Annex "I"

Technical Specifications

Stock/ Property No.	Quantity	Unit	Item Description
1			**DESKTOP COMPUTER**
	8	**units**	*End-users: (3)HRMO, (1)Medical/Dental, (4) CCJ*
			Specs: Operating System: Windows 10 Processor & Chipset Processor Type: Pentium Silver Processor Model: Intel® Pentium® Silver processor J5005 Processor Speed: 1.50 GHz Processor Speed (turbo): 2.80 GHz Processor Core: Quad-core (4 Core) Memory Built-in Memory: 1 Standard Memory: 4 GB Maximum Memory: 8GB Memory Technology : DDR4 SDRAM Number of Total Memory Slots: 2 Storage Number of Hard Drives: 1 Total Hard Drive Capacity: 1 TB Hard Drive RPM: 5400 RPM Solid State Drive Interface: Expandable up to 256GB (1x M.2 slot) Display & Graphics Screen Size: 54.6 cm (21.5") Display Screen Type : LED Touchscreen: No Multi-touch Screen: Not Applicable Screen Resolution: 1920x1080 Network & Communication Wireless LAN: Yes Wireless LAN Standard: IEEE 802.11ac/a/b/g/n Ethernet Technology : Gigabit Ethernet Bluetooth : Yes I/O Expansions Number of Total Expansion Slots: 2 Number of M.2 Slot: 2 Built-in Devices Webcam: Yes Webcam Resolution (front): 1MP Interfaces/Ports HDMI: Yes USB: Yes Number of USB 2.0 Ports: 3 Number of USB 3.1 Gen 2 Port 2 Network (RJ-45): Yes Audio Line Out: Yes Number of HDMI Ports: 1 Input Devices Pointing Device Type: USB Wired Mouse Keyboard Included : Yes Keyboard Type: USB Wired keyboard Power Description Power Supply: 65W Warranty: 2 Years Warranty
	24	**units**	*End-user:(24)Drafting Technology*

			Specs: Form Factor: 16L Tower + Monitor Bundle Processor: Intel Core i3-9100 Processor (6M Cache, 4.20 GHz) Memory : 4GB DDR4 2666 MHz UDIMM Storage : 1TB 3.5-inch 7200 RPM Optical Drive: 8X DVD-Writer, 9.0 mm slim Graphics: NVIDIA GeForce GT 730 with 2 GB of DDR3 (supporting: DVI, HDMI) Operating System: Win 10 Home Display: Monitor Size: 21.5"" Input: VGA only Max Res.: 1920 x 1080 @ 60 Hz Technology: TN Colors: 16.7million Glare: None Response Time: 5ms (G to G)" Card Reader: Yes Audio: Integrated high-definition, 5.1-channel surround sound Networking: 802.11ac/a/b/g/n wireless LAN and Bluetooth® 4.0 LE Standard I/O Ports: Front/Side I/O connectors Card reader: Yes Audio jack(s): 2 USB 3.1 Gen port(s): 2 Rear I/O connectors D-Sub port(s): 1 HDMI port(s): 1 (out) LAN port(s): 1 Audio jack(s): 3 USB 2.0 port(s): 2 USB 3.1 port(s): 2 GPU Ports: DisplayPort, DVI & HDMI Expansion Slot (s): Number of PCIe x16 slot(s): 1 M.2 slot (for SSD): 1 M.2 slot (for WLAN): 1 Power Supply and Adapter: 300W Keyboard & Mouse: USB Wired Keyboard & Wired Mouse Warranty: 1 Year Warranty
	13	**units**	*End-user: (1) Planning, (1) MAA/IAS, (10) MCC, (1) Records*

			Specs:
			Form Factor: AIO
			Operating System: Windows 10
			Processor : Intel Core i5-7200U 2.50 GHz Processor (3M Cache, up to 3.10 GHz)
			Graphics: Intel HD Graphics
			Memory: 4GB Dual-channel DDR4 2133 MHz (Up to 16GB)
			Storage: 1TB 2.5-inch 5400 RPM
			Audio: Built-in stereo speakers
			Connectivity: 802.11ac/a/b/g/n wireless LAN and Bluetooth® 4.0 LE
			I/O connectors: Card reader: Yes
			                             Rear I/O connectors
			                             HDMI port(s): 1 (out)
			                             LAN port(s): 1
			                             Audio jack(s): 1
			                             USB 2.0 port(s): 2
			                             USB 3.1 Gen 1 port(s): 3
			                             M.2 slot (for SSD): 1
			                             M.2 slot (for WLAN): 1
			Power : 3-pin 65 W AC adapter
			Accessories: USB Wired Mouse and Keyboard
			Display : 23.8 AIO Ultra-Slim 8mm
			                             Panel Tiltable from -5 to 20
			                             Touch support: N
			                             Size (Inches): 23.8
			                             Display max resolution: 1920*1080
			                             Backlight: LED
			                             Brightness (cd/m2): N
			                             Aspect ratio: 16:11"
			Warranty : 1 Year Part

	2	**units**	*End-user: (1) Teacher Education, (1) Procurement*

				Specs: Operating System: Windows 10 Home Processor :Intel Core i3-8130U Processor (4M Cache, up to 3.40 GHz) Memory: 4GB DDR4 SDRAM Storage: 1TB HDD Display : 23.8-in LED Full HD 1920 x 1080, Active Matrix TFT Color LCD Graphics: Intel HD Graphics Network & Communication: Gigabit Ethernet IEEE 802.11ac Wireless LAN I/O ports: HDMI USB 2.0 Port USB 3.1 Gen 1 Port USB Port Network (RJ-45) Audio Line In Audio Line Out Bundle: USB Mouse & KB
	5	**units**		*End-user: (5)Computer Engineering*
				Specs: Processor : Intel Core i5-9400 Processor 2.90GHz 9M Cache, up to 4.10 GHz Memory : 8GB DDR4-2666 MHz Storage : 1TB 7200 RPM + 128GB M.2 2280 SSD Optical Drive :8X DVD-RW drive, 9.0 mm slim Graphics :2GB NVIDIA GeForce GT1030 DDR5 Operating System :Win 10 Home SL 64 Bit Size : 23.6-in 1920x1080 @60Hz Input : VGA + DVI + HDMI Bundle :USB Wired Keyboard & Wired Mouse Warranty :1 Year Parts
	2	**units**		*End-user: (2) Extension*

Specs:

Type

Desktop Type	Tower with Monitor

Monitor

Display	23 in, IPS, W-LED, 1920 x 1080 pixels
Viewing angles	(H/V) 178 ° / 178 °
Brightness	250 cd/m²
Static contrast	1000:01:00
Refresh rate	56 Hz - 76 Hz
Dimensions	522.2 x 312.3 x 49.1 mm
Weight	2.89 kg

Basic Spec

CPU	Core i5
Processor Model	9th Gen Intel Core i5-9400 (6-Core / 6-Thread 9M Cache, 4.1GHz Processor with Intel Turbo Boost Technology)
Chipset	Intel B360
GPU Model	Intel UHD Graphics 630 with shared graphics memory NVIDIA GeForce GTX 1050 with 2GB GDDR5 NVIDIA GeForce GTX 1650 with 4GB GDDR5

Memory & Storage

RAM	8GB
Memory Type	DDR4
Memory Speed	2400MHz , 2666MHz
Storage Type	HDD , HDD+SSD/eMMC
HDD	1TB
HDD Format	3.5 inches
Rotational Speed	7200 rpm
SSD/eMMC	256GB
Optical Drive	Optional tray load DVD Drive (Reads and Writes to DVD/CD)

Network

Ethernet	RJ-45

			WiFi 802.11bgn 1x1 WiFi and Bluetooth **Connectivity** Connectivity HDMI , USB2.0 , Bluetooth , Card Reader , Microphone , USB3.1 **Software** OS Ver Windows 10 Home 64-bit **Battery** Power Supply 290W Internal PSU Energy Star 6.1 **Size** Dimensions 373.7 x 160 x 294 mm / 14.71 x 6.30 x 11.57 inches Weight 5.9 kg **Parts Included** Branded Keyboard & Mouse
2			**LAPTOP COMPUTER**
	4	units	*End-users: (2)Research, (1) DRRM, (1) CCJ*
			Specs: Operating System: Windows 10 Home Processor: Intel Core i3-7020U Processor (3M Cache, 2.30 GHz) Memory: 4GB DDR4 SDRAM Storage: 256GB NVMe SSD + 1 TB 2.5-inch 5400 RPM Graphics: 2GB NVIDIA GeForce MX130 Display: 14-in HD Interfaces/Ports: 1 HDMI 1 USB 2.0 Ports 2 USB 3.1 Gen 1 Type-A Ports 1Â USB 3.1 Gen 1 Type-C Ports 1 USB Type-C port: USB 3.1 Gen 1 (up to 5 Gbps) 1 Network (RJ-45) Network: Wireless 802.11 a/b/g/n/ac ODD: No ODD Battery: 3-Cell Battery Weight: 1.6Kg Warranty: 1 Year Warranty
	2	units	*End-users: (1)Research, (1) Information Office*
			Specs: Processor : Intel Core i5-8300H processor (8 MB Smart Cache, 2.3 GHz with Turbo Boost up to 4.0 GHz, DDR4, 45 W) Memory: 8GB of DDR4 system memory, upgradable to 32 GB using two soDIMM modules Storage: 256GB SSD + 1TB 2.5-inch 5400 RPM Display: 15.6" display with IPS (In-Plane Switching) technology, Full HD 1920 x 1080, high-brightness (250 nits) ComfyView LED-backlit TFT LCD, supporting 120 Hz, 16:9 aspect ratio, NTSC 45%, Wide viewing angle up to 170 degrees' Ultra-slim design Mercury free, environment friendly Graphics: NVIDIA GeForce GTX 1650 with 4 GB of dedicated GDDR5 VRAM, supporting NVIDIA CUDA, PhysX, PureVideo HD technology,GPU Battery Boost technology, ShadowPlay technology, GameStream technology, Multi-Frame sampled Anti-Aliasing (MFAA), Dynamic Super Resolution (DSR), Voxel Global Illumination (VXGI). Microsoft DirectX 12, OpenGL 4.5, OpenCL 1.1 OS: Windows 10 Home Warranty : 2 Years Global Warranty
	48	units	*End-users: (1) OP, (2) Teacher Education, (1) VPSAS, (44) FLP*
			Specs: Operating System: Windows 10 Home Processor :Intel Core i5-10210U Processor (6M Cache, up to 4.10 GHz) Memory: 4GB of single-channel, onboard DDR4 system memory, upgradable up to 20GB of dual channel DDR system Storage: 256GB NVMe SSD + 1TB HDD Display: 15.6-in FHD 1920 x 1080 resolution, high-brightness LED-backlit TFT LCD, 16:9 aspect ratio, Ultra-slim design, Mercury free, Environment friendly Graphics: NVIDIA GeForce MX230 with 2 GB of dedicated GDDR5 VRAM supporting NVIDIA CUDA, PhysX, PureVideo HD technology, HDMI Optical Drive: NO ODD
	1	unit	*End-user: (1) CCSIT*

			Specs: • Ultra-thin and Light 14-inch FHD Laptop • Stunning NanoEdge 14" FHD display with 86% screen-to-body ratio in 13" body • Super-compact, slim that is less than 0.65 inch thin, weighs only 3.2 lbs • Latest Intel 8th Gen Core i7-8565U Processor 8M Cache, up to 4.6 GHz • 16 GB LPDDR3 RAM, 512 GB SSD NVIDIA GeForce MX150, 802.11ac WiFi 5, Bluetooth 4.2 • Exclusive ErgoLift hinge automatically tilts the keyboard to the most comfortable typing position. Backlit Keyboard • 47 Whr Li-Polymer battery providing up to 10 hours of battery life. •Windows 10. Built-in fingerprint sensor for enhanced security and one-touch login using Windows Hello feature • Harman Kardon certified quad-speakers for high-quality surround-sound onboard audio • MIL-STD-810G Military-grade durability
	1	**unit**	*End-user: (1) Planning*
			Specs: Operating system: Windows 10 Processor: Intel Core i5-9300H Processor 2.40GHz 8M Cache, up to 4.10 GHz Graphics: 4GB NVIDIA GeForce GTX 1650 GDDR6 VRAM Memory: 8GB DDR4 2666MHz SDRAM Storage: 1TB + 512GB M.2 NVMe PCIE 3.0 Display:15.6-inch Full HD (1920x1080) IPS-level panel 120Hz, 100% sRGB VR Ready: YES Keyboard: Backlit chiclet keyboard N-key rollover One Zone RGB lighting 4 Zone RGB lighting Aura Sync Hotkeys (Volume down, volume up, mute, HyperFan, Armoury Crate) I/O Ports: 1 x Type C USB3.1 (GEN2) support DP function 3 x Type A USB3.1 (GEN1) 1 x HDMI 2.0b 1 x 3.5mm Audio Jack 1 x Audio Jack Mic-in 1 x RJ45 LAN Jack Power: 230W/ 150W Wi-Fi / Bluetooth:Intel 802.11ac (2x2) Gigabit Wi-Fi support Rangeboost technology, Bluetooth 5.0 Warranty: 2 Years Global Warranty
	5	**units**	**MATEBOOK13"**
			End-user: (5)CCSIT
			Specs: OPERATING SYSTEM: Windows 10 Home COLOUR : space gray DISPLAY: Size: 13 inches Type: IPS PROCESSOR: 8th Gen Intel® Core™ i5-8265U processor GRAPHICS: NVIDIA® GeForce MX150 or NVIDIA® GeForce MX250 MEMORY: 8 GB LPDDR3 2133 MHz BATTERY Battery Material: Lithium Polymer WIRELESS: Built-in Bluetooth: Supported Bluetooth 5.0, backward compatible Wi-Fi: Support Wi-Fi Standard: IEEE 802.11a/b/g/n/ac, 2.4 GHz and 5 GHz AUDIO Speaker: Speaker x 2 Sound Effects: DOLBY ATMOS® SENSORS: Fingerprint Sensor PORTS Charging Port: Left USB-C port Data Port: USB-C X 2 MATERIAL: Aluminum alloy STORAGE: 512 GB NVMe PCIe SSD or Higher KEYBOARD AND TOUCHPAD Keyboard: Backlit keyboard, Chiclet keyboard, Full-size keyboard Touchpad: Yes BUTTONS: Two-in-one power button and touch fingerprint sensor
3			**PRINTER**
	6	**units**	*End-users: (1) VPARI, (2) Extension, (1) Medical/Dental, (2) MAA/IAS*

			Specs: Print Method: On-demand inkjet (Piezoelectric) Minimum Ink Droplet Volume: 3 pl Printer Language: ESC / P-R Print Direction: Bi-directional printing Nozzle Configuration: 180 nozzles Black, 59 nozzles per colour (Cyan, Magenta, Yellow) Maximum Resolution: 5760 x 1440 dpi (with Variable-Sized Droplet Technology) Automatic 2-sided Printing: No Print Speed : Photo Default - 10 x 15 cm / 4 x 6 ": Approx. 69 sec per photo (Border) / 90 sec per photo (Borderless) *1 Draft, A4 (Black / Colour): Up to 33 ppm / 15 ppm *1 ISO 24734, A4 Simplex (Black / Colour): Up to 10 ipm / 5.0 ipm *1 First Page Out Time from Ready Mode (Black / Colour):Approx. 10 sec / 16 sec *1
	4	**units**	*End-users: (1)DRRM, (1)Sports, (1)OSAS, (1) IAS*
			Specs: Print Method: On-demand inkjet (Piezoelectric) Maximum Print Resolution: 5760 x 1440 dpi (with Variable-Sized Droplet Technology) Minimum Ink Droplet Volume: 3 pl Automatic Duplex Printing: No Black Nozzle Configuration: 180 Colour Nozzle Configuration: 59 per colour (Cyan, Magenta, and Yellow) Print Direction: Bi-directional printing, Uni-directional printing Print Speed : Photo Default - 10 x 15 cm / 4 x 6 " *2: Approx. 69 sec per photo (with Border) *1 Max Photo Draft - 10 x 15 cm / 4 x 6 " *2: Approx. 27 sec per photo (with Border) *1 Draft, A4 (Black / Colour): Approx. 33 ppm / 15 ppm *1 ISO 24734, A4 Simplex (Black / Colour): Approx. 10 ipm / 5.0 ipm *1 Copy Function: Maximum Copy Size: A4, Letter Max Copies : 20 copies
	1	**unit**	*End-user: (1) Mechanical Engineering*
			Specs: Print Method: On-demand inkjet (Piezoelectric) Maximum Print Resolution: 5760 x 1440 dpi (with Variable-Sized Droplet Technology) Minimum Ink Droplet Volume: 1.5pl Automatic Duplex Printing: No Print Direction: Bi-directional printing, Uni-directional printing Nozzle Configuration: 90 per colour (Cyan, Light Cyan, Magenta, Light Magenta, Yellow, Black) Print Speed: Draft, A4 (Black / Colour): Up to 15ppm / 15ppm *1 Photo Default: 10x15cm/4x6" - Approx. 45 sec per photo (Borderless) *1 Paper Handling: Number of Paper Trays: 1 Standard Paper Input Capacity: Up to 100 sheets, A4 Plain paper (75g/m2) Up to 30 sheets, Premium Glossy Photo Paper Output Capacity: Up to 50 sheets, A4 Plain paper Up to 20 sheets, Premium Glossy Photo Paper Maximum Paper Size: 12.95 x 44" Paper Sizes: A3+, A3, B4, A4, A5, A6, B5, 10x15cm (4x6"), 13x18cm (5x7"), 16:9 wide size, Letter (8.5x11"), Legal (8.5x14"), Half Letter (5.5x8.5"), 9x13cm (3.5x5"), 13x20cm(5x8"), 20x25cm(8x10"), Envelopes: #10(4.125x9.5"), DL(110x220mm), C4 (229x324mm), C6(114x162mm) Paper Feed Method: Friction feed Print Margin: 0mm top, left, right, bottom via custom settings. Otherwise 3mm top, left, right, bottom
	1	**unit**	*End-user: (1)Drafting Technology*
			Specs: Printer Type: Print, Scan, Copy, Fax with ADF Printing Technology Print Method: PrecisionCoreTM Printhead Minimum Ink Droplet Volume: 2.8 pl Print Direction: Bi-directional printing, Uni-directional printing Nozzle Configuration : 400 x 2 nozzles Black, 128 x 2 nozzles per colour (Cyan, Magenta, Yellow) Maximum Resolution: 4,800 x 2,400 dpi (with Variable-Sized Droplet Technology) Automatic 2-sided Printing: Yes (up to A3) Print Speed: Photo Default - 10 x 15 cm / 4 x 6 " *2: Approx. 42 sec per photo (with Border) *1

	3	units	Draft, A4 (Black / Colour): Up to 32 ppm / 20 ppm *1 ISO 24734, A4 Simplex (Black / Colour): Up to 18 ipm / 10 ipm *1 ISO 24734, A4 Duplex (Black / Colour): Up to 8.7 ipm / 6.0 ipm *1 ISO 24734, A3 Simplex (Black / Colour): Up to 10 ipm / 5 ipm *1 ISO 24734, A3 Duplex (Black / Colour): Up to 6.0 ipm / 3.7 ipm *1
			End-user: (1)CHTM, (1) Library, (1)Computer Engineering
			Specs: Printer Type: Print, Scan, Copy Printing Technology: Print Method: Precision Core Printhead Minimum Ink Droplet Volume: 3.3 pl Printer Language: ESC / P-R Print Direction: Bi-directional printing, Uni-directional printing Nozzle Configuration: 400 nozzles Black, 128 nozzles per colour (Cyan, Magenta, Yellow) Maximum Resolution: 4800 x 1200 dpi (with Variable-Sized Droplet Technology) Automatic 2-sided Printing : Yes (up to A4) Print Speed :Photo Default - 10 x 15 cm / 4 x 6 " *2: Approx. 69 sec per photo (Border) *1 Approx. 92 sec per photo (Borderless) *1 Draft, A4 (Black / Colour): Up to 33 ppm / 20 ppm *1 ISO 24734, A4 Simplex (Black / Colour): Up to 15 ipm / 8.0 ipm *1 ISO 24734, A4 Duplex (Black / Colour): Up to 6.5 ipm / 4.5 ipm *1
	1	unit	*End-user: (1)Planning*
			Specs: Printer Type: Print, Scan, Copy with ADF Printing Technology: Print Method: Precision Core Print head Minimum Ink Droplet Volume: 3.3 pl Printer Language: ESC / P-R Print Direction: Bi-directional printing, Uni-directional printing Nozzle Configuration: 400 nozzles Black, 128 nozzles per colour (Cyan, Magenta, Yellow) Maximum Resolution: 4800 x 1200 dpi (with Variable-Sized Droplet Technology) Automatic 2-sided printing: Yes (up to A4) Print Speed: Photo Default – 10 x 15 cm / 4 x 6 "*2 #3: Approx. 69 sec per photo (Border) / 92 sec per photo (Borderless) Draft, A4 (Black / Colour): Up to 33 ppm1 / 20 ppm2 ISO 24734, A4 Simplex (Black / Colour): Simplex: Up to 15 ipm / 8.0 ipm, Duplex: 6.5 ipm / 4.5 ipm Copy Speed: ISO 29183, A4, Simplex (Black / Colour): Simplex: Up to 11 ipm / 5.5 ipm Copy Quality: Normal / Best quality Maximum Copies from Standalone: 99 copies Max Copy Resolution: 600 x 1200 dpi Reduction/Enlargement: 25 – 400%, Auto Fit Function Maximum Copy Size: A4, Letter Scan Function: Scanner Type: Flatbed colour image scanner Sensor Type: CIS Optical Resolution: 1200 x 2400 dpi Maximum Scan Area: 216 x 297 mm (8.5 x 11.7") Scanner Bit Depth (Colour): 48-bit input, 24-bit output Scanner Bit Depth (Grayscale): 16-bit input, 8-bit output Scanner Bit Depth (Bleck & White): 16-bit input, 8-bit output Scan Speed (Flatbed / ADF (Simplex): Monochrome: 200 dpi 12 sec / 5.0 ppm Colour: 200 dpi 27 sec / 5.0 ppm ADF Specifications: Support Paper Thickness: 64-95 g/m2 Paper Capacity: 30 pages (75 g/m2)
4			**SMART TV**
	7	units	*End-user:(7)CCSIT*
			Specs: LED SMART TV w/ wall mount •Screen Size: 55 inch

			•Resolution: 192 x 1080 • Wide Colour Enhancer Plus • Digital Noise Filter • Clear Motion Rate: 500 • Micro Diming • Dolby Pulse • SRS TheatreSound HD • dts 2.0+Digital Out • Sound Output (RMS): 10W x 2 • Speaker Type: Down Firing + Full Range • Auto Volume Levelier • HDMI • USB • Headphone • Wi-Fi Built in • Auto Channel Search • 1 x Compound in (Y/Pb/Pr) • Composite In (AV) Common Use for Component Y • Digital Audio Out (Optical) • RF In (Terrestrial/Cable Input) • DVI Audio In (Mini Jack) • Ethernet (LAN) • ConnectShare (USB 2.0): Movie (HDD) • Allshare (Powered by DLNA) • Allshare Play • WiFi Direct • EPG
	1	**unit**	*End-user: (1) CHTM*

			Specs:
			Product Type: LED
			Display: Screen Size 65"
			Resolution: 3,840 x 2,160
			Moth Eye: N/A
			Screen Curvature: Curved
			Video
			  Picture Engine : UHD Engine
			  Motion Rate : 120
			  PQI (Picture Quality Index) 1500
			  HDR (High Dynamic Range) HDR
			  HDR 10+ : Yes
			  HLG (Hybrid Log Gamma) Yes
			  Contrast : Mega Contrast
			  Color : Pure Color
			  Viewing Angle : N/A
			  Micro Dimming : UHD Dimming
			  Local Dimming : N/A
			  Auto Depth Enhancer: Yes
			  Contrast Enhancer: N/A
			  Auto Motion plus : Yes
			  Film Mode : Yes
			  Natural Mode Support: Yes
			Audio
			  Dolby Digital Plus: Yes
			  DTS Codec : N/A
			  Dialog Enhancement: Yes
			  Audio Pre-selection Descriptor: N/A
			  Sound Output (RMS): 20W
			  Speaker Type: 2CH
			  Woofer : N/A
			  Multi-room Link : Yes
			  Bluetooth Audio : Yes
			Convergence
			  TV to Mobile – Mirroring: N/A
			  Mobile to TV - Mirroring, DLNA: Yes
			  360 Video Player: N/A
			  360 Camera Support: N/A
			  Bluetooth Low Energy: Yes
			  Wi-Fi Direct : Yes
			  TV Sound to Mobile: Yes
			  Sound Mirroring : N/A
			  Triple Protection : N/A

			Image Booster : N/A
			Family TV 2.0 : N/A
			Local Cinema Mode N/A
			Tuner/Broadcasting
			   Digital Broadcasting: ISDB-T
			   Analog Tuner : Yes
			   2 Tuner : N/A
			   CI (Common Interface): N/A
			   Data Broadcasting: N/A
			   TV Key Support : Yes
			Connectivity
			   HDMI : 3
			   USB : 2
			   Component In (Y/Pb/Pr): 1
			   Composite In (AV) 1 (Common Use for Component Y)
			   Ethernet (LAN) : Yes
			   Audio Out (Mini Jack):N/A
			   Digital Audio out (Optical) 1
			   RF In (Terrestrial / Cable input): 1/1(Common Use for Terrestrial)/0
			   Ex-Link (RS-232C): N/A
			   CI Slot : N/A
			   HDMI A / Return Ch. Support : Yes
			   HDMI Quick Switch : Yes
			   Wireless LAN Built-in : Yes
			   Anynet+ (HDMI-CEC) : Yes
			Eco Feature
			   Eco Sensor : Yes
			   Energy Efficiency Class N/A
			Power
			   Power Supply : AC100-240V 50/60Hz
			   Power Consumption (Max) 175 W
			   Power Consumption (Stand-by) N/A W
			   Power Consumption (Energy Saving Mode) N/A W
			   Power Consumption (Typical) N/A W
			   Peak Luminance Ratio N/A %
			   Yearly Power Consumption (EU standard) N/A kWh
			Dimension
			   Package Size (WxHxD) : 1598 x 975 x 214 mm
			   Set Size with Stand (WxHxD) 1452.7 x 918.1 x 312.8 mm
			   Set Size without Stand (WxHxD) 1452.7 x 838.1 x 120.9 mm
			   Stand (Basic) (WxD) 1089.7 x 312.8 mm
			   Stand (Minimum) (WxD) N/A
			Weight
			   Package Weight 34.4 kg
			   Set Weight with Stand25.4 kg
			   Set Weight without Stand 25.0 kg

	7	**units**	*End-user:(6)InduTech, (1) Computer Engineering*
			Specs: TV Type: Smart TV TV Size: 55" LED TV Warranty Term – Labor: 1 year Warranty Term – Parts: 1 year Power Requirements AC220-240V 50/60Hz Power Consumption 184W Display Resolution: 3,840 x 2,160 Video Processing UHD Engine Backlight Module HDR Deep Color: Yes Intelligent Image Enhancer Yes Intelligent MPEG Noise Reduction Yes Advanced Contrast Enhancer (ACE) Yes 24P True Cinema Yes Photo TV HD Yes Viewing Angle 178/178 Screen Format: 16:09 Picture Mode: HDMI Black Level CineMotion/Film Mode/Cinema Drive: FILM MODE AVAILABLE 3D Comb Filter: Yes Sound Mode: Yes Surround Mode: Yes Sound Enhancer: Yes

			S-Master : Yes S-Force : Yes Dolby : Yes Simulated Stereo: Yea Stereo Systems: Yes HDMI/Audio In: 3 USB 2.0 : 2 Ethernet Connection: Yes Composite Video Input (s): 1 (Common Use for Component Y) Component Video (Y/Pb/Pr) Input(s): 1 RF Connection Input(s): 1/1(Common Use for Terrestrial)/0 HD15 PC Input/Audio: 1 Digital Audio Output (s): 1ea Audio Out 1 (Rear/Hybrid with Headphone and Subwoofer Out Headphone Out: 1 (Rear/Hybrid with Headphone and Subwoofer Out) Wi-Fi Direct: Yes Video Search Yes Weight with stand: Approx: 17.7 kg Weight without stand: Approx : 17.3 kg Dimension (WxHxD) with Stand: 1238.6 x 792.8 x 261.3 mm Dimension (WxHxD) without Stand: 1238.6 x 714.2 x 58.7 mm
5			**SCANNER**
	1	**unit**	*End-users:(1)CCSIT*
			Specs: • Sheetfed Scanner • Optical Resolution: 600 dpi x 600 dpi (Horizontal x Vertical) • Scanning Resolution: 60 dpi x 1,200 dpi • Colour Depth: Input: 10 Bits Colour, output: 8 Bits Colour • Scanning range (maximum) : 215.9mm x 3,048 mm • Paper formats: A4, Letter, Legal, A5, A6, B5, B6, Business cards, Postcard, Legal, Plastic Cards • Optical Sensor: CIS (Contact Image Sensor) Light Source: ReadyScan LED technology Output Resolution: 600 dpi • Scanning Speed : Monochrome: 26 pgs/min. Colour: 26 pgs/min measured w/ size: A4, Resolution: 200/ 300 dpi • Outputs formats: BMP, JPEG, TIFF, multi-TIFF, PDF, PNG • Interfaces: USB 2.0Type B • Supply Voltage: AC 100V- 240V, 50 Hz-60Hz • Product Dimensions: 297 x 152 x 154 mm (Width x Depth x Height) • Product Weight: 2.5 kg • Included Software: Document Capture Pro 2.0 Epson Scan 2 • Compatible Operating System: Mac OS 10.10 x, Mac OS x 10.12 Windows 10, Windows 7, Windows 8, Window Server 2003 R2 x 64, Window Server 2009 R2, Windows Server 2012 R2, Windows Vista, Windows Xp • Humidity: Operation 15% -80%, Storage 15% - 85 % • Temperature: Operation 5 C - 35 C, Storage 60C- 25C • Paper Capacity: 50 sheets
	2	**units**	*End-users: (1) MIS, (1) Extension*

			Specs:
			Scanner Type: A4 sheet-fed, one-pass duplex colour scanner
			Sensor Type: Contact Image Sensor (CIS)
			Scanning Method: Fixed carriage & moving document
			Light Source: RGB LED
			Optical Resolution: 600 x 600 dpi *1
			Output Resolution: 50 - 1,200 dpi (in 1 dpi increments)
			Bit Depth: Each colour (RGB): 10 bit input / 8 bit output
			Min Document Size: 50.8 x 50.8 mm
			Max Document Size: 215.9 x 6,096 mm
			Supported Paper Weight:27 - 413 g/m2 (A8 or less 127 - 413 g/m2)
			ADF Capacity: 100 sheets (80g/m2)
			Daily Scan Volume: Up to 7,000 pages / day
			Multi-feed Detection: Ultrasonic Sensor and Length Detection
			Interface: USB 3.0, Optional Ethernet (With Network Interface Unit)
			Scan Speed: Resolution (Colour/Greyscale/Mono):200dpi: 65ppm / 130ipm (Simplex / Duplex) *2
			    300dpi: 65ppm / 130ipm (Simplex / Duplex) *2
			    600dpi: 16ppm / 32ipm (Simplex / duplex)
			Supported OS:Windows XP / Vista / 7 / 8 / 8.1 / 10 / Server 2003 / Server 2008 / Server 2012 / Server 2016 Mac OS X 10.6.8 or later

			Scanner Driver Compatibility : TWAIN, SANE, WIA, ICA, ISIS
	1	**unit**	*End-user: (1) Records*
			Specs: Maximum dpi Resolution: 600 dpi Optical Resolution: 600 dpi Duplex Speed: 48 ipm (Color) Simplex Speed: 24 ppm (Color) Maximum Document Width: 8.5" / 21.6 cm Maximum Document Length: 122" / 309.9 cm Color Depth: 24-Bit (External); 48-Bit (Internal) Grayscale Bit-Depth: 8-Bit (External) Duplex Scanning: Yes Single Pass Duplex: Yes Scan Modes: Color, Grayscale, Monochrome Document Feeding: ADF Life Expectancy: 2000 Sheets per Day Connectivity: USB 2.0 Wireless Connectivity: None File Formats: BMP, JPEG, PDF, PNG, RTF, TIFF, TXT Paper Weight: 13 to 47 lb Operating System Compatibility: macOS/OS X, Windows Image Sensor: 1 x Contact Image Sensor (CIS) Control Panel: 2 Buttons Drivers: TWAIN, WIA, ISIS Processor Speed: 120 MHz Memory: 64 MB Maximum Sheet Capacity: 50 Automatic Image Corrections: Yes Environmental Compliance: ENERGY STAR, EPEAT Silver Operating Humidity: 15 to 80% Operating Temperature: 50 to 95°F / 10 to 35°C Storage Humidity: 0 to 90% Storage Temperature: -40 to 140°F / -40 to 60°C AC Input Power: 90 to 264 VAC, 50 / 60 Hz Power Source: AC Adapter Dimensions: 11.8 x 19.2 x 11.9" / 30.0 x 48.8 x 30.2 cm Weight: 5.7 lb / 2.59 kg Packaging Info Package Weight: 8.835 lb Box Dimensions (LxWxH): 15.75 x 9.75 x 9.55"
6			**PROJECTOR**
	2	**units**	*End-user: (1)Sports, (1) DFoST*
			Specs: Projection System: 3LCD, 3-chip technology LCD Panel : 0.55-inch (D7) OPTICAL Zoom 1.0 - 1.35 (Digital) Screen Size: 30" to 350" [0.88 to 10.44 m] (Zoom: Wide) 23" to 260" [0.88 to 10.44 m] (Zoom: Tele) Projection Distance: 60" screen 1.77 - 2.4 m Throw Ratio: 1.45 (Zoom: Wide), 1.96 (Zoom: Tele) Projection Lens F Number: 1.44 Projection Lens Focal Length: 16.7 mm Focus Method: No Optical Zoom / Focus (Manual) Offset: 8:1 IMAGE Colour Light Output: 3,300 Lumens White Light Output: 3,300 Lumens Resolution: SVGA Native Aspect Ratio: 4:3 Contrast Ratio: 15,000:1 Maintenance Cycle Normal/Eco: 6,000/10,000 Hours Lamp Type: 215 W UHE Keystone Correction Vertical: -30 to +30 degrees Horizontal: -30 to +30 degrees CONNECTIVITY Input: Video 1 x RCA (Yellow) Input: Computer 1 x D-sub 15-Pin (RGB), 1 x USB 2.0 type B

			Input: USB Memory Device 1 x USB Type A
			Input: Three-In-One USB Display 1 x USB 2.0 Type B
			Input: Digital 1 x HDMI
			Input: Audio 2 x RCA (1 x White, 1 x Red)
			Input: Control 1 x USB 2.0 type B
			Input: USB Document Camera 1 x USB 2.0 type A, Wireless LAN
			Optional
			WiDI/Miracast N/A
			Speaker Output 2W
7	**1**	**unit**	**CAD ROOM COMPUTER SERVER**
			End-user: (1) Civil Engineering
			Specs:
			Processor : Intel Core i5-9400 Processor (9M Cache, up to 4.10 GHz)
			Memory: 8GB DDR4-2666 MHz
			Storage: 128GB SSD + 1TB 7200 RPM HDD
			Optical Drive: 8X DVD-RW drive, 9.0 mm slim
			Graphics: 2GB NVIDIA GeForce GT 1030
			Operating System: Win 10 Home SL 64 Bit
			Display: K242HQL bid
			Size: 23.6-in 1920x1080 @60Hz Monitor
			Input: VGA + DVI + HDMI
			Bundle: USB Wired Keyboard & Wired Mouse (Speaker not included)
			Warranty: 1 Year Parts - 1 Year Labor Only (1-1-0)
8	**1**	**unit**	**CISCO CATALYST**
			End-user: CCSIT
			Specs:
			CISCO Catalyst 2960 Series
			•10/100/1000
			• 4 T/Small
			• Form-Factor
			• Pluggable
			• (SFP) LAN
			• Base Image
9	**5**	**units**	**APC RBC sn: 0M-10120D-001**
			End-user: CCSIT
			Specs:
			• 9Ah/12V
10	**3**	**units**	**APC - AP885-1371C**
			End-user: CCSIT
			Specs:
			• 12V 34W/Cell/ 1.67V/1.5Min
11	**4**	**units**	**AVR 2000 VA, 2000 W (Servo Motor Type)**
			End-user: MIS
			Specs:
			Max. Capacity: 2000 Watts
			Input: 160V AC – 240V AC
			Output: 220V AC
			System: Servo-Motor Type
			AVR response time: Within 1 second against +/-1% input voltage deviation
			Delay Response time: 3 to 5 minutes w/ bypass option
			Features Include
			Universal Outlets
			With Power on Delay of 3-5 minutes (protects your appliance from sudden surges in electricity after power interruption)
			Bypass feature to override the Power on Delay in case of immediate need
			High and Low voltage protection
			Output Voltage Meter (for visual indication)
			15A Circuit Breaker (protects appliance from overload or short circuit)
			Metal casing: Powder-coated
12	**1**	**unit**	**Sound System Set**

			End-user: Graduate School
			Specs: Amplifier (1 unit): • 1000 watts x 2 • 2 Mic Input • USB Bluetooth AUX1 AUX2 • Mic Bass, Treble, Echo Control • Binding Post and Speak-ON Terminal • With Sub Out, Line Out and Mic Out • Feedback Reducer Button • Loudness Button Powered Speaker (2 units): • 15" 2 Way Bass Reflex • Low 2.5" Vcoil • Hi 1.7" Vcoil • 800 Watts • 8 Ohms • 100db • 55hz - 20khz Speaker Stand (2 units): • Height: 1000mm to 1860mm • Load Capacity: up to 50Kgs • High Quality Metal • With Precision Stand Indicator • Heavy Duty Metal • Vibration Proof Microphone (1 unit): • Dual UHF with 32 Selectable Frequencies • USB Rechargeable Battery • Charging Port in Receiver Front Panel for Easy Charging • 1U Rack Unit Design with AA Battery Adaptor
13			**ACCESSORIES**
	1	unit	**External Hard Drive** *(VPARI)* Specs: Portable External Memory Capacity: 1TB Interface: USB 3.0 (Backward compatible) Body : Plastic with anti-shock silicon Operating Voltage: DC 5V 900mAh System Requirements: Windows 10 or later
	2	units	**USB (OTG) 32GB** *(VPARI)*
	2	units	**Lapel** *(Teacher Education)*
	2	units	**Presentation Pointer** *(Teacher Education)*
	4	units	**HDMI** *(Teacher Education)*
	2	units	**USB (32G)** *(Teacher Education)*
	200	units	**RJ-45 Jack** *(MIS)*
	3	units	**UTP Cable Cat 5** *(MIS)*
	2	units	**Smart UPS 1000va Rack Mount** *(MIS)* Specs: *Output*

		Max Configurable Power (Watts) 600Watts / 1.0kVA Output Voltage Distortion Less than 5% Output Frequency (sync to mains) 50/60Hz +/- 3 Hz Other Output Voltages 220, 240 Topology Line Interactive Waveform type Sine wave Transfer Time 6ms typical : 10ms maximum *Input* Input frequency : 50/60 Hz +/- 3 Hz (auto sensing) Input voltage range for main operations : 180 - 287V Input voltage adjustable range for mains operation : 170 - 300V Number of Power Cords : 1 Other Input Voltages : 220, 240 Batteries & Runtime : Battery type Maintenance-free sealed Lead-Acid battery with suspended electrolyte : leak proof Typical recharge time : 3hour(s) Expected Battery Life (years) : 4 - 6 RBC Quantity : 1 Battery Charge Power (Watts) : 72Watts Battery Volt-Amp-Hour Capacity : 216 Communications & Management Interface Port(s) : RJ-45 Serial, USB Control panel : Multi-function LCD status and control console Audible Alarm : Alarm when on battery : distinctive low battery alarm : configurable delays Surge Protection and Filtering Surge energy rating : 459Joules Filtering : Full time multi-pole noise filtering : 0.3% IEEE surge let-through : zero clamping response time : meets UL 1449
10	units	**UPS Battery 25v 9Ah** *(MIS)* UPS Battery (APCRBC #132)
5	units	**Power Supply 650 watts ATX** *(MIS)*
2	units	**Wireless Keyboard & Mouse Combo** *(MIS)* Specs: Battery life: 48 months[1] Battery: 2-AAA On/Off switch: Yes Full-size layout with 12 enhanced F-keys for media control: Wireless operating distance: 10m maximum[2] Wireless system: Advanced 2.4 GHz wireless connectivity Sensor technology: Logitech Advanced Optical Tracking Resolution: 1000 dpi Battery life: 18 months[1] Battery: 1-AA On/Off switch: Yes Number of buttons: 3 Scroll Wheel: Yes Wireless operating distance: 10m maximum[2] Wireless system: Advanced 2.4 GHz wireless connectivity Connection Interface: USB receiver
4	units	**HDD 3.2" 1 TB SATA Internal** *(MIS)* Specs: Interface : SATA 6Gb/s SATA Transfer Rates Supported (Gb/s) : 6.0/3.0/1.5 Max Sustainable Transfer Rate : 210MB/s Capacity : 1 TB
8	units	**Gigabit Switch 8 ports** *(Procurement)*
3	units	**UPS** *(Cashier, VPEOEA)*
5	units	**USB 8GB** *(Registrar)*
1	unit	**Voice Recorder** *(BOR)*
10	units	**USB Mouse & Keyboard** *(CCSIT)*
1	unit	**UPS** *(Sports)*
1	unit	**Network Attached Storage** *(Extension)* Specs: NAS 2-bay DiskStation, Quad Core 1.4 GHz, 2GB RAM (DS218) with 1TB NAS HDD •CPU Model: Realtek RTD1296

			•CPU Architecture: 64-bit •CPU Frequency: 2 4-core 1.4 GHz •Hardware Transcoding Engine: 10-bit H.265 (HEVC), MPEG-4 Part 2, MPEG-2, VC-1; maximum resolution: 4K (4096 x 2160); maximum frame rate per second (FPS): 60 •System Memory: 2 GB DDR4 non-ECC •Storage: 1TB NAS HDD •Drive Bays: 2 •Compatible Drive Type: 3.5" SATA HDD, 2.5" SATA HDD, 2.5" SATA SSD •Maximum Internal Raw Capacity: 32 TB (16 TB drive x 2) (Capacity may vary by RAID types) •Maximum Single Volume Size: 108 TB •RJ-45 1GbE LAN Port: 1 •USB 2.0 Port: 1 •USB 3.0 Port: 2 •File System - Internal Drives: Btrfs, EXT4 •File System - External Drives: Btrfs, EXT4, EXT3, FAT, NTFS, HFS+, exFAT (a ccess is purchased separately in Package Center)
	1	unit	**Network Switch** *(Extension)*

Specs:

Architecture	MIPSBE
CPU	AR9344
CPU core count	1
CPU nominal frequency	600 MHz
Dimensions	113x138x29mm
License level	4
Operating System	RouterOS
Size of RAM	128 MB
Storage size	128 MB
Storage type	NAND
Tested ambient temperature	-20C +50C
Powering	
PoE in	Passive PoE
PoE in input Voltage	9-30 V
Number of DC inputs	2 (PoE-IN, DC jack)
DC jack input Voltage	9-30 V
1Max power consumption	6.5 W
PoE-out	
PoE-out ports	Ether5
PoE out	Passive PoE
Max out per port output (input < 30 V)	500 mA
Max total out (A)	500 mA
Wireless	
Wireless 2.4 GHz Max data rate	300 Mbit/s
Wireless 2.4 GHz number of chains	2
Wireless 2.4 GHz standards	802.11b/g/n
Antenna gain dBi for 2.4 GHz	2.5
Wireless 2.4 GHz chip model	AR9344
Wireless 2.4 GHz generation	Wi-Fi 4
Ethernet	
10/100 Ethernet ports	5
Peripherals	
Number of USB ports	1
USB Power Reset	Yes
USB slot type	USB type A
Max USB current (A)	1
Power Adapter	
Input	220 Vots
Output	24 Volts
Current Rating Output	0.8-1.2 Amps

	1	unit	**Wireless Router w/ Gigabit Port** *(Extension)*

Specs:

Network Standard	IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, IEEE 802.11n, IEEE 802.11ac, IPv4, IPv6
Product Segment	AC1200 enhanced AC performance : 300+867 Mbps
Coverage	Medium homes
Data Rate	802.11n : up to 300 Mbps
	802.11ac : up to 867 Mbps
Antenna	External 5 dBi antenna x 4
Transmit/ Receive	MIMO technology
	2.4 GHz 2 x 2
	5 GHz 2 x 2
Processor	BCM47189+ BCM43217
Memory	16 MB Flash
	128 MB RAM
Operating Frequency	2.4 GHz / 5 GHz
Encryption	64-bit WEP, 128-bit WEP, WPA2-PSK, WPA-PSK, WPA-Enterprise , WPA2-Enterprise , WPS support
Firewall & Access Control	URL Blocking
	MAC Filter
	URL Filter
	Enable LAN to WAN Filter
	Parental Control Web filter
Management	UPnP, IGMP v1/v2/v3, DNS Proxy, DHCP, NTP Client, DDNS, Port Trigger, Port Forwarding, DMZ, System Event Log
WAN Connection Type	Internet connection type : Automatic IP, Static IP, PPPoE(MPPE supported), PPTP, L2TP
	Multicast Proxy support
	Multicast Rate Setting support
Ports	RJ45 for 10/100/1000 BaseT for WAN x 1, RJ45 for 10/100/1000 BaseT for LAN x 4
	USB 2.0 x 1
Features	**SmartQoS**
	- WMM
	- User definable rules for IP/MAC/Port
	- Upload and download bandwidth management
	- ACK/SYN/FIN/RST/ICMP with highest priority
	Parental Control
	Guest Network : 2.4 GHz x 3, 5 GHz x 3
	VPN client : PPTP client, L2TP client
	Enhanced media server (AiPlayer app compatible)
	- Image : Jpeg
	- Audio : mp3, wma, wav, pcm, mp4, lpcm, ogg
	- Video : asf, avi, divx, mpeg, mpg, ts, vob, wmv, mkv, mov
Button	**3G/4G** data sharing
	WPS Button, Reset Button, Power Button
LED Indicator	Power x 1
	LAN x 4
	Wi-Fi x 2
	WAN x 1
	USB x 1
Power Supply	AC Input : 110V~240V(50~60Hz)
	DC Output : 12 V with max. 2 A current
OS Support	Windows® 10
	Windows® 8.1
	Windows® 8
	Windows® 7
	Windows® Vista
	Windows® 2000
	Windows® ME
	Windows® XP

				Mac OS X 10.1
				Mac OS X 10.4
				Mac OS X 10.4
				Mac OS X 10.5
				Mac OS X 10.6
				Mac OS X 10.7
				Mac OS X 10.8
				Linux Kernel (Support Ubuntu only)
			Dimensions	207 x 148 x 35 ~ mm (WxDxH) (Without Bezel)
			Package Content	RT-AC1200G Gigabit Router
				RJ-45 Cable
				Power adaptor
				Quick Start Guide
				Warranty Card
			Operation mode	Wireless router mode
				Access point mode