

ANNEX 1 of IT Equipments (with Technical Specifications)

Category 1

01. Indoor Wireless access point (CA-07, FHS-04, FEST-14,NLL-02, FHTS-10, FSL-02) Qty:39

Specifications		
	Minimum Requirements	Your brand and Specifications
Controller Compatibility	Unifi Controller	
Environment	Indoor	
WiFi Standards	802.11a/b/g Wi-Fi 4/Wi-Fi 5	
Throughput Speeds: 2.4 GHz	450 Mbps	
5 GHz	867 Mbps	
Ports	(1) Gigabit Ethernet	
PoE Mode	802.3af/A PoE & 24V PoE	
PoE Injector	required	

02. Outdoor Wireless access point (CA-07, CMS-01) Qty:08

Specification		
	Minimum Requirements	Your brand and Specifications
Controller Compatibility	Unifi Controller	
Environment	Outdoor dual-band 802.11ac	
2.4 GHz Speed	450 Mbps	
5 GHz Speed	1.3 Gbps	
Ports	(2) Gigabit Ethernet	
PoE Mode	48VDC, 0.5A Gigabit PoE Adapter	
PoE Injector	required	



Category 2

01. Network Switch 24port (POE) (SM-01, NLL-04, FE-04) Qty: 09		
Specification		
		Your brand and Specifications
	Minimum Requirements	
Preferred Model	Dell, HP, Cisco	
Ports	24 x 1G RJ45 Ports 2 x SFP ports 2 x SFP+ (10G) ports	
Power Over Ethernet	24W per port	
Manageable	Yes	
Features	Layer 2 switching, VLAN Support, IPv6 support, Rapid Spanning tree Protocol (RSTP) Support, Multiple Spanning tree protocol (MSTP) Support, DHCP snooping, Dynamic Trunking protocol (DTP) Support, Port Security	
Forwarding Rate	60 Mpps	
Flash Memory	128 MB	
RAM	256 MB	
Accessories	2x Single Mode (2)LC SFP+ 10 Gbps module, 2x LC-SC Patch Cable 1M	
Form Factor	1U Rackmount / Standalone	
Warranty	3 Years basic hardware warranty	

02. Network Switch 24port (POE) (CMS-01, GC-02) Qty: 03		
Specification		
		Your brand and Specifications
	Minimum Requirements	
Preferred Model	Dell, HP, Cisco	
Ports	24 x 1G RJ45 Ports 24 x 1G RJ45 Ports 2 x SFP ports 2 x SFP+ (10G) ports	
Power Over Ethernet	24W per port	
Manageable	Yes	
Features	Layer 2 switching, VLAN Support, IPv6 support, Rapid Spanning tree Protocol (RSTP) Support, Multiple Spanning tree protocol (MSTP) Support, DHCP snooping, Dynamic Trunking protocol (DTP) Support, Port Security	
Forwarding Rate	60 Mpps	
Flash Memory	128 MB	
RAM	256 MB	
Form Factor	1U Rackmount / Standalone	
Warranty	3 Years basic hardware warranty	

03. Network Switch 8port (POE) (FA-01, FHTS-01) Qty: 02		
Specification		
		Your brand and Specifications
	Minimum Requirements	
Preferred Model	Dell, HP, Cisco, Unifi	
Ports	8 x 1G RJ45 Ports	
Manageable	Yes	
Power Over Ethernet	24W per port	
Warranty	1 Years basic hardware warranty	



Category 3

01. Photocopy Machine (TC-1, FEST-01) Qty: 02

Specification

		Your brand and Specifications
	Minimum Requirements	
Media Sizes	A3, A4, A5	
Media Type	Plain Paper, Envelopes	
Paper Supply	2 Trays (500 Sheets)	
Bypass Tray	Yes (100 Sheets A4, A3)	
Copying speed	50 CPM or more (A4)	
Continous Copy	Upto 999 copies	
Toner Capacity	30,000 copies	
Media Sizes	A3, A4, A5	
Media Type	Plain Paper, Envelopes	
Memory Size	2 GB or more	
Hard Disk Size	250 GB or more	
Scanning Speed	75 SPM or more	
Scan File Formats	JPEG, PDF	
Scanning Features	Scan to File, USB	
Color Scanning	YES	
Print Resolution	600 x 600 DPI / 256 Levels	
Print Speed	50 PPM or more	
Warm-up Time	30 Seconds or less	
Operating System	Compatible windows 10	
Duplexing Automatic Document Feeder	Required	
Network Printing	Required	
Warranty & Authorization Letter	1 Years & letter	

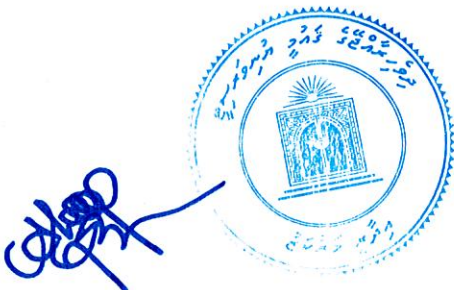


Category 4

01. Projector (KC-05, BS-05, FE-02, SN-03) Qty: 15		
Specifications for Projector (classroom)		
	Minimum Requirements	Your brand and Specifications
Image Brightness	3500 Lumens	
Lamp Type	LCD / DLP	
Resolution	1200 x 800	
Features	Keystone, Focus	
Video Input	HDMI and VGA	
Projection Method	Rear, Front and Ceiling	
Spare Lamp	Required (Qty 1)	

02. High End Projector (BS-01) Qty: 01		
Specifications for Projector (Auditorium)		
	Minimum Requirements	Your brand and Specifications
Image Brightness	7000 Lumens	
Lamp Type	Laser	
Resolution	1920 x 1200	
Features	Keystone, Focus	
Video Input	HDMI x 1, HDBaseT x 1, VGA x 1	
Projection Method	Rear, Front and Ceiling	
Authorized letter	yes	
Warranty	1 year	

03. Projector Screen (KC-05, FA-01, FHTS-01, FEST-01) Qty: 08		
Specification		
	Minimum Requirements	Your brand and Specifications
Supported Resolution:	1080P	
Screen Type:	Automatic	
Mount Type:	Wall & Ceiling	
Aspect Ratio:	16:10 / 16:9 / 4:3	
Viewable Diagonal in.:	100" / 94"	
Viewable Width in.:	97" / 80"	
Viewable Height in.:	66" / 50"	
Surface Color:	White	
Front/Rear Projection:	Front	
Projection Surface:	Matte White	



Category 5

01. Barcode Reader (NLL-11) Qty: 11

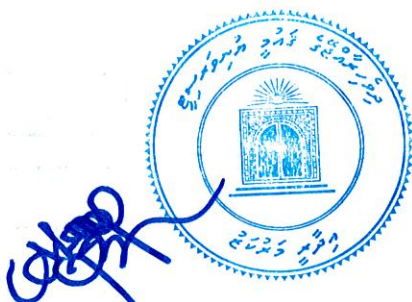
2D Specifications

		Your brand and Specifications
	Minimum Requirements	
Model		
Key Features	1D and 2D Barcode Scanning QR Code Scanning	
Light Source	650 ± 10 nm Visible Red LED and White	
Depth of Field	0 to 12" / 30.4 cm	
Scan Angle	Roll: ±360°, Pitch: ±45°, Yaw: ±40°	
Motion Tolerances	24" / 61 cm per sec	
Minimum Bar Width	1D: 5 mil / 0.1 mm 2D: 10 mil / 0.25 mm	
Print Contrast	PCS 30% EAN13 @ 10 mil	
Communication	Bluetooth 4.0 Compliant	
Indicators	Green LED	
Input Voltage	5 ± 5% VDC	
Operating Current	145 ± 15% mA	
Certificates	FCC, CE, RoHS	
Cable Length	6' / 1.83 m	
Light Levels	Max. 100,000 Lux	
Connectivity	USB	
System Requirements	Windows 10, 8, 7 Android Mac OS X IOS	



Category 6

01.Tablet (CA-15) Qty: 15		
Specifications for Tablet		Your brand and Specifications
	Minimum Requirements	
Model	Surface Go 3 or equivalent	
Memory	8GB LPDR3	
Processor	Dual-core Intel® Pentium® Gold 6500Y processor	
Storage	SSD 128GB	
Dimensions	9.65" x 6.9" x 0.33" (245 mm x 175 mm x 8.3 mm)	
Battery capacities	Battery Capacity Nominal (WH) 28.0 Battery Capacity Min (WH) 26.8	
Display	Screen: 10.5" PixelSense™ Display Resolution: 1920 x 1280 (220 PPI) Aspect ratio: 3:2 Touch: 10-point multi-touch Contrast ratio: 1500:1 Corning Gorilla Glass 3	
Security	Enterprise-grade protection with Windows Hello face sign-in Firmware TPM	
Software	Genuine Windows 11 Pro	
Keyboard compatibility	Surface Go Type Cover	
Pen compatibility	Designed for Surface Pen Integrated magnetic storage with Surface Pen	
Graphics	Intel® UHD Graphics 615	
Connections	1 x USB-C 3.5 mm headphone jack 1 x Surface Connect port Surface Type Cover Port MicroSDXC Card Reader LTE Advanced: Nano SIM tray	
Camera	5MP or more with 1080p (front camera), 8MP or more with 1080p auto-focus (rear camera)	
Warranty	1-year	



Category 7

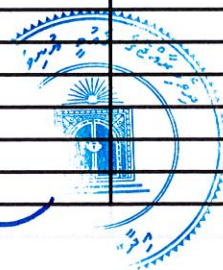
01. Hardware Firewall (GC-01, KC-01) Qty: 02		
Specification for Hardware Firewall for Campus		
	Minimum Requirements	Your brand and Specifications
Model	FORTIGATE 40F or equivalent	
Hardware Accelerated GE RJ45 WAN / DMZ Ports	1	
Hardware Accelerated GE RJ45 Internal Ports	3	
Hardware Accelerated GE RJ45 FortiLink Ports (Default)	1	
IPS Throughput	1 Gbps	
NGFW Throughput	800 Mbps	
Threat Protection Throughput	600 Mbps	
Concurrent Sessions (TCP)	700 000	
New Sessions/Second (TCP)	35 000	
Subscription	UTP bundle subscription	
Warranty	1 year	

Category 8

1. Outdoor PA System (Sound System for Events) (CA-02, KC-01, TC-01, HC-01) Qty: 05		
Equipments and Specification		
	Minimum Requirements	Your brand and Specifications
Model	Yamaha STAGEPAS 600BT or equivalent	
System Type	Powered mixer with 2 passive speakers	
Frequency Range (-10dB)	55Hz-20kHz	
Maximum SPL (Measured Peak IEC Noise@1m)	129dB SPL / speaker	
Power Consumption	35W (Idle), 100W (1/8 Power)	
Power Requirements	100V-240V 50Hz/60Hz	
Powered Mixer		
Mixing Channels		10
Analog Inputs	4 mono mic/line + 6 mono / 3 stereo line	
Bluetooth Input	Bluetooth Ver.4.1, A2DP v1.2, Maximum Range: Approx. 10 m	
Channel EQ	3-band (HIGH Shelving: 8kHz, MID peaking: 2.5kHz, LOW Shelving: 100Hz)	
Channel Functions	Hi-Z switch: CH4, ST/MONO switch: CH5/6-9/10	
Digital Effects	SPX digital reverb (4 program, parameter control)	
Output Processing	Feedback suppressor, 1-Knob Master EQ™	
Phantom Power	(+30V (CH1, 2))	
Outputs	SPEAKERS OUT (L, R), MONITOR OUT (L/MONO, R), SUBWOOFER OUT (MONO) with auto HPF	
Control and Others	Reverb foot switch	
Built in Amplifiers		
Power Rating (Dynamic)	680W (340W + 340W)	
Power Rating (Continuous)	560W (280W + 280W)	
Speaker		
Type	Two-way bass-reflex speakers	
Components	LF: 10" (25cm) cone, HF: 1.4" (3.56cm) voice coil compression driver	
Accessories		
Included Accessories	Speaker cables (30m) x 2, Speaker stand x 2, Microphone Stand x 2	
Warranty	1 year	
Authorized Letter	Authorization Letter	

Category 9

1. Video Recording Setup (FHS-01) Qty: 01		
Equipments and Specification of items		
1.1. Camcorder (Qty:01)		Your brand and Specifications
	Minimum Requirements	
Model	Canon XA11 or equivalent	
Image Sensor Resolution	Actual: 3.09 Megapixel (2208 x 1398) Effective: 2.91 Megapixel (2136 x 1362)	
ImageSensor Type	1/2.84"-Type CMOS Sensor	
Image Stabilization	Optical in Integrated Lens Digital	
Capture Type	Stills & Video	
Shutter Speed	1/2000 to 1/6 Second	
Minimum Illumination	1.2 Lux at 1/30 Shutter Speed 0.1 Lux at 1/2 Shutter Speed	
White Balance	2000 to 15,000K	
Recording Modes	AVCHD 1920 x 1080 at 23.98p/29.97p/59.94p [17 to 28 Mb/s] 1920 x 1080 at 59.94i [24 Mb/s] MP4 1920 x 1080 at 23.98p/29.97p/59.94p [17 to 35 Mb/s] 1280 x 720 at 23.98p/29.97p/59.94p [4 to 8 Mb/s] 640 x 360 at 23.98p/29.97p [3 Mb/s]	
Variable Frame Rates	6 Up to 36000 fps	
Gamma Curve	Wide DR	
Recording Limit	Up to 5515 Minutes	
Broadcast Output	NTSC	
Built-In Microphone Type	Stereo	
Audio Recording	AVCHD: 2-Channel LPCM Audio MP4: 2-Channel AAC Audio	
Image Sizes	16:9 JPEG 2 MP (1920 x 1080)	
Image File Format	JPEG	
Video I/O	1 x 1/8" / 3.5 mm TRRS AV (Composite) Output 1 x Mini-HDMI Output	
Audio I/O	2 x XLR 3-Pin Mic/Line (+48 V Phantom Power) Input 1 x 1/8" / 3.5 mm TRS Stereo Input	
Power I/O	1 x Barrel (8.4 VDC) Input	
Other I/O	1 x 2.5 mm Sub-Mini (LANC) Control Input 1 x USB Mini-B Output	
Wireless	None	
Global Positioning (GPS, GLONASS, etc.)	None	
Monitor Size	3.0"	
Monitor Resolution	460,000 Dot	
Monitor Display Type	Articulating Touchscreen LCD	
Viewfinder Type	Built-In Electronic (LCD)	
Viewfinder Size	0.24"	
Viewfinder Resolution	1,560,000 Dot	
Viewfinder Diopter Adjustment	-5 to +2	
Focus Type	Auto and Manual Focus	
Focus Mode	Automatic, Manual Focus	
Battery Type	Canon BP-8 Series	
Power Consumption	4.9 W	
Tripod Mounting Thread	1/4"-20 Female	
Accessory Mount	1 x Cold Shoe Mount	
Built-In Video Light	Yes (Infrared)	
Warranty	1 year	
Authorization	Authorization Letter	



1.2. Camera-Mount Shotgun Microphone (Qty:01)

		Your brand and Specifications
	Minimum Requirements	
Model	Rode VideoMic Pro or equivalent	
Form Factor	Stand/Boom Mount	
Sound Field	Mono	
Operating Principle	Line Gradient	
Capsule	Electret Condenser	
Diaphragm	0.5" / 12.70 mm	
Polar Pattern	Supercardioid	
Orientation	End Address	
Circuitry	Solid-State (JFET)	
Pad	None	
High-Pass Filter	80 Hz	
Tone Adjustment	None	
Gain Adjustment	-10 dB to +20 dB	
Indicators	1 x Single LED (Power)	
On-Board Controls	Gain/Sensitivity, High-Pass Filter, On/Off	
Windscreen	Foam (Included)	
Frequency Range	40 Hz to 20 kHz	
Maximum SPL	134 dB SPL	
Off-Axis Rejection	2 dB at 60° 18 dB at 120° 10 dB at 180°	
Impedance	200 Ohms	
Sensitivity	-32 dBV/Pa at 1 kHz	
Output Level	6.9 dBu (Max)	
Dynamic Range	120 dB	
Signal-to-Noise Ratio	80 dB	
Equivalent Noise Level	14 dB A-Weighted	
Output Connectors (Analog)	1 x 1/8" / 3.5 mm TRS	
Number of Conductors		2
Wireless Connectivity	None	
Operating Voltage	9 V (Battery Power)	
Operating Current Consumption	7.8 mA	
Battery Type	1 x 9 V (Not Included)	
Approximate Battery Life	70 Hours	

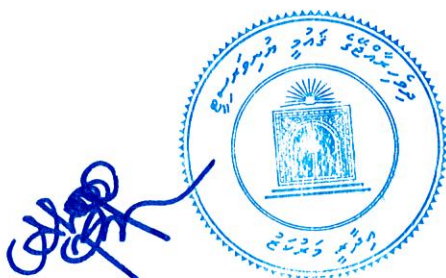
1.3. Video Capture Device (Qty:01)

		Your brand and Specifications
	Minimum Requirements	
Model	Magewell USB Capture HDMI Gen 2 or equivalent	
Video Input Connectors	1 x HDMI (DVI / HDMI 1.4a) Female	
Input Video Format	HDMI (8/10/12-Bit 4:4:4/4:2:2 RGB, YCC) 2048 x 2160 1080p 60/75 fps	
Audio Input Connectors	None	
Embedded Audio Input	HDMI: 2-Channel	
OS Compatibility	Windows 7 or Later macOS 10.9 or Later Linux Chrome OS	
Power Connector	None	
Power Consumption	5 VDC at 0.5 A (2.5 W)	



1.4. Storage Media (Qty:01)

		Your brand and Specifications
	Minimum Requirements	
Model	SanDisk Extreme PRO UHS-I SDXC or equivalent	
Card Type	SDXC	
Storage Capacity	256GB / 512GB	
Bus Type	UHS-I	
Speed Class		10
UHS Speed Class	U3	
Video Speed Class	V30	
Read Speed	Maximum: 170 MB/s	
	Maximum: 90 MB/s	
Write Speed	Minimum: 30 MB/s	
Durability	Shockproof, Temperature Extremes, Waterproof, X-Ray Proof	
Operating Temperature	-13 to 185°F / -25 to 85°C	
Storage Temperature	-40 to 185°F / -40 to 85°C	
Built-in Write-Protect Switch	Yes	
Wireless Capability	None	



Category 10

1. Sound Setup for Conference Room and Seminar room (CA-01) Qty: 01

Equipments and Specification of items

1. Speaker (Qty: 8)

		Your brand and Specifications
Minimum Requirements		
Model	BOSE FreeSpace FS2SE or equivalent	
Frequency Response (-3 dB)	95 – 16,000 Hz	
Frequency Range (-10 dB)	83 – 19,000 Hz	
Nominal Coverage Angle (H x V) (1 - 4 kHz)	145° x 140°	
Nominal Coverage (H x V) (1 - 10 kHz)	130° x 130°	
Power Handling, Long-term Continuous	20 W	
Full-Range Driver	1 x 2.25-inch woofer (57 mm)	
Nominal Impedance	16 ohms (transformer bypass)	
Key Features	<ul style="list-style-type: none"> - Maintain consistent tonal quality with shared voicing across all FS models - Hear the best of both (music and voice) with transducers that offer clear voice reproduction and smooth response for background music - Customize systems with confidence using in-ceiling, surface-mount, and pendant-mount options, allowing for tailored mix-and-match installations - Ceiling mount 	
Warranty	2 year hardware warranty	

2. Mixer Amplifier (Qty: 2)

		Your brand and Specifications
Minimum Requirements		
Model	Australian Monitor ES250 or equivalent	
AMPLIFIER		
INPUT CHANNELS	4 channels	
CONTINUOUS MAX POWER OUTPUT	250W	
FREQUENCY RESPONSE 4Ω	40Hz ~ 20kHz	
FREQUENCY RESPONSE 100V	40Hz ~ 20kHz	
SIGNAL TO NOISE RATIO	> 80dBr	
THD+N. 4Ω/100V. 1kHz	< 0.2%	
OVERLOAD PROTECTION	Temperature, Over/Under Voltage, Short	
PRE-AMPLIFIER		
INPUT/OUTPUT CONNECTORS	Balanced XLR - MIC Input and Line Output Unbalanced stereo RCA - LINE input and Record Output	
INPUT SENSITIVITY	MIC: 1.2mVrms RCA: 160mVrms	



LINE OUTPUT	760mV @ 1kΩ	
RECORD OUTPUT	220mV @ 10kΩ	
TONE CONTROLS	Bass @ 100Hz ±12dB Treble @ 10kHz ±9dB	
ADDITIONAL FEATURES	12V Phantom Power 2 Channel Priority VOX muting 5 Tone Generator with volume control, Evac, Alert, Intruder, Bell, Chime	
MISCELLANEOUS		
AC INPUT	230Vac, 50-60Hz	
AC POWER FACTOR	> 0.8	
MOUNTING	2 RU	
OPERATING TEMPERATURE	0°C to 40°C (95% RH)	
COOLING SYSTEM	Fan assisted convection cooling	
Warranty	2 year hardware warranty	

Category 11

01 HDMI braided cable 15m (CA-1) Qty:10
02. HDMI braided cable 20m (CA-1) Qty:10
03. HDMI braided cable 30m (CA-1) Qty:5
04. Converter VGA to HDMI (CA-1) Qty:15
05. Converter HDMI to VGA (CA-1) Qty:15
06. Converter DVI to VGA (CA-1) Qty:10
07. Converter DVI to HDMI (CA-1) Qty:10

