

Introduction to Computer Higher Diploma In Crime Investigation

Content

- Different kinds of devices
- Purpose of buying
- Main factors to consider
- Brands
- Pricing



Different kinds of devices



- Desktop- Has a base CPU (tower), a monitor, keyboard and mouse. Normally set up on a desk
- Laptop- A smaller unit, with a built-in keyboard and mouse, which makes it portable.
- Tab - A smaller version of a computer and larger version of a smartphone with touchscreen capabilities.
- Smart phone -A mobile phone with more advanced computing capability and connectivity than basic feature phones.

There are pros and cons for each type of technical device, but ultimately it comes down to personal preference.

Type	Pros	Cons
Desktop	<ul style="list-style-type: none"> •Reasonably priced •More upgrade options which may lead to better performance •May be better for video and photo editing •May be better for high-end 3D gaming. •Easier to check connections, repair or print documents 	<ul style="list-style-type: none"> •Not portable •Requires more space
Laptop	<ul style="list-style-type: none"> •Portable; is designed for travel, but can still be heavy •Doesn't take up much space •Uses less electricity •Has the same basic functionality as a desktop and is able to run traditional software programs 	<ul style="list-style-type: none"> •Often costs more than a desktop computer •May not be as 'fast' as a high-end desktop; •Difficulty to add components (motherboard, graphics card, etc.) •Can be difficult to repair
Tablet	<ul style="list-style-type: none"> •Very portable; most tablets can easily fit in a purse or backpack without weighing it down •Useful if you already have a desktop or laptop and want a more portable device •Good if your needs are very basic: checking email, posting to social networks •Convenient way to access movies, TV, music, and eBooks •You're looking for a device that's very simple and easy to use 	<ul style="list-style-type: none"> •May not be good for 'real' work, such as typing documents due to on-screen keyboard, which makes it more difficult to type •Not as powerful as a desktop or laptop; less processing power •Less file storage space •Smaller screen size •Many tablets are not able to run traditional software programs •May be difficult to get saved files from tablet. •Is more difficult to print documents and pictures directly from the tablet
Smartphone	<ul style="list-style-type: none"> •May be less expensive than a desktop, laptop or tablet •Data plans are available that allow them to be connected to the Internet at all times as long as there is reception from a cell tower •Good if your needs are very basic: checking email, posting to social networks •Convenient way to access movies, TV, music, and eBooks 	<ul style="list-style-type: none"> •Small screen and font size, which may make reading course content or watching video difficulties •Either does have traditional software programs or only has lite versions that may not allow you do to everything you need for your homework •On-screen touch keyboard making typing difficult •Difficult to print documents directly from your smartphone

Things to Consider

- **Processor**
- **RAM**
- **Hard Drive Capacity and Speed**
- **Brand**
- **Bulkiness and Weight**
- **Peripherals**
- **Operating System**
- **Warranty**
- **Price**

Processor (CPU)

- The Computer Processor is the most essential part of a computer.
- Usually, a good Processor can bring good read and write performance.
- For some cheaper computers adopting the low-end processor, do some light task such as internet browsing may be okay.
- But if users load several applications at the same time, the performance will be affected and your computer may be stuck in.
- Good processor can bring an extraordinary experience, but it also costs high.



RAM (Random Access Memory)

- Another important component of the computer.
- RAM is like the temporary scratchpad or canvas where a PC performs its real-time operations and calculations.
- The more the RAM in a computer is, the better performance the computer enjoys. So, if you can afford it, the more RAM you can get.

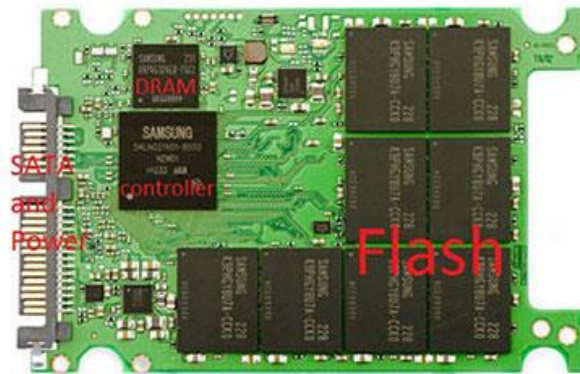


Hard Drive

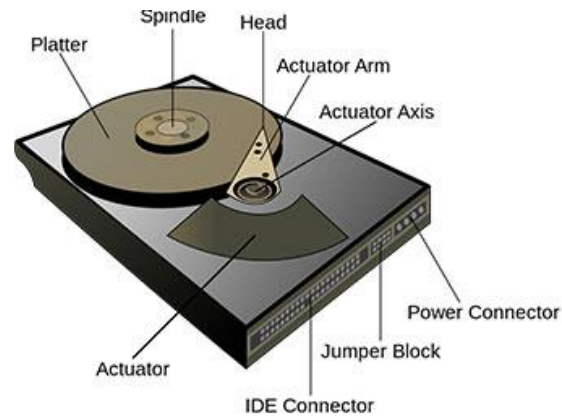
- Hard disk also plays in important role
- If you have a lot of files to save, you should choose a larger Hard disk (SATA).



- And for the speed, if you have enough budget, you can choose a computer which is built-in SSD.



SSD



HDD

VGA or Graphic card

- **NVIDIA GeForce**
- **AMD Radeon**
- **Nvidia Quadro**



Check computer performance

Task Manager Performance tab showing system resource usage:

Name	Status	CPU	Memory	Disk	Network
Apps (5)					
Firefox (3)		0%	324.5 MB	0 MB/s	0.1 Mbps
Microsoft PowerPoint		0%	90.4 MB	0 MB/s	0 Mbps
Task Manager		0.1%	22.0 MB	0 MB/s	0 Mbps
Viber (32 bit)		0.1%	13.6 MB	0 MB/s	0 Mbps
Windows Explorer		0%	30.7 MB	0 MB/s	0 Mbps
Background processes (63)					
Adobe Acrobat Update Service ...		0%	0.6 MB	0 MB/s	0 Mbps
Antimalware Service Executable		0.1%	160.5 MB	0.1 MB/s	0 Mbps
Application Frame Host		0%	5.1 MB	0 MB/s	0 Mbps
COM Surrogate		0%	0.6 MB	0 MB/s	0 Mbps
Component Package Support Se...		0%	1.2 MB	0 MB/s	0 Mbps
CTF Loader		0%	3.2 MB	0 MB/s	0 Mbps

Task Manager Performance tab showing detailed system resource usage:

- CPU:** 6% 1.99 GHz
- Memory:** 5.2/7.8 GB (67%)
- Disk 0 (C: D: G: I: H):** 2%
- Ethernet:** Ethernet (S: 0 R: 0 Kbps)
- Ethernet:** VirtualBox Host-Only... (S: 0 R: 0 Kbps)
- GPU 0:** Intel(R) UHD Graphic... (1%)

Memory Usage: 8.0 GB total, 7.8 GB used. Graph shows memory usage over 60 seconds.

Memory Composition:

Category	Value
In use (Compressed)	5.2 GB (125 MB)
Available	2.6 GB
Committed	7.2/12.5 GB
Cached	2.3 GB
Paged pool	528 MB
Non-paged pool	314 MB

Hardware Specifications:

- Speed: 2666 MHz
- Slots used: 2 of 2
- Form factor: DIMM
- Hardware reserved: 174 MB

Type of Warranty

- **Onsite warranty** means that the company will send a technician to the "site" (location) where the product is located and fulfill its warranty commitments.
- **Carry in warranty** means that it is the customer's responsibility to get their product to the service center of the manufacturer.

Laptop Warranty?

- **Hardware Failure – Covered**

- If your computer has a component inside of it that is not performing adequately, your laptop warranty entitles you to send your system in and have the part repaired or replaced.

- Keyboard problems
- Monitor problems
- Hard drive failure
- Ram failure
- Faulty display/USB ports

Faulty fans

Laptop Warranty?

- **Operating System Issues – Covered**

Interface crashes. Inconsistent boot-ups... If you're experiencing operating system issues like those with your Windows or Mac OS, your manufacturer can help you fix your system.

OS issues can typically be remedied over the phone with your manufacturer's technical support team. Occasionally they'll require sending your system in for repair.

- **Broken Screens – Not Covered**

If your laptop gets a crack, either minor or severe, your laptop warranty will not cover your screen repairs. Screen damage is the fault of the laptop owner and not the manufacturer. Because of that, manufacturer's won't give you free support and will instead ask that you pay for them to repair damages.

Laptop Warranty?

- **Water Damage – Not Covered**

If your laptop was exposed to water that results in the failure of certain pieces of hardware or wholesale system failure, your machine will not be covered.

- **Theft – Not Covered**

Again, since theft did not occur as a fault of your laptop's manufacturer, even with adequate proof of theft like a police report, your manufacturer will not replace your system.

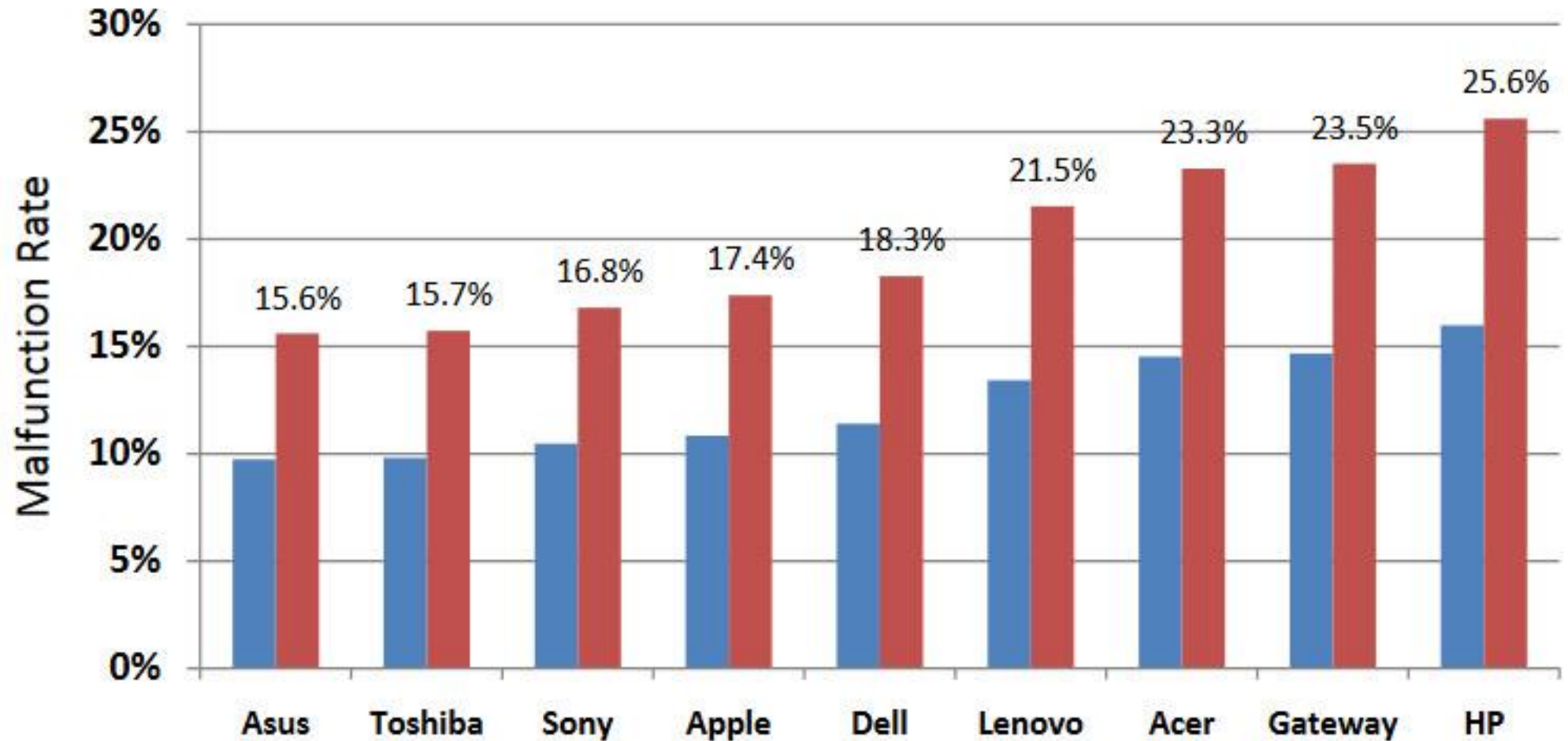
- **Natural Disaster Damage – Not Covered**











Even in the event where damage caused to your system was through no fault of your own, your standard laptop warranty still won't cover you.

Examples of natural disaster damage that effect laptops include floods, earthquakes, and fires.

3 Year Laptop Malfunction Rates by Manufacturer

■ 2 year ■ 3 year projection



LAPTOP BRAND RATINGS 2016	TECH SUPPORT REVIEWS		WARRANTY DESIGN		SOFTWARE INNOVATION		2015 OVERALL SCORE		CHANGE FROM 2015		OVERALL SCORE	
	30 PTS	20 PTS	15 PTS	5 PTS	5 PTS	10 PTS	15 PTS	100 PTS			100 PTS	
 Apple	28	19	12	5	5	9	5	85	↓	-2	83	1 ST
 DELL	23	16	12	4	4	8	15	77	↑	+5	82	2 ND
 ASUS	24	16	13	4	3	7	14	64	↑	+17	81	3 RD
 lenovo	18	16	12	3	4	9	15	66	↑	+11	77	4 TH
 msi	26	15	11	3	3	10	7	69	↑	+6	75	5 TH
 hp	16	17	14	4	3	5	14	75	↓	-2	73	6 TH
 Microsoft	22	17	11	3	4	10	4	N/A		N/A	71	7 TH
 acer	18	16	7	3	3	7	13	59	↑	+8	67	8 TH
 SAMSUNG	20	17	10	1	3	3	6	68	↓	-8	60	9 TH
 TOSHIBA	13	16	8	2	1	5	13	62	↓	-4	58	10 TH

Source: <https://www.laptopmag.com/features/laptop-brand-ratings>

- **Dell Inspiron 3501 (i5) – 11th Gen with IRIS XE**
- – Intel Core i5 11th Gen Processor
- 4GB RAM
- 1TB Hard Drive
- Intel IRIS XE Graphics
- 15.6 FHD Display
- Windows 10



Assessment 1- Fill the following google form

- <https://forms.gle/ysNPczRWtbLg11eJ7>

NETWORK

Technology	- GSM / HSPA / LTE
2G bands	- GSM 850 / 900 / 1800 / 1900 - SIM 1 & SIM 2
3G bands	- HSDPA 850 / 900 / 1700(AWS) / 1900 / 2100
4G bands	- 1, 2, 3, 4, 5, 7, 8, 20, 28, 38, 40, 41
Speed	- HSPA 42.2/5.76 Mbps, LTE-A

LAUNCH

Announced	- 2020, April 30
Status	- Available. Released 2020, May 05

BODY

Dimensions	- 165.8 x 76.7 x 8.8 mm (6.53 x 3.02 x 0.35 in)
Weight	- 209 g (7.37 oz)
Build	- Glass front (Gorilla Glass 5), glass back (Gorilla Glass 5), plastic frame
SIM	- Dual SIM (Nano-SIM, dual stand-by)

DISPLAY

Type	- IPS LCD
Size	- 6.67 inches, 107.4 cm ² (~84.5% screen-to-body ratio)
Resolution	- 1080 x 2400 pixels, 20:9 ratio (~395 ppi density)
Protection	- Corning Gorilla Glass 5

PLATFORM

OS	- Android 10, MIUI 11
Chipset	- Qualcomm SM7125 Snapdragon 720G (8 nm)
CPU	- Octa-core (2x2.3 GHz Kryo 465 Gold & 6x1.8 GHz Kryo 465 Silver)

PLATFORM

OS	- Android 10, MIUI 11
Chipset	- Qualcomm SM7125 Snapdragon 720G (8 nm)
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GPU	- Adreno 618

MEMORY

Card slot	- microSDXC (dedicated slot)
Internal	- 64GB 6GB RAM, 128GB 6GB RAM, 128GB 8GB RAM - UFS 2.1

MAIN CAMERA

Quad	- 64 MP, f/1.9, 26mm (wide), 1/1.72", 0.8µm, PDAF 8 MP, f/2.2, 119° (ultrawide), 1/4.0", 1.12µm 5 MP, f/2.4, (macro), AF 2 MP, f/2.4, (depth)
Features	- LED flash, HDR, panorama
Video	- 4K@30fps, 1080p@30/60/120fps, 720p@960fps, gyro-EIS

SELFIE CAMERA

Single	- 16 MP, f/2.5, (wide), 1/3.06", 1.0µm
Features	- HDR, panorama
Video	- 1080p@30/120fps

SOUND

Loudspeaker	- Yes
3.5mm jack	- Yes

COMMS

WLAN	- Wi-Fi 802.11 a/b/g/n/ac, dual-band, Wi-Fi Direct, hotspot
Bluetooth	- 5.0, A2DP, LE

Are you looking for Apple

Apple MacBook Air MGN73LL/A (Late 2020)

- M1 8-Core CPU
- 8-Core GPU | 16 Core Neural Engine
- 8GB Unified Ram
- 512GB SSD
- 13.3" 2560x1600 Retina IPS Display
- Wifi 6(802.11ax) | Bluetooth 5.0
- 2x Thunderbolt 3 / USB 4Ports
- Backlit Magic Keyboard
- Force Touch TouchPad | Touch ID Sensor
- Mac OS

Rs. 292,000.00



Are you looking for Apple

- **Apple MYDC2LL/A 13.3-inch MacBook Pro**
- – Apple M1 8-Core CPU
 - 8GB Unified RAM | 512GB SSD
 - 13.3" 2560 x 1600 IPS Retina Display
 - 8-Core GPU | 16-Core Neural Engine
 - P3 Color Gamut | True Tone Technology
 - Wi-Fi 6 (802.11ax) | Bluetooth 5.0
 - Touch Bar | Touch ID Sensor
 - 2 x Thunderbolt 3 / USB4 Ports
 - Magic Keyboard | Force Touch Trackpad
 - MacOS
- Rs. 338,000.00



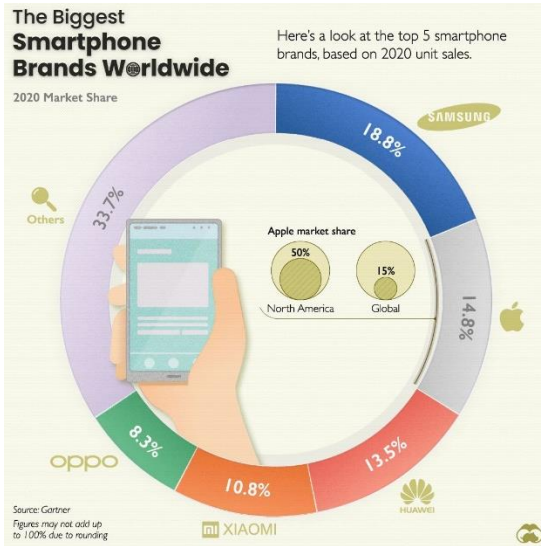


Apple MacBook Air (2020) 13 INCH/ GOLD/ M1 CHIP 8C CPU/ 8C GPU/ 8GB RAM/ 512GB SSD/ TOUCH ID

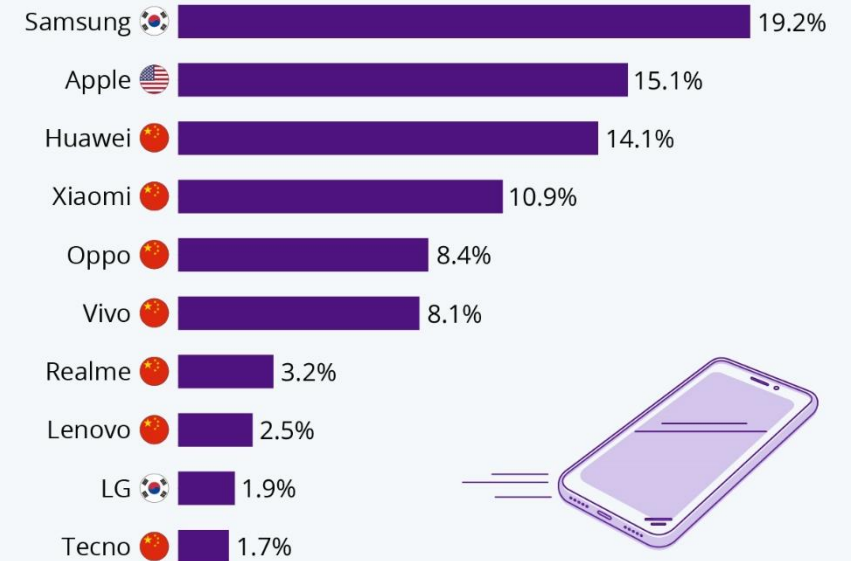
Rs. 419,999

Chipset	Apple M1
Memory	8GB unified memory (upgrade to 16GB)
Storage	512GB SSD(Configurable to 1TB or 2TB)
Graphics	Integrated graphics
Display	13.3-inch (diagonal) LED-backlit display with IPS technology; 2560-by-1600 native resolution at 227 pixels per inch with support for millions of colors
Adapter	30W USB-C Power Adapter
Battery	Lithium-Ion Polymer (LiPo) Capacity Non-Removable: 49.9 Wh Maximum Runtime: 18 Hours
Operating System	macOS
Networking	802.11ax Wi-Fi 6 wireless networking IEEE 802.11a/b/g/n/ac compatible

Smart phone market share



Estimated global smartphone market share of the top 10 vendors in 2020*



* based on unit shipments
Source: Counterpoint Research



statista

Sri Lanka Smartphone Shipment Market Share (%)

	Q1 2018	Q1 2019
SAMSUNG	41%	33%
HUAWEI	20%	20%
XIAOMI	5%	10%
OPPO	6%	8%
NOKIA HMD	8%	5%
OTHERS	19%	24%
TOTAL	100%	100%

Counterpoint
Technology Market Research

Assessment 2- Fill the following google form

- <https://forms.gle/9c9Us2EGCqtL7JYe6>

References

- <https://www.counterpointresearch.com/samsung-leads-sri-lanka-smartphone-market-even-xiaom>

Thank You