

Laptop Computers

Choosing the right Desktop or Laptop Computer

In choosing a Desktop or a Laptop computer, the key factors to be considered are the work engaged by the user and the frequency of use. For a section of users where the work is limited to creating a document, checking and responding to e-mails, or working in a spreadsheet, their requirements typically do not go beyond the Microsoft Office components. Some may engage in more advanced work, but less frequently. On the other hand, those users who carry out specified tasks such as systems engineering, database management, quantitative analysis, etc., require computers with special features and advanced capabilities. For this reason, we propose not only one but three standard computer types from which the government agencies can select according to the needs of the users.

Type I

A Type I computer has all the basic features to carry out tasks such as creating a document (e.g., Microsoft Word,

OpenOffice Writer, etc.), a spreadsheet (e.g., Microsoft Excel, OpenOffice Calc, etc.), presentation (e.g., Microsoft PowerPoint, OpenOffice Impress, etc.); checking and responding to emails, facility to use the internet for official purposes, etc. If the user's requirements do not go beyond these limits, the Type I computer is adequate for the purpose. Type I Computers are also sufficient for basic data entry work.

Type II

This category is good for administrative work including data entry (if the work load is high), compilation of reports and documents (more frequently), checking and responding to emails, using specific packages for finance and management, scientific applications etc. Type II computers can also be used, as decided by the management, by software development professionals, system administrators and other officers carrying out Information systems related functions.

Type III

A high-end computer (Type III) is recommended only for users of special software applications that require advanced hardware resources. (e.g. GIS software) Most of the times the software requirements themselves call for such a computer. Sometimes the software developers and system administrators too might too need high-end computers. They should be assigned to officers purely on their work requirements and not based on the position or seniority.

Specifications for Laptop Computers

Criteria	Type I (2.2.1V)	Type II (2.2.1V)	Type III (2.2.1V)
Make & Model	(Branded)	(Branded)	(Branded)
Country of manufacture	(Branded)	(Branded)	(Branded)
Country of origin	(Branded)	(Branded)	(Branded)
Form Factor	Business Laptop Computer (Manufacture Confirmation must be attached)	Business Laptop Computer (Manufacturer Confirmation must be attached)	Business Laptop Computer (Manufacture Confirmation must be attached)
Chipset	(Specify)	(Specify)	(Specify)
Processor	Option 1: Intel® Core i3-1215U processor 12th Generation Processor or Later Option 2: AMD Ryzen 3 PRO 5450U Processor or Later	Option 1: Intel® Core i5-1235U 12 th Generation Processor or Later Option 2: AMD Ryzen 5 PRO 5650U Processor or Later	Option 1: Intel® Core i7-1255U 12th Generation Processor with IPU or Later Option 2: AMD Ryzen 7 PRO 5850U Processor or Later
Processor Frequency	Intel: 4.40GHz Max Turbo Frequency or Higher	Intel: 4.40GHz Max Turbo Frequency or Higher	Intel: 4.70 GHz Max Turbo Frequency or Higher
	AMD: 2.6GHz Base Frequency or Higher	AMD: 2.3GHz Base Frequency or Higher	AMD: 1.9GHz Base Frequency or Higher
Cache	Intel: 10MB or Higher AMD: 10MB L2+L3 Cache or Higher	Intel: 12MB or Higher AMD: 19MB L2+L3 Cache or Higher	Intel: 12MB or Higher AMD: 20MB L2+L3 Cache or Higher
RAM	8 GB of Single Channel, DDR4 System Memory Upgradable to 32GB or Higher Capacity	8 GB of Single Channel, DDR4 System Memory, Upgradable to 64 GB or Higher Capacity	16 GB of DDR4 System Memory, Upgradable to 64 GB or Higher Capacity
RAM Speed	2666 MHz, DDR4 or Higher	2666 MHz, DDR4 or Higher	2666 MHz, DDR4 or Higher
Hard Disk	256 SSD or Above	512GB SSD or Above	512GB SSD or Above
Graphics	Intel UHD Graphics / AMD Radeon™ Graphics or Better	Intel UHD Graphics / AMD Radeon™ Graphics or Better	Intel UHD Graphics / AMD Radeon™ Graphics or Better
Keyboard	Spill Resistant Keyboard	Spill Resistant Keyboard	Spill Resistant Keyboard
Touch Pad	Multi-Gesture Touch pad	Multi-Gesture Touch pad	Multi-Gesture Touch pad
Audio, Audio Integrated Speakers, Microphone	Integrated High Definition Audio, Integrated Internal Speakers, Built-In Microphone	Integrated High Definition Audio, Integrated Internal Speakers, Built-In Microphone	Integrated High Definition Audio, Integrated Internal Speakers, Built-In Microphone
Communications, Modern Ethernet, Wireless Bluetooth	WLAN: 802.11a/b/g/n/ac/ax WPAN: Bluetooth 6.0	WLAN: 802.11a/b/g/n/ac/ax WPAN: Bluetooth 6.0	WLAN: 802.11a/b/g/n/ac/ax WPAN: Bluetooth 6.0
Inbuilt Camera	720p HD Camera or higher	720p HD Camera or higher	720p HD Camera or higher
Expansion Options, PC Card I/O Ports	SDTM Card reader, Microphone / Earphone - In jack, USB 3.0 Port, 2 x USB 3.2 Ports, HDMI® Port, DC-In Jack for AC adapter, Thunderbolt for Charging	SDTM Card reader, Microphone / Earphone - In jack, USB 3.0 Port, 2 x USB 3.2 Ports, HDMI® Port, DC-In Jack for AC adapter, Thunderbolt for Charging	SDTM Card reader, Microphone / Earphone - In jack, USB 3.0 Port, 2 x USB 3.2 Ports, HDMI® Port, DC-In Jack for AC adapter, Thunderbolt for Charging
Display Type	Option 1: 14 Inch TFT LCD FHD Resolution Option 2: 15.6 Inch TFT LCD FHD Resolution	Option 1: 14 Inch TFT LCD FHD Resolution Option 2: 15.6 Inch TFT LCD FHD Resolution	Option 1: 14 Inch TFT LCD FHD Resolution Option 2: 15.6 Inch TFT LCD FHD Resolution

Quality Stability and Reliability Tests of the Product Quoted	The quoted product should possess test reports of the following, Spill-resistant keyboard to Provides protection against water spillage. (Should provide lab test as proof)	The quoted product should possess test reports of the following, Spill- resistant keyboard to Provides protection against water spillage. (Should provide lab test as proof)	The quoted product should possess test reports of the following, Spill- resistant keyboard to Provides protection against water spillage. (Should provide lab test as proof)
Operating System	Windows 11 Pro or Linux or Ubuntu latest Version	Windows 11 Pro or Linux or Ubuntu latest Version	Windows 11 Pro or Linux or Ubuntu latest Version
Application Software	Sinhala and Tamil Unicode Software, Commercial Anti-Virus with License for 3 Year	Sinhala and Tamil Unicode Software, Commercial Anti-Virus with License for 3 Year	Sinhala and Tamil Unicode Software, Commercial Anti-Virus with License for 3 Year
Battery	Minimum 8 Hours Battery Life (Specify Type / mAh / Hours)	Minimum 8 Hours Battery Life (Specify Type / mAh / Hours)	Minimum 8 Hours Battery Life (Specify Type / mAh / Hours)
Security	TPM (Optional)	TPM (Optional)	TPM (Optional)
Accessories - The Carrying Bag	Should be Same Brand	Should be Same Brand	Should be Same Brand
Product certifications of the quoted Model	Energy Star or any other equal certificate to Energy Star, issued by authorized body who has the authority to do so, Documentary evidence must be provided. Valid ISO 9001: 2015, and ISO 14001:2015 , FCC & CE	Energy Star or any other equal certificate to Energy Star, issued by authorized body who has the authority to do so, Documentary evidence must be provided. Valid ISO 9001: 2015, and ISO 14001:2015 , FCC & CE	Energy Star or any other equal certificate to Energy Star, issued by authorized body who has the authority to do so, Documentary evidence must be provided. Valid ISO 9001: 2015, and ISO 14001:2015 , FCC & CE
Manufacture Experience	Manufacturer should have minimum of 3 years' experience in manufacturing of the same brand. (Proof document should be attached)	Manufacturer should have minimum of 3 years' experience in manufacturing of the same brand. (Proof document should be attached)	Manufacturer should have minimum of 3 years' experience in manufacturing of the same brand. (Proof document should be attached)
Manufacturer Authorization Certificate	Manufacturer Authorization certificate should be provided (Originals should be provided on request)	Manufacturer Authorization Certificate should be provided (Originals should be provided on request)	Manufacturer Authorization Certificate should be provided (Originals should be provided on request)
Warranty	Comprehensive warranty for 36 months (Labor and Parts) excluding consumes.	Comprehensive warranty for 36 months (Labor and Parts) excluding consumes.	Comprehensive warranty for 36 months (Labor and Parts) excluding consumes.
Additional Warranty Conditions	minimum 1-year warranty for Battery and Power Adapter	minimum 1-year warranty for Battery and Power Adapter	minimum 1-year warranty for Battery and Power Adapter
Warranty Information	A sticker with -Supplier name -Contact Numbers -Date of Commissioning of Hardware -Warranty period On all Laptops	A sticker with -Supplier name -Contact Numbers -Date of Commissioning of Hardware -Warranty period On all Laptops	A sticker with -Supplier name -Contact Numbers -Date of Commissioning of Hardware -Warranty period On all Laptops
Brochure	Supplier should provide original brochure of make/model quoted as per above specification	Supplier should provide original brochure of make/model quoted as per above specification	Supplier should provide original brochure of make/model quoted as per above specification

Specifications for Chromebook & Notebook Computers

Criteria	Chromebook	Notebook
Brand	(Specify)	(Specify)
Model	(Specify)	(Specify)
Country of Origin	(Specify)	(Specify)
Country of Manufacture	(Specify)	(Specify)
Form Factor	Tab Device	Business Note Book
Processor	2.0 GHz Base Frequency Per Core in at Least 4 Cores	2.4 GHz Base Frequency Per Core in at Least 4 Cores
Storage	32 GB eMMC minimum with upgradability (Specify)	64 GB eMMC minimum with upgradability (Specify)
RAM	Minimum 4 GB	Minimum 4GB upgradable up to 8GB
Display	Capacitive Touch Screen, Scratch Resistant Glass Convertible to 360°	FHD Scratch Proof Touch Screen
Display Size	9" Display with IPS Technology 2048x1536 LED-Backlit Touch or above	Diagonal 13"-14" or Higher
I/O Port	1x USB C-Type	1x USB A Type and 1x USB C-Type
Web Cam	HD Web cam Front and Rear (2MP/5MP) or higher	HD Web cam
Stylus Pen	specify	specify
OS	Chrome OS	Chrome OS
Communication	Wi-Fi 802.11n, Bluetooth	Wi-Fi 802.11n, Bluetooth, Nano SIM slot x 1 (3G/4G LTE)
Sound	2x Built in stereo speaker, inbuilt microphone	2x Built in stereo speaker, inbuilt microphone
Accessories	Battery charger with cable, original box and manuals must be provided.	Battery charger with cable, original box and manuals must be provided.
The Carrying Bag	Should be Same Brand	Should be Same Brand
Quality/Stability and Reliability Tests	(Specify)	Keyboard-switch life Spill-resistant keyboard. Provides protection against at least up to 300ml of water spillage. Free drop, Hard Disk protection for Shock and vibration
Warranty	Comprehensive on-site manufacturer authorized warranty for 12 months (Labor and Parts) Excluding Consumes. Bidder or its parent company or its subsidiary should have Island wide owned branch network. Documentary evidence to be provided of the following under bidder's name, Address, Contact Details and Date of Commencement of each branch/regional	Comprehensive on-site manufacturer authorized warranty for 36 months (labor and parts) Excluding Consumes. Bidder or its parent company or its subsidiary should have Island wide owned branch network. Documentary evidence to be provided of the following under bidder's name, Address, Contact Details and Date of Commencement of each branch/regional

	office (Should have completed minimum of 5 years from the Date of Commencement of each branch/regional)	office (Should have completed minimum of 5 years from the Date of Commencement of each branch/regional)
Average Battery Life	At least 8 hours	At least 8 hours
Product Certification	FCC or CE (the bidder should possess a valid product certification)	FCC or CE (the bidder should possess a valid product certification)
Manufacture Experience	Manufacturer should have minimum of 3 years' experience in manufacturing of the same brand. (Proof document should be attached)	Manufacturer should have minimum of 3 years' experience in manufacturing of the same brand. (Proof document should be attached)
Bidders Experience	(Specify)	(Specify)
Manufacturer Authorization Certificate	Manufacturer Authorization Certificate should be provided (Originals should be provided on request)	Manufacturer Authorization Certificate should be provided (Originals should be provided on request)
Additional Warranty Conditions	1-year warranty for Battery and Power Adapter	1-year warranty for Battery and Power Adapter
Warranty Information	A Sticker with -Supplier name -Contact Numbers -Date of Commissioning of Hardware -Warranty period on all Chromebooks.	A Sticker with -Supplier name -Contact Numbers -Date of Commissioning of Hardware -Warranty period on all Chromebooks.
Brochure	Supplier should provide original brochure of make/model quoted as per above specification	Supplier should provide original brochure of make/model quoted as per above specification

Specimen Bidder's Compliance Check Sheet

Important:

It is compulsory to use the most recent version of the ICTA Specifications at the time of the Bidding Document Publication. The purchaser should mention the particular version of the specification in the Technical Specification section of the bidding document in the following format:

Example: If the purchaser refers the Type II of this Laptop Specification Version

ICTA Version: Laptop Computers | ICT-ES-2.2.1V | Type II

Features	Required Minimum Specification	Bidder's Compliance	
		Yes/No	If "No", Bidder's Response
Brand			
Model			
Country of Origin & Country of Manufacture / assembly			
Processor			
Base Frequency			
Cache			
Form Factor			
Chassis			
Chipset			
Motherboard			
Memory			
Maximum memory			
Memory Dims			
Hard disk			
Keyboard			
Mouse			
Optical drive			
Expansion slots			
Video controller			
Network interface			
I/O ports			
Power Supply			
Operating system			
Application Software			
Product certifications of the quoted Model			
Display			
Manufacturer Experience			
Bidders Experience			
Manufacturer Authorization Certificate			
Warranty			
Warranty Information			
Brochure			

Other Relevant Information

Laptop Types

Notebook

The general term for a full-sized laptop that strikes a balance between portability and functionality. These can vary greatly in overall size and specification – processor speed, storage capacity, memory (RAM) and screen size. They can vary greatly in price from low-cost budget models to high-performance productivity and gaming laptops.

Ultraportable

Thin, light laptops designed for mobility (also sometimes called a subnotebook). Maintaining a super-slim profile means they have to cut out some features such as built-in CD/DVD drive and reduce the number of connection ports.

Ultrabook

A term invented by computer chipmaker Intel for a special type of ultraportable notebook (hence Ultrabook). Ultrabook must meet specific criteria for various things such as size/weight, battery life, type of chipset (including built-in security features). Among their strong points is strong security and anti-theft protection built in at the hardware level. Although the original MacBook Air is regarded as the inspiration for the Ultrabook class, it's not actually an Ultrabook.

Netbook

Small, inexpensive laptops that run off the low-powered Intel Atom processor. These have been largely phased out, to be replaced by tablets, Ultrabooks and Ultraportables.

Chromebook

Chromebooks run the Chrome-OS (which is based on Linux) operating system. These are designed to work primarily with web apps and data being saved to the Cloud rather than on the laptop itself. Apps need to be downloaded from the Chrome Web Store. Recent model Chromebooks can also run Android apps. Chromebooks are popular in some schools, as many cheaper models are available and their minimal configuration offers easier centralized administration and security.

MacBook

Apple's laptop computers come in two families – the ultra-thin MacBook Air, and the high-performance MacBook Pro in 13-inch and 16-inch sizes (the latter recently replacing the 15-inch size). They all run the macOS operating system.

Convertible (2-in-1)

These combine the features of a laptop and a tablet. They're also known as 2-in-1 laptops or hybrids. They can quickly switch between touchscreen tablet mode and traditional keyboard mode, transforming in a variety of ways, including detaching, sliding, twisting and fold-back mechanisms. Most models now use the fold-back method, though a few still have detachable screens.

Tablet as a Laptop

Just as convertible laptops can do double-duty as a tablet, some tablets can be used as a laptop with the addition of a detachable keyboard. Most notable for this are Windows-based tablets such as Microsoft's own Surface Pro series and smaller Surface Go, which really benefit from having a keyboard as they use the Windows 10

operating system. However, unlike a 2-in-1, they can quickly be used in tablet mode without the added weight and bulk of a keyboard. The iPad and iPad Pro also have optional detachable keyboards and can be used as a laptop, though they use Apple's iPad OS mobile operating system and work best with apps that support laptop functionality.

Content References

- <https://byte-notes.com>
- <https://pcpartpicker.com>
- <https://www.choice.com.au>

<https://www.cnet.com>

- <http://www.globusinfocom.com>
- <https://www.icta.lk>
- <https://www.itbusiness.ca>
- <https://www.pcworld.com>
- <https://www.streetdirectory.com>

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