



Republika ng Pilipinas

# Kagawaran ng Edukasyon

Tanggapan ng Pangalawang Kalihim  
Schools Division of BENGUET

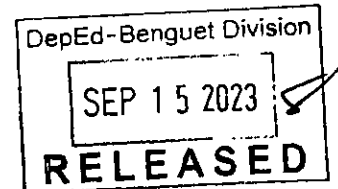
September 11, 2023

DIVISION MEMORANDUM

No. 331, s. 2023

## Minimum Specifications for ICT equipment to be Procured using DepEd Funds for SDO Benguet Public Schools

TO: All PSDS and District In-charge  
All Schools Heads Elementary/Secondary  
All others concerned



1. The office of the Information and Communications Technology unit- SDO Benguet herewith identifies the minimum required specifications for Information and Communication Technology equipment that will be procured using the funds of schools MOOE.
2. These minimum specifications will facilitate the use of technology in education and will satisfy the requirements of DepEd systems and platforms including its partner agencies.
3. This will also serve as a reference guide for schools in determining donated ICT gadgets/equipment are acceptable for DepEd utilization.
4. All procured items should be properly booked under their school records and should not be transferred nor carried by any school personnel who is transferred to their new school assignment.
5. Lastly, schools are advised not to procure Microsoft Offices software as the department has issued MS Accounts for schools, employees, and their learners.
6. For wide dissemination.

  
**SALLY L. BANAKEN-ULLALIM CESO V**  
Schools Division Superintendent



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Republika ng Pilipinas

## Kagawaran ng Edukasyon

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### Technical Specifications

#### Laptop, Midrange level (40,000.00 to 49,999)

<b>Brand and Model</b>	Top known Brands popular in 5 different counties including the Philippines and of the latest model
<b>Operating System</b>	Windows 10/11 Professional 64bit
<b>CPU and Chipset</b>	2.4GHz base speed to Turbo Core Speed 4.20GHz, 8MB Cache, 6/8 cores, latest Generation (i5 or AMD Ryzen 5), or better base speed
<b>Memory</b>	16GB (1x16GB) DDR4 2666MHZ Two (2) Memory Slots, Expandable Up to 32GB
<b>Display</b>	Options: a. 15.6" FHD 1920 x 1080 resolution, 16:9 aspect ratio, Ultra-slim design (recommended for finance use) or b. 14", FHD, 1920x1080, 60 Hz, Anti-Glare, Non-Touch, Ultra-slim design
<b>Graphics</b>	2GB Dedicated Graphics + onboard
<b>Audio</b>	3.5mm audio jack, built-in microphones, Two built-in stereo speakers
<b>Storage</b>	Options: a. 256GB PCIe NVMe SSD + 1TB SATA 5400RPM 2.5" HDD b. 500GB PCIe NVMe 2.0 c. 500GB PCIe NVMe 2.0 + 1TB SATA 5400RPM 2.5" HDD d. 1TB PCIe NVMe 2.0
<b>Optical Drive</b>	Optional
<b>Webcam</b>	1080p (1920 x 1080 resolution) FHD or better (4K)
<b>Wireless and networking</b>	<b>WLAN:</b> 802.11a/b/g/n/acR2+ax wireless LAN Dual Band (2.4GHz and 5GHz) 2x2 MU-MIMO technology Bluetooth® 5.1  <b>LAN:</b> Gigabit Ethernet 10/100/1000, Wake-on-LAN ready
<b>Dimensions</b>	For 16": 363 (W) x 255 (D) x 19.9 (H) mm (14.29 x 10.04 x 0.78 ") For 14": 328.7 (W) x 2395.5 (D) x 18.1 (H) mm (12.94 x 9.43 x 0.71")
<b>Weight</b>	For 16": 1.8kg   For 14": 1.5kg
<b>Power adapter</b>	65W AC adapter
<b>Battery</b>	48Wh 3-cell Li-ion battery
<b>Battery Life</b>	Up to 12hours
<b>Input and Control</b>	<b>Keyboard:</b> FineTip keyboard with independent numeric keypad (for 16" only) international language support <b>Touchpad:</b> Multi-gesture secure touchpad, supporting two-finger scroll; pinch; gestures to open Cortana
<b>Warranty</b>	3 Years Parts - 3 Years Labor Only with International Warranty 1 year warranty on battery
<b>Others</b>	Built in Security Software
<b>Accessories</b>	Laptop Bag, mouse





Republika ng Pilipinas

## Kagawaran ng Edukasyon

Tanggapan ng Pangalawang Kalihim  
Schools Division of BENGUET

### Laptop, entry level (28,000 to 35,000)

<b>Brand and Model</b>	Top known Brands popular in 5 different counties including the Philippines and of the latest model
<b>Operating System</b>	Windows 10/11 Professional 64bit
<b>CPU and Chipset</b>	2.4 GHz base speed to Turbo Core Speed 4.20GHz, 8MB Cache, 4/6/8 cores, latest Generation (i3 or AMD Ryzen 3), or better base speed
<b>Memory</b>	Options: a. 8GB (1x 8GB) DDR4 2666MHZ b. 16GB (1x16GB) DDR4 2666MHZ Two (2) Memory Slots, Expandable Up to 32GB
<b>Display</b>	14" FHD 1920 x 1080 resolution, 13:9 aspect ratio, Ultra-slim design Mercury free, environment friendly
<b>Graphics</b>	2GB Dedicated Graphics
<b>Audio</b>	3.5mm audio jack, built-in microphones, Two built-in stereo speakers
<b>Storage</b>	Options: a. 256GB PCIe NVMe SSD + 1TB SATA 5400RPM 2.5" HDD b. 500GB PCIe NVMe 2.0 c. or better storage offer
<b>Optical Drive</b>	Optional
<b>Webcam</b>	720p (1280 x 720 resolution) or better
<b>Wireless and networking</b>	<b>WLAN:</b> 802.11a/b/g/n/acR2+ax wireless LAN Dual Band (2.4GHz and 5GHz) 2x2 MU-MIMO technology Bluetooth® 5.1  <b>LAN:</b> Gigabit Ethernet 10/100/1000, Wake-on-LAN ready
<b>Dimensions</b>	For 14": 328.7 (W) x 2395.5 (D) x 18.1 (H) mm (12.94 x 9.43 x 0.71")
<b>Weight</b>	1.3kg
<b>Power adapter</b>	65W AC adapter
<b>Battery</b>	48Wh 3-cell Li-ion battery
<b>Battery Life</b>	Up to 12hours
<b>Input and Control</b>	<b>Keyboard:</b> FineTip keyboard with international language support <b>Touchpad:</b> Multi-gesture secure touchpad, supporting two-finger scroll; pinch; gestures to open Cortana
<b>Warranty</b>	3 Years Parts - 3 Years Labor Only with International Warranty 1 year warranty on battery
<b>Others</b>	Built in Security Software
<b>Accessories</b>	Laptop Bag, mouse





Republika ng Pilipinas

## Kagawaran ng Edukasyon

Tanggapan ng Pangalawang Kalihim  
Schools Division of BENGUET

### Desktop, Midrange level (up to 49,999)

<b>Brand and Model</b>	Top known Brands popular in 5 different counties including the Philippines and of the latest model (BRANDED DESKTOPS) NO CLONE, NO AIO	
<b>Operating System</b>	Windows 10/11 Professional 64bit	
<b>CPU and Chipset</b>	2.5GHz base speed to 4.6GHz, 20MB Cache, 10 cores, latest Generation (i5 or AMD Ryzen 5), or better base speed	
<b>Memory</b>	Options a. 8GB (1x8GB) DDR4 3200MHz b. 16GB (2x8GB/1x16GB) DDR4 3200MHz	
<b>Monitor</b>	21.5" LED Monitor, Input: VGA + HDMI, Max Res.: 1920x1080 @100Hz, Technology: VA, Colors: 16.7 million, Glare: None, Response Time: 1ms VRB, With VGA+HDMI Cable or offer a better monitor specification	
<b>Graphics</b>	Integrated Display port + 1GB/2GB Dedicated Display device or higher, or offer a better graphics specification	
<b>Audio</b>	Integrated high-definition, 5.1-channel surround sound	
<b>Storage</b>	Options: a. 256GB M.2 2280 PCI-E SSD + 1 TB 3.5-inch 7200 RPM HDD b. 500GB PCIe NVMe 2.0 SSD	
<b>Optical Drive</b>	8X DVD-RW drive, 9.0 mm slim, tray-load or Optional	
<b>Wireless and networking</b>	<b>WLAN:</b> 802.11ac/a/b/g/n wireless LAN and Bluetooth 5.0 <b>LAN:</b> Gigabit Ethernet10/100/1000, Wake-on-LAN ready	
<b>Motherboard details</b>	Number of PCIe x16 slot(s): 1 Number of PCIe x1 slot(s): 1 M.2 slot (for SSD): 1 M.2 slot (for WLAN): 1 Memory slots: 4	
<b>I/O Ports</b>	<b>FRONT:</b> Card reader: Yes Audio jack(s): 2 USB 3.2 Gen1 Type A port(s): 1 USB 3.2 Gen1 Type C port(s): 1	<b>BACK:</b> HDMI port(s) Port 1  HDMI-out 2.0 Port 2  HDMI-out 1.4b LAN port(s): 1 Audio jack(s): 3 USB 2.0 Type A port(s): 4 USB 3.2 Gen1 Type A port(s): 1
<b>Warranty</b>	2 Year Parts - 2 Year Labor Only (2 -2 - 0)	
<b>Accessories</b>	USB wired/wireless Keyboard & wired/wireless Mouse, webcam (optional), other freebie accessories offered by supplier	





Republika ng Pilipinas

## Kagawaran ng Edukasyon

Tanggapan ng Pangalawang Kalihim  
Schools Division of BENGUET

### Desktop, Midrange level (35,000 to 49,999)

<b>Brand and Model</b>	CLONE (Assembled)	
<b>Operating System</b>	Windows 10/11 Professional 64bit (OEM)	
<b>CPU and Chipset</b>	2.5GHz base speed to 4.6GHz, 20MB Cache, 10 cores, latest Generation (i3/i5/i7 or AMD Ryzen 3 /Ryzen 5/Ryzen 7), or better base speed	
<b>Memory</b>	Options a. 8GB (1x8GB) DDR4 3200MHz b. 16GB (2x8GB/1x16GB) DDR4 3200MHz c. or better offer	
<b>Monitor</b>	21.5" LED Monitor, Input: VGA, DVI ±, HDMI, Max Res.: 1920x1080 @100Hz, Technology: VA, Colors: 16.7 million, Glare: None, Response Time: 1ms VRB, With VGA, DVI±, HDMI Cable or offer a better/wider monitor specification	
<b>Graphics</b>	Integrated Display port + 1GB/2GB Dedicated Display device or higher, or offer a better graphics specification	
<b>Audio</b>	Integrated high-definition, 5.1-channel surround sound	
<b>Storage</b>	Options: a. 256GB M.2 2280 PCI-E SSD + 1 TB 3.5-inch 7200 RPM HDD b. 500GB PCIe NVMe 2.0 SSD c. or better offer	
<b>Optical Drive</b>	Optional	
<b>Wireless and networking</b>	<b>WLAN:</b> 802.11ac/a/b/g/n wireless LAN and Bluetooth 5.0 <b>LAN:</b> Gigabit Ethernet10/100/1000, Wake-on-LAN ready	
<b>Motherboard details</b>	Number of PCIe x16 slot(s): 1 Number of PCIe x1 slot(s): 1 M.2 slot (for SSD): 1 M.2 slot (for WLAN): 1 Memory slots: 2/4	
<b>I/O Ports</b>	<b>FRONT:</b> Card reader: Yes Audio jack(s): 2 USB 2.0 Gen1 Type A port(s): 1/more USB 3.2 Gen1 Type C port(s): 1/more	<b>BACK:</b> Motherboard HDMI port, VGA, DVI ± I/O ports for mouse and keyboard LAN port(s): 1 Audio jack(s): 3 USB 2.0 Type A port(s): 3/4 USB 3.2 Gen1 Type A port(s): 1/more  Dedicated Graphics card HDMI, VGA, DVI ±  WLAN card with antenna port
<b>Warranty</b>	1 Year Parts - 6 mos Labor Only	
<b>Accessories</b>	USB wired/wireless Keyboard & wired/wireless Mouse, webcam (optional), other freebie accessories offered by supplier	





Republika ng Pilipinas

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Tanggapan ng Pangalawang Kalihim  
Schools Division of BENGUET

### Tablet (Android) (15,000.00 – 18,000.00)

<b>Brand and Model</b>	Top known Brands popular in 5 different counties including the Philippines and of the latest model	
<b>Operating System</b>	Latest android OS model, upgradable	
<b>CPU and GPU</b>	CPU: <i>at least 2.4Ghz to 2.8Ghz, with at least 8 cores or better with at least 3200Mhz clock speed or higher</i> GPU: <i>Adreno technology</i>	
<b>Memory</b>	at least 4GB or higher for learners multitasking	
<b>Storage</b>	at least 64GB to 256GB with expandable storage from 128GB to 256GB or better specification latest eMMC technology or better	
<b>Display</b>	Size: <i>at least 10.1"-13" or better specification</i> Resolution: <i>at least 1200 x 1920 pixels, 16:10 ratio (~224 ppi density) or better offer specification</i> Type: <i>LCD, IPS or better</i>	
<b>Camera</b>	Main Camera - at least 8MP, f/2.0, AF - can do panorama - video 1080p@30fps or better	Front Camera - at least 5MP, f/2.2 - video 1080p@30fps or better
<b>Audio</b>	With 3.5mm jack port, with stereo speakers	
<b>Communication and ports</b>	WLAN: <i>Wi-Fi 802.11 a/b/g/n/ac, dual-band, Wi-Fi Direct</i> Bluetooth: <i>5.0, A2DP, LE</i> Positioning: <i>GPS, GLONASS, GALILEO, BDS</i>	USB: <i>Type-C 2.0</i> Card slot: <i>microSDXC, Nano-SIM</i>
<b>Body</b>	Weight: <i>must not exceed 700g</i> Built: <i>tempered front glass, aluminum alloy for casing and frame or better</i> Size: <i>dependent on the screen size</i>	
<b>Battery</b>	at least 5000mAh, non-removable or better offer	
<b>Features</b>	Sensors, tools, etc	
<b>Accessories and Add-ons</b>	Wireless keyboard, protective casing, screen guard, Stylus pen, charger, bag, SDXC micro cards	
<b>Warranty</b>	1 Year Parts - 6 mos Labor Only,	
<b>others</b>	Item must be NTC certified	





Republika ng Pilipinas

## Kagawaran ng Edukasyon

Tanggapan ng Pangalawang Kalihim  
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### Smart TV (15,000.00 to 25,000.00)

<b>Brand and Model</b>	Top known Brands popular in 5 different counties including the Philippines and of the latest model	
<b>Platform</b>	Latest android TV and with built-in apps (Netflix, Youtube, NBA TV, Prime Video, etc)	
<b>Operating System</b>	VIDAA and Dolby Vision	
<b>Display</b>	Screen Size: 55" or wider Panel resolution: 3840 x 2160, FHD or UHD (4K) with HDR support Type: LED or OLED Refresh Rate: at least 144Hz or better	
<b>Audio</b>	Main: Dolby Digital Plus or another equivalent/better counterpart Output: 8W + 8w or better	
<b>Connections and Networking</b>	3x HDMI 1x Composite Audio/video input 1x Digital Optical Audio Output 1x Headphone jack 1x RF antenna input with Chromecast / mobile screen mirroring with Bluetooth connectivity	2x USB (3.0/2.0) Video: .avi, .mp4, .mpeg2, .mpg, .mov, .wma, .vob, .ts, .flv Audio: aac, mp3, FLAC Photo: JPEG & PNG Wifi ready: 802.11ac 2x2 Dual Band (support 2.4GHz & 5GHz) LAN
<b>Features</b>	Features that differ them from other brands or model	
<b>Accessories and Add-ons</b>	Any offered by the supplier	
<b>Warranty</b>	1 Year Parts, Labor, and onsite check	
<b>others</b>	Item must be NTC certified All Deliveries must come with <ul style="list-style-type: none"> <li>• Owner's Manual</li> <li>• Remote Control with Battery/s</li> <li>• Wall Mounting Kit</li> <li>• 1 Meter HDMI Cable or better</li> <li>• Audio cable</li> </ul>	

### Printer, Inkjet (5000 to 15,000)

<b>Brand and Model</b>	Top known Brands popular in 5 different counties including the Philippines and of the latest model
<b>Type</b>	Ink jet, all-in-one (scan, print, copy)
<b>Print</b>	Resolution: at least 5760 x1440dpi Print speed(B&W): 33ppm or better Print speed(color): 10ppm or better Display: LCD, touch
<b>Scan and Copy</b>	Type: Flatbed and ADF ADF capacity: standard, at least 35 sheets Resolution: 600x600dpi to 1200x2400dpi or better Copy Size: Letter, A4, Legal
<b>Fax (optional)</b>	Fax available, Fax resolution: atleast 150 x150 dpi, unlimited RAM, Fax speed transmission: atleast 12kbps, Fax transmission: by service provider
<b>Connectivity</b>	USB, Wi-Fi ready: 802.11a/b/g/n, Ethernet port, Bluetooth, RJ 11 port
<b>Ink</b>	Tank type (XL capacity) Black, CMY
<b>OS compatibility</b>	Windows XP / XP Professional / Vista / 7 / 8 / 8.1 / 10/ 11 Windows Server 2003 / 2008 / 2012 / 2016 / 2019 Mac OS X 10.6.8 or later
<b>Warranty</b>	1 Year Parts, Labor and onsite check





Republika ng Pilipinas

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### **Storage Devices**

#### **A. External Drive**

- **Brand:** must be branded (original) not Class A (replica)
- **Storage Category:** (choose)
  - **Hardisk driver (HDD)**
    - Speed: 5400 to 7200 rpm
    - size: 2.3 x 3"
    - connectivity: USB 3.0 or equivalent
  - **Solid State Dive (SSD)**
    - Class: M1, M2 or NVME 2.0
    - Size 2.3 x 3" or pen type
    - Connectivity: Type-C, USB 3.0 or better
- **Storage Capacity:**
  - HDD: 500GB to 5TB
  - SSD: 250GB to 1TB
- **Accessories:** with shock protection casing, data cable

#### **B. USB Flashdrive/Pendrive**

- **Brand:** must be branded (original) not Class A (replica)
- **Connection options:**
  - atleast USB 3.0 or better, dual head USB 3.0 & Type-C/B
- **Storage Capacity:** 16GB to 128GB
  - *Note: storage capacity higher than 128GB are usually re-programmed to have a higher storage capacity and it will not last through its utilization period*

