# TERMS OF REFERENCE

## SUPPLY AND DELIVERY OF ICT EQUIPMENT

### I. BACKGROUND

In compliance with the Republic Act. No. 9184 known as the "Government Procurement Reform Act", the PSHS-MRC will be conducting a public bidding for the supply and delivery of ICT Equipment.

### II. OBJECTIVES

- Upgrade of older computer systems to enhance productivity and ensure compatibility to run newer programs efficiently.
- Installation of large-size TVs and relevant accessories for the Auditorium to enhance the visual experience of audiences during the presentation.
- Additional printers for offices which lack printer supply.
- A public address amplifier and accessories for the girls' dorm building are needed to power up the available speakers for the public address system.
- Multimedia camera and accessories to be used by the Multimedia Committee during school events and activities.
- Installation of the required AVR for the Lab building elevator to be operational and will protect the elevator electronic system in case of power failure.

### III. APPROVED BUDGET FOR THE CONTRACT (ABC):

The Approved Budget for the Contract is **Two Million Seven Hundred Forty Five Thousand Pesos only (Php 2,745,00.00)** inclusive of all taxes.

### IV. BIDDER'S QUALIFICATION

Bidders should have completed, within *two (2) years* from the date of submission and receipt of bids, a contract similar to the Project. *See PBD for further details.*

## V. DELIVERABLES

**Lot 1** - Seven (7) 13-inch Laptop, three (3) computer system unit (set), one (1) HDMI over single CAT5/6 splitter (set), two (2) 85-inch 4K Ultra HD TV (set), two (2) 75-inch 4K Ultra HD TV 9 (set), one (1) DSLR Camera with Accessories (set), and fourteen (14) A3 Refill Ink Tank Multi-Function Center with Wireless & Ethernet Connectivity (set)

**Lot 2** - One (1) Four Zone Matrix Power Amplifier with input routing (set)

**Lot 3** - One (1) 20kVA, Three Phase, 400V, 60Hz Automatic Voltage Regulator (set)

## VI. TECHNICAL SPECIFICATIONS

| LOT | DESCRIPTION | MINIMUM SPECIFICATIONS |
|-----|-------------|------------------------|
| 1 | **1. 13-inch laptop** | *Please see below* |
| | Processor | ARM-based system on a chip (SoC) central processing unit (CPU) and graphics processing unit (GPU) |
| | | with 8-core CPU, 10-core GPU, 16-core neural processing unit; 16 MB L2 Cache |
| | Memory | 16GB unified memory |
| | Storage | 256GB or Higher SSD storage |
| | Graphics | 13.6-inch (diagonal) LED-backlit display with IPS technology, 2560-by-1664 native resolution at 224 pixels per inch with support for 1 billion colors, 500 nits brightness |
| | External Display | One external display with up to 6K resolution at 60Hz, Supported formats include HEVC, H.264, HDR with Dolby Vision, HDR10, and HLG |
| | Power Supply | Line voltage: 100V to 240V AC, Frequency: 50Hz to 60Hz |
| | Wireless | Wi-Fi 6 (802.11ax) ; Bluetooth 5.3 |
| | Ports | Two Thunderbolt / USB 4 ports with support for:<br>-Charging<br>-DisplayPort<br>-Thunderbolt 3 (up to 40Gb/s)<br>-USB 4 (up to 40Gb/s)<br>-USB 3.1 Gen 2 (up to 10Gb/s) |
| | Audio Capabilities | Four-speaker sound system, Wide stereo sound, Three-mic array with directional beamforming, 3.5 mm headphone jack with advanced support for high-impedance headphones |
| | Audio Format | Audio playback: Supported formats include AAC, MP3, Lossless, FLAC, Dolby Digital, Dolby Digital Plus, and Dolby Atmos |
| | Webcam | 1080p HD camera |
| | Battery | Up to 18 hours movie playback<br>Up to 15 hours wireless web 52.6-watt-hour lithium-polymer battery, including 70W USB-C Power Adapter |
| | Power Supply | Line voltage: 100V to 240V AC, Frequency: 50Hz to 60Hz |
| | Height | 0.44 inch (1.13 cm) |
| | Width | 11.97 inches (30.41 cm) |
| | Depth | 8.46 inches (21.5 cm) |
| | Weight | 2.7 pounds (1.24 kg) |

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| | Keyboard | Backlit Keyboard with Touch fingerprint - US English |
| | Security | |
| | Color Options | 2-midnight black, 2 space gray, 3 silver finish color |
| | Additional Features | With 1-year warranty |
| | **2. Computer System Unit** | *Please see below* |
| | Processor | Intel Core i7-12700F Raptor Lake Socket LGA 1700 Processor |
| | Motherboard | Socket LGA 1700, Supports up to 128GB DDR4 Memory, up to 4800+(OC) MHz \| Ddr4, 2 M.2 slots, 4 SATA III, 1 PCI-E X1, 2 PCI-E X16, 2 DisplayPort, 2 HDMI ports. With WIFI. form factor: MATX |
| | Memory | 32gb 4x8 3200mhz Ddr4 RGB Memory White |
| | Graphics Card | Core Clock: 2475 MHz (Reference card: 2460 MHz), Cores: 3072, Memory Clock: 17 Gbps, Memory Size: 8 GB, Memory Type: GDDR6, Memory Bus: 128 bit, Card Bus:PCI-E 4.0, Digital max resolution: 7680x4320, Multi-view: 4, PCB Form: ATX, DirectX: 12 Ultimate, OpenGL: 4.6, DisplayPort 1.4a*2, HDMI 2.1a*2. |
| | SSD | PCIe M.2 3.0 NVME 1TB PCIe 4.0 |
| | Power Supply | 850W 80+ Gold Fully Modular Power Supply |
| | Case | Mid Tower Gaming PC Case Black,I/O PORTS: 1 x USB 3.0 + 2 x USB 2.0 + HD Audio / Mic, CASE EXPANSION SLOTS: 7, MAXIMUM GPU LENGTH: 350 mm, POWER SUPPLY: Standard ATX, PRE-INSTALL FAN: 1 x 120 mm addressable RGB LED FAN included, SUPPORT MB FORM FACTOR: ATX / mATX / Mini-ITX |
| | CPU Cooling | 120mm ARGB Dual Tower Substantial Cooling Power CPU Air Cooler |
| | Display | 27" IPS 165Hz Curved Monitor |
| | Additional Features | With wired keyboard and mouse<br>With 1000va UPS<br>1 year warranty |
| | **3. 85-inch 4K Ultra HD TV** | |
| | Processor | 4k HDR processor<br>Full Array LED<br>Google TV |
| | Wifi Frequency | 2.4GHz/5GHz(for Wi-Fi Direct: 2.4GHz Only) |
| | Ethernet Input | 1 HDCP2.3(for HDMI™1/2/3/4) |
| | HDMI Inputs Total | 4 (4Side) |
| | USB PORTS: | 2 (Side) |

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| | BLUETOOTH PROFILE SUPPORT: | Version 4.2, HID (mouse/keyboard connectivity)/HOGP (Low Energy device connectivity)/SPP(Serial Port Profile)/A2DP (stereo audio) 1/AVRCP (AV remote control) |
| | Apple Airplay | Yes |
| | Display Resolution | (H X V, PIXELS) 3840 x 2160" |
| | Backlight Type | Direct LED |
| | PICTURE MODES | Vivid, Standard, Cinema, Game, Graphics, Photo,Custom, Dolby Vision (Vivid/Bright/Dark) |
| | VIDEO SIGNAL SUPPORT HDMI™ signal | 4096x2160p(24,50,60Hz), 3840x2160p(24,25,30,50,60Hz), 1080p(24,30,50,60Hz), 1080i(50,60Hz), 720p(24,30,50,60Hz), 576p, 480p |
| | SPEAKER CONFIGURATION | Full Range (Bass Reflex) x 2 |
| | DTS AUDIO FORMAT SUPPORT | DTS Digital Surround |
| | DOLBY AUDIO FORMAT SUPPORT | Dolby™ Audio, Dolby™ Atmos |
| | ON-BOARD STORAGE (GB) | 32GB |
| | OPERATING SYSTEM | Android TV™ |
| | SCREEN SIZE (CM, MEASURED DIAGONALLY) | 215 cm |
| | POWER REQUIREMENTS (VOLTAGE/FREQUENCY) | 50 Hz, 220 V - 240 V AC |
| | Additional Features: | With 2-Year Warranty |
| | | Comes with remote and tv stand |
| | | VESA® HOLE PITCH(W X H) |
| | | Comes with remote and tv stand |
| | | Comes with 1 TV Wall Mount for Large TVs Up to 90" Full Motion Has Smooth Swivel, Tilt, and Extension, Weight capacity |
| | 4. 75-inch 4K Ultra HD TV | |
| | Processor | 4k HDR processor Full Array LED Google TV |
| | WI-FI FREQUENCY | 2.4GHz/5GHz(for Wi-Fi Direct |
| | Ethernet input | 1 HDCP2.3(for HDMI™1/2/3/4) |
| | HDMI INPUTS TOTAL | 4(4Side) |
| | USB PORTS | 2 (Side) |

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| | BLUETOOTH PROFILE SUPPORT | Version 4.2, HID (mouse/keyboard connectivity)/HOGP (Low Energy device connectivity)/SPP(Serial Port Profile)/A2DP (stereo audio) 1/AVRCP (AV remote control) |
| | APPLE AIRPLAY | Yes |
| | DISPLAY RESOLUTION (H X V, PIXELS) | 3840 x 2160 |
| | BACKLIGHT TYPE | Direct LED |
| | PICTURE MODES | Vivid, Standard, Cinema, Game, Graphics, Photo,Custom, Dolby Vision (Vivid/Bright/Dark) |
| | VIDEO SIGNAL SUPPORT | HDMI™ signal 4096x2160p(24,50,60Hz), 3840x2160p(24,25,30,50,60Hz), 1080p(24,30,50,60Hz), 1080i(50,60Hz), 720p(24,30,50,60Hz), 576p, 480p |
| | SPEAKER CONFIGURATION | Full Range (Bass Reflex) x 2 |
| | DTS AUDIO FORMAT SUPPORT | DTS Digital Surround |
| | DOLBY AUDIO FORMAT SUPPORT | Dolby™ Audio, Dolby™ Atmos |
| | ON-BOARD STORAGE (GB) | 32GB |
| | OPERATING SYSTEM | Android TV™ |
| | SCREEN SIZE (CM, MEASURED DIAGONALLY) | 189 cm |
| | POWER REQUIREMENTS (VOLTAGE/FREQUENCY) | 50 Hz, 220 V - 240 V AC |
| | Additional Features | With 2-Year Warranty Comes with remote and tv stand VESA® HOLE PITCH(W X H) 40.0 x 40.0 cm Comes with remote and tv stand Comes with 1 TV Wall Mount for Large TVs Up to 90" Full Motion Has Smooth Swivel, Tilt, and Extension, Weight capacity 75KG, Universal Design Works with common brand TVs - Includes Hardware and drill Template. |
| | 5. DSLR Camera with accessories | 24.2MP APS-C CMOS Sensor, Dual Pixel CMOS AF II |
| | | 2.36m-Dot OLED EVF |

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| | | Single SD card slot; JPG/HEIF/RAW/C-RAW picture formats; |
| | | MP4 recording up to 4K UHD (30p) / 4K UHD crop (60p) / Full HD |
| | | HDR PQ; 2hrs continuous recording time available |
| | | AF: Spot AF/1-point AF/Expand AF area (above, below, left and right) |
| | | Expand AF area (Around)/ Flexible zone AF 1-3/Whole area AF |
| | | People/Animal/Vehicles subjects AI auto detection |
| | | Mechanical/Electronic 1st Curtain: Max. Approx. 15fps |
| | | Electronic shutter: Max Approx. 23fps |
| | | Optical Lens Image Stabilization support |
| | | Electronic Viewfinder 2.36M dot count; 0.95x magnification |
| | | LCD Monitor 1.04M dot count; 3.0inches dimension;Vari-angle design |
| | | Built-in flash; Approx. 6meters with 18-45mm f/4.5-6.3 IS Lens |
| | | Includes battery and 64GB Memory Card and camera strap, bag, and authentic battery charger |
| | **6. 1 set Handheld Gimbal DSLR Camera Stabilizer** | 3.0 kg (Handheld); Bluetooth 5.0; USB-C for connections |
| | Pan axis | 360°/s + Tilt axis: 360°/s + Roll axis: 360°/s NATO port; M4 Mounting Hole; 1/4"-20 Mounting Hole; Cold Shoe Mount; Video Transmission/ Follow Focus Motor Port (USB-C); RSS Camera Control Port (USB-C) |
| | Battery | RB2-3400mAh -7.2 V; 18650 2S type; 3400mAh cap; Up to 14hrs Max. Batt. Life; |
| | | 2.4000-2.4835 GHz operating frequency; |
| | Dimension when Folded | 260×210×75 mm (including the handle) |
| | Dimension when Unfolded | 400×185×175 mm (including the handle and without the Extended Grip/Tripod) |
| | | Microphone; pocket-size; with 2x Button-sized lavalier |
| | | Transmitters and 3x Receiver (1 for Android, 1 for iOS, and 1 for DSLR cameras) and 1 charging case; 300m transmission range; |
| | | 30hrs total battery life; 48kHz/24bit HiFi Sound; compatible with iOS/Android and DSLR Cameras |

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| | **7. 1 set Wireless Lavalier** | headphone out; Plug and Play, ready out of box; w/ phone shutter |
| | | With 1 year warranty for DLSR Camera, Gimbal, and Lavalier |
| | **8. A3 Refill Ink Tank Multi-Function Center with Wireless & Ethernet Connectivity** | Automatic 2-sided Color Print<br>ADF - Scan/Copy/Fax |
| | | Professionally Designed for Fast Print Speeds, Low Cost High Resolution Photo Quality with Ultra High Yield Ink Bottle |
| | | Wi-Fi Direct, Mobile & USB Print |
| | FUNCTIONS | Fax, Print, Scan, Copy |
| | PAPER SIZE | A4, Letter, Executive, B5A3, Ledger, B4, Legal, Folio, A5, B6, A6, Photo-4"x6", Indexcard-5"x8", Photo-3.5"x5", Photo-5"x7", C5 Envelope, Com-10 Envelope, DL Envelope, Monarch Envelope, Mexico Legal, India Legal |
| | RESOLUTION | up to 1200x4800 dpi |
| | PRINTING WIDTH | A3 |
| | BORDERLESS | A4, Letter, A6, Photo (10 cm x 15 cm), Photo L (89 mm × 127 mm), Photo 2L (13 cm × 18 cm), Index Card (127 mm × 203 mm), A3, Ledger |
| | 2-SIDED - PAPER SIZE | A3, Ledger, JIS B4, Legal, Folio, A4, Letter, Executive, A5,JIS B5, JIS B6, Mexico Legal, India Legal |
| | PAPER INPUT - PAPER TRAY #1 - MAXIMUM PAPER CAPACITY | Max. 250 sheets of 80 gsm plain paper |
| | PAPER INPUT - MULTI-PURPOSE TRAY | Plain paper, Inkjet paper, Glossy paper(cast/resin), Recycled paper |
| | PAPER INPUT - MULTI-PURPOSE TRAY - MAXIMUM PAPER CAPACITY | Max. 100 sheets, 80 gsm |
| | ADF INPUT PAPER TRAY MAXIMUM PAPER CAPACITY | Up to 50-sheets |
| | PAPER OUTPUT | Up to A4/Letter |
| | COLOUR | Yes, MONOCHROME |
| | RESOLUTION | Print |
| | 2-SIDED - PAPER SIZE | Ledger, Legal, Folio, Letter, A3, A4, A5, A6, Photo-4"x6", Mexico Legal, India Legal |
| | USB 2.0, LAN | Yes,WIRELESS LAN, IEEE 802.11b/g/n |

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| | | (Infrastructure), IEEE 802.11g/n (Wi-Fi Direct™) |
| | SCANNING WIDTH - ADF | Max. 295 mm |
| | SCANNING LENGTH - SCANNER GLASS | Max. 429.8 mm |
| | SCANNING LENGTH - ADF | Max. 429.8 mm |
| | DISPLAY | 2.7" TFT Colour LCD |
| | MEMORY CAPACITY | 128 MB |
| | POWER SOURCE | AC 220 V to 240 V 50/60Hz |
| | WIRELESS NETWORK SECURITY | WEP 64/128 bit, WPA-PSK (TKIP/AES), WPA2-PSK (AES) |
| | Additional Features | Comes with extra 2 sets of inks aside from the included stock ink<br>With 1 year warranty |
| **2** | **1. Four Zone Matrix Power Amplifier with input routing** | 4x 140 Watts RMS Class D power output<br><br>"140W RMS * (Can direct drive 4 ohm, 8ohm or 70/100V systems selectable per zone)<br>140W into 8 ohm/70V. 120W into 100V, 95W into 4 ohm. "<br>5 comprehensive audio input channels<br><br>Remote volume control capability using module and standard ethernet cable |
| | Inputs | CH1/2 balanced XLR/6.3mm Jack combi socket, CH3/4 L&R balanced 3.5mm Euroblock, CH5 3.5mm stereo aux and stereo RCA |
| | Outputs | 4 zone power amp outputs via 5.08mm Euroblock |
| | Indicators: | Power/Standby, Input signal present and peak LEDs, Output signal present and clip LEDs |
| | Controls: | Adjustable gain control for each input; source select and volume control for all zones |
| | Crosstalk: | < -95dB between channels, maximum volume |
| | Frequency Response: | 20-20kHz ±0.1dBu (LoZ Mode), 80-20kHz ±0.1dBu (HiZ Mode) |
| | THD+N: | <0.01% @0dBu in, mid volume; <0.008% @+6dBu in, maximum volume |
| | S/N: | >110dB |
| | Noise Floor: | < -70dBu (unmuted), < -110dBu (muted) |
| | Lineout: | 3.5mm Euroblock line level output that follows zone 1, useful for system expansion |
| | Other Controls: | CH1/2 mic/line level and phantom power; high and low impedance settings for all zones; power |

| | | | saving mode and front panel lock |
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| | | DSP: | ORIGIN advanced multicore platform |
| | | EQ: | Each zone has bass and treble shelving control with a low pass filter mode; switchable high pass filter on CH1/2 |
| | | Emergency Override: | Balanced 3.5mm Euroblock connector, overriding the normal inputs |
| | | Power Consumption: | 27W Idle, 300W Typical, 450W Max, 0.4W Standby, Universal ~100-240V worldwide operation |
| | | Accessories: | Rack mounting kit, Euroblock connectors (4x 3.5mm 3 way, 2x 3.5mm 5 way, 2 x 5.08mm 6 way), IEC mains lead, user manual |
| | | 2 wall mounted volume controller and source selector | Input Connector: RJ45 LAN connector for connection to zone amplifier (standard CAT5e cable) Output Connector: RJ45 LAN connector to connect other wall controllers in a daisy chain (standard CAT5e cable) Controls: Volume and source control; mute switch; zone select DIP switch |
| | | 1 Paging Microphone | Controls: Push- or Lift-to-Talk Operation XLR Connection, Dynamic Capsule Requires No Power Source 1 Year Warranty for Amplifier |
| 3 | | 1. 20kVA, Three Phase, 400V, 60Hz Automatic Voltage Regulator | Overvoltage protection Servo-type AVR "On-call Technical Support, including weekends and holidays during the warranty period." User's training/ orientation on the operation of the equipment VAT inclusive, Including labor, and shipping to PSHS-MRC of the unit. Includes other materials (Wiring for bringing power in and power out. etc..) that may complete the installation and commissioning of the unit and operation of the elevator. Provides Two (2) years free warranty on the unit, including parts and labor. To be used for Schindler 3300 elevator. |
| | | Input Voltage: | 400VAC, +/- 15%, 3Ph, 60Hz, 3W+G |
| | | Output Voltage: | 400VAC, +/-1%, 3Ph, 60Hz, 3W+G |
| | | Efficiency: | >98% |
| | | Frequency: | 50/60Hz. (Auto sensing) |
| | | Overload Capacity: | 150% @ 10sec. |

| | Operating Temp: | 0-45degC |
|---|---|---|
| | Response time: | 0.1 sec |
| | Distortion: | No distortion |

## VII. OTHER REQUIREMENTS

1. Warranty - **One (1) year** on parts and service/labor with replacement by the supplier free of cost/charge for 13-inch Laptop, computer system unit (set), DSLR Camera Accessories (set), A3 Refill Ink Tank Multi-Function Center with Wireless & Ethernet Connectivity (set), **Four Zone Matrix Power Amplifier with input routing (set).**

2. Warranty - **Two (2) years** on parts and service/labor with replacement by the supplier free cost/charge for 85-inch 4K Ultra HD TV (set), 75-inch 4K Ultra HD TV 9 (set), 20kVA, Three Phase, 400V, 60Hz Automatic Voltage Regulator (set).

3. Installation and testing of AVR.

4. AFTER SALES SERVICE
   a. Submission of Certificate of After Sales Service, Manpower Requirements and Availability of spare parts within the warranty period with the list of accredited services centers in the Philippines, indicating the address, telephone numbers and contact persons.

5. Original Warranty/Guarantee Certificates shall be issued in the name of PSHS-MRC.

6. Distributorship Agreement shall be provided for the legitimacy of the supplier.

## VIII. DELIVERY SCHEDULE

1. Delivery Period: The Supply and Delivery of ICT Equipment must be delivered within **thirty (30) calendar days** upon the receipt of the Notice to Proceed (NTP).

2. Delivery Site: The ICT Equipment must be delivered at the address below:

   **PHILIPPINE SCIENCE HIGH SCHOOL**
   **MIMAROPA REGION CAMPUS**
   *Brgy. Rizal, Odiongan, Romblon, 5505*

3. Delivery should be made within office hours and on regular working days on or before the stipulated date in the contract unless otherwise specified for valid reason why the same cannot be complied with.

## IX. INSPECTION, TESTING AND ACCEPTANCE

1. After Sales Service and Support during the warranty period, all reported defects shall be completely/satisfactorily repaired/replaced by the winning bidder/supplier within **72**

**hours** after receipt of a verbal and/or written notice from the PSHS-MRC.

2. The PSHS-MRC shall have the right to reject and return the unit and cancel the corresponding Contract if units delivered are defective, incomplete, or non-compliant to the specifications herein specified.

3. All costs of testing and installation *(AVR)* shall be for the account of the supplier.
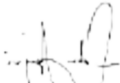
## X.    TERMS OF PAYMENT

The payment shall be done within **fifteen (15) working days** upon receipt, inspection and acceptance of the ICT equipment, warranty certificates and other documents as may be required.

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## XI.  REFERENCES (for sample purposes only)



13-inch laptop

85-inch 4K
Ultra HD TV
&
75-inch 4K
Ultra HD TV

Computer
System Unit

TV Wall Mount
for Large TV

One to Eight

HDMI Over single
Cat5/6 splitter

IR

DSLR Camera

Handheld
Gimbal for
DSLR

Wireless Lavalier Microphone



A3 Refill Ink Tank
Multi-Function Printer

Four Zone Matrix Power Amplifier

AVR for Elevator

wall mounted volume
controller

Paging
Microphone