32 Amps, 30 ma, 4 pole RCCB 1 No. / Outgoing 16/10/6 Amps MCB 8 No.	Nos.	1
21	Supply and Erection of 6way TPN MCB DB (PDB) / Incomer: 63 Amps,100MA4 pole RCCB 1 No. / Outgoing: 20/16/ 10 Amps MCB -12No	Nos.	1
22	Supply & fixing of Earth bus of Sufficient lenath made out of 25 X 3 mm copper flat with 8mm holes drilled continously at an interval of 25 mm. All holes shall be fastened with SS bolts, Nuts & washers on either side.	Mtr.	2
B	**INSTALLATION OF LIGHTING FIXUTRES & FANS**		
	Supply Installation of the following outdoor / indoor type light fittings, including supply of all materials required for erection, all wiring, terminations and interconnections, earthing from the terminal block / ceiling rose to the light fitting / luminaire		
23	LED 40-Watt 2x2 Ceiling Panel Light 4400 LUMENS (Slim, Square, Cool White 6500k) Make - LEDLUM/LUKER	Nos.	24

24	Supply and Fixing of led strip incuding driver.		Mtr.	200
25	12W ROUND WHITE LED PANEL RECESSED FALSE CEILING LIGHT (16.7cmX16.7cmX1. 7cm) Recessed Ceiling Lamp. Make - LEDLUM/LUKER		Nos.	60
26	Supply and Fixing of Wall Fan (400mm) with necessary brackets,clamps etc. (Crompton, Bajaj, Havells)		Nos.	16
27	LED PANEL LIGHT 6W ROUND WHITE SLIM Recessed Ceiling Make - LEDLUM/LUKER		Nos.	48
28	Supply and Installation of Invertor Type AC, 1.5 T (LG,Whirlpool,Carrier, Mitsubishi)		Nos.	8
C	**FURNITURES & FIXTURES**			
1	CHAIRS	Chairs of the size 50cm*40cm in Anjaly wood with hand rest and cushioned seating with jute cloth upholstery	Nos.	210
2	STORAGE WARDROBES	Storage Wardrobe shutters on frames in 16 mm thick BWR grade Marine plywood 2 side post formed or 4 side edge banded shutters	Sqft.	150
3	WORKSTATION TABLES	Providing and fixing work stations table using 16mm ISI 303 BWR grade marine plywood legs and table top both laminated with 1mm thick marino laminate post formed and with edge bands and open storage and drawer for 2 persons using capacity. Table size 56cmx 180cm	Nos	4
		Providing and fixing work stations table using 16mm ISI 303 BWR grade marine plywood legs and table top both laminated with 1mm thick marino laminate post formed and with edge bands and open storage and drawer for 4 persons using capacity. Table size 55cmx 330cm	Nos	52
		Providing 75mm thick plywood frame partition which includes double layer		

4	SIDE PARTITION	of 6mm thick e303 BWR marine plywood with Lamination.	Sqft.	38

5	WALL PARTITION	Providing 75mm thick plywood frame partition which includess double layer of 6 mm thick e303 BWR marine plywood with lamination.	Sqft.	510
6	Registration Table	Providing and fixing work stations table using 16mm ISI 303 BWR grade marine plywood legs and table top both laminated with 1mm thick marino laminate post formed and with edge bands and open storage and drawer for 2 persons using capacity.	Nos.	4
7	DOOR	Indoor Door Wooden with Indoor Marine 303 BWR marine plywood with lamination, 90 CM wide with door closer.	Nos.	2
8	Tables	Providing and fixing work stations table using 16mm ISI 303 BWR grade plywood legs, table top, Side and Front partition on both laminated with 1mm thick marino laminate post formed and with edge bands and open storage and drawer for 4 persons using capacity. Table size 56cmx 330cm	Nos.	2
9	TEACHER CONSOLE	Teacher console made up of 16mm thick ISI 303 grade Marine Plywood laminated with 1mm thick marino laminate post formed and with edge bands with storage Space. Size - 2700x450x900mm	Nos.	2
10	HIGH RAISED LECTURE FLOOR	Wooden platforms in 15 cms height 3mtrx1.3mtr length in ISI 303 grade BWR 12mm Marine ply Wood over heavyhard wood frames	Sqft.	42
D	**GENERAL WORKS**			
1	PLAIN CEILING	Plain ceiling with 12mm thick Gypboard (Saint gobain).	Sqft.	3200
2	BLINDS	Vertical Blinds for Windows. Make - NL	Sqft.	300
3	PAINTING	Painting 2 Coats primer along with putty before applying exterior plastic	Sqft.	4500

3	PAINTING	emulsion	Sqft.	4500
4	FLOORING	Flooring Loop pile carpet of laying and fixing with gum	Sqft.	3400

General tender documents and tender schedule can be downloaded in A4 plain size paper free of cost from the web site www.etenders.kerala.gov.in

ELIGIBILITY CRITERIA

1	Bidder should be, a Company registered in India or registered Partnership / Proprietary firms	Copy of valid Registration certificates / Copy of Certificates of incorporation
2	Cumulative Turn over including sister concern shall be a minimum of average 5 Cr. in last 4 financial years.	Attested Balance sheet proof to be attached.
3	Should not have been blacklisted by any of the Government entities under state / central Govt.	Self-Certificate
4	The bidder should have a registration number of 1. GST where his business is located 2. Income tax / PAN number	Copies of relevant certificates of registration
5	The bidder should be a manufacturer / service partner of electronics related equipment.	Copies of relevant documents
6	Should have authorization from OEM	Manufacturers Authorization Form (MAF)
7.	Bidder should have completed at least one similar single Project not less than 1 Cr. Or Multiple Projects 1.5 Cr. in Kerala (Last Three Year)	Valid PO & Site details to be furnished along with site visit, if needed.