

# DA1311 – Computing Fundamentals

## Assignment 02



Name: S. Maruchi Navodya

Index No: 226083A

# Assignment

## Question 1:

Specification	What each specification means..	
Display	Outputs the information in visual form	
Processor (CPU)	Cores	If we have more than one core, we can divide one task into several parts and let each core work on one part of the task. Thus, having more cores means that we can speed up execution
	Clock speed / CPU frequency	This indicates the number of cycles a CPU performs per second. The CPU can perform more quickly with a higher number of cycles.
Random Access Memory (RAM)	Provides the device with the memory it needs to run multiple applications at once	
Cache Memory	Data and instructions that are frequently requested are stored in cache memory so that the CPU can access them without delay when needed	
Operating System (OS)	The primary program (system software) that manages all of a computer's hardware and other software	
Battery	The source of electric power which allows us to use the device as long as it is charged	
Secondary Storage	This is where we store all our files such as videos, images and documents which are non-volatile	

Device Name	Display	Processor	RAM	Cache Memory	Operating System	Battery	Secondary Storage	As a mobile device..
Apple iPad 10.2'' (9 <sup>th</sup> generation)	<b>Size:</b> 10.2 inches  <b>Resolution:</b> 2160 × 1620 pixels	<b>A13 Bionic chip</b>  <b>No of cores:</b> 6 cores  <b>Types of cores:</b> 2x2.65 GHz Lightning cores + 4x1.8 GHz Thunder  <b>Clock speed:</b> 2.65 GHz	<b>Size:</b> 3GB  <b>Type:</b> LPDDR4X SDRAM	<b>L1</b> 128 KB + 128 KB  <b>L2</b> 8192 KB	iPad OS 15	Li-Ion, non-removable 8557 mAh (32.4 Wh)	<b>Internal:</b> 64 GB/ 256GB  <b>Does not have an internal memory card slot</b>	This device is lightweight and compact, which makes it easy to carry around and use for most of our tasks at any time.  Also, the A13 Bionic chip is made to be energy-efficient, which makes us do our tasks much more effectively.

Apple iPad Pro 11” (2022)	<b>Size:</b> 11 inches  <b>Resolution:</b> 2388 × 1668 pixels	<b>Apple M2</b>  <b>No of cores:</b> 8 cores  <b>Types of cores:</b> Four high-performance "Avalanche" cores + four energy-efficient "Blizzard" cores  <b>Clock speed:</b> 3.50 GHz	<b>Size:</b> 8GB/16GB  <b>Type:</b> LPDDR4X	<b>High performance cores:</b>  L1 192 KB + 128 KB, L2 16 MB  <b>Energy-efficient cores:</b>  L1 128 KB + 64 KB	iPadOS 16.1	Li-Po, 7538 mAh (28.65 Wh) non-removable	<b>Internal:</b> 128 GB/256 GB/512 GB/1024 GB/2048 GB  <b>Does not have an internal memory card slot</b>	<p>The Apple M2 processor is known as a faster processor which will allow us to run our programs much faster.</p> <p>This device is designed light weight and slim so that we are able to use at any time anywhere.</p> <p>The RAM is more than enough for essential tasks and also for gaming and for editing software.</p>
Microsoft Surface Pro 9	<b>Size:</b> 13 inches  <b>Resolution:</b> 2880 X 1920 pixels	<b>12th Gen Intel® Core™ i5-1235U processor/ 12th Gen Intel® Core™ i7-1255U processor</b>  <b>No of cores:</b> 10 cores  <b>Clock speed:</b> 4.40 GHz/4.70 GHz	<b>Size:</b> 8GB/16GB/32GB  <b>Type:</b> LPDDR5 RAM	L3 12MB	Windows 11 Home	Up to 15.5 hours of typical device usage (47.7 Wh)	<b>Internal:</b> 128 GB/256 GB/512 GB/1TB  <b>Type: SSD</b>	<p>A great device for those who require the portability of a tablet and the power of a laptop in a single device.</p> <p>The long-lasting battery also enables you to work for longer periods of time without needing to recharge.</p>

Samsung Galaxy Tab S8+	<b>Size:</b> 12.4 inches  <b>Resolution:</b> 1752 × 2800 pixels	Qualcomm SM8450 snapdragon 8 Gen 1 (4nm)  <b>No of cores:</b> 8 cores  <b>Types of cores:</b> 1 × Cortex-X2 + 3 × Cortex-A710 + 4 × Cortex-A510  <b>Clock speed:</b> 1 × 3 GHz/ 3 × 2.5 GHz/ 4 × 1.8 GHz	<b>Size:</b> 8GB/12 GB/16 GB	L2 1MB L3 6MB	Android 12	Li-Po, 10090 mAh, non-removable  (37 Wh)	<b>Internal:</b> 128 GB/256 GB/512 GB/  <b>Storage can be expanded up to 256 GB with the use of a micro SD card</b>	This device is designed slim with an excellent display panel.  Multitasks better than other Android tablets.  Long lasting battery life which allows you to work on your projects for longer.
Apple iPad Mini 6	<b>Size:</b> 8.3 inches  <b>Resolution:</b> 1488 × 2266 pixels	Apple A15 Bionic chip  <b>No of cores:</b> 6 cores  <b>Types of cores:</b> 2 performance cores + 4 efficiency cores  <b>Clock speed:</b> 2.93 GHz	<b>Size:</b> 4GB  <b>Type:</b> LPDDR5	L2 12MB L3 4MB	iPadOS 16	Built-in 19.3-watt-hour rechargeable lithium-polymer battery	<b>Internal:</b> 64 GB/256 GB/  <b>Does not have an internal memory card slot</b>	This can be used for a variety of activities, including web browsing, reading e-books, watching movies, playing games, and using a selection of productivity apps using the strong A15 Bionic chip.  Compared to most smartphones, it has a larger screen, which

								is advantageous for tasks requiring additional screen space.
Amazon Fire HD 10	<b>Size:</b> 10.1 inches  <b>Resolution:</b> 1920 × 1200 pixels	Mediatek MT8183 Helio P60T  <b>No of cores:</b> 8 cores  <b>Clock speed:</b> 2 GHz	<b>Size:</b> 3 GB	Detail is not available	Android 9 (Pie), Fire OS 7	Li-Ion, non-removable, 12-hour battery	<b>Internal:</b> 32 GB/ 64 GB  <b>Storage can be expanded up to 1024 GB with the use of a micro SD card</b>	Has a faster processor considering the price of the device.  The RAM is sufficient for day to day essential tasks
Samsung Galaxy Tab A8	<b>Size:</b> 10.5 inches  <b>Resolution:</b> 1200 × 1920 pixels	Unisoc Tiger T618 (12nm)  <b>No of cores:</b> 8 cores  <b>Clock speed:</b> 2 GHz	<b>Size:</b> 2GB/ 3GB/ 4GB	L3 1 MB	Android 11	Li-Po, 7040 mAh, non-removable	<b>Internal:</b> 32 GB/ 64 GB/ 128 GB  <b>Storage can be expanded up to 1024 GB with the use of a micro SDXC card</b>	Has a solid performance thanks to the processor.  Wide display is great for video streaming  Furthermore, this device's battery has a long battery life

## Question 2:

Before choosing a device, we have to consider about our organization's requirements. Mainly, when we buy a device we consider the device's performance.

Therefore, considering all the given devices I think that [Samsung Galaxy Tab S8+](#) is more than enough for us to complete our day to day essential tasks.

**Display :** 12.4 inches with 1752 × 2800 resolution

**Processor:** Qualcomm SM8450 snapdragon 8 Gen 1 (4nm) with 8 cores. CPU frequency from 1.8 GHz up to 3 GHz

**RAM:** 8 GB/ 12 GB/ 16 GB

**Battery:** 10090 mAh

**Secondary Storage :** 128 GB/ 256 GB/ 512 GB → Expandable with the use of micro SD card

- Has a wider screen with higher resolution than most of the devices.
- The processor will allow us to execute our processes more quickly as it has the second-most cores comparatively and a higher CPU frequency.
- The RAM sizes are more than sufficient for most of our tasks.
- The battery of this device has a long battery life, which will allow us to use it for longer periods of time anywhere, anytime.
- The secondary storage with the option of a microSD card will allow us to save more of our documents, videos, images, etc. on the same device.

## References [Accessed all in May 2023]

Device 1: Apple iPad 10.2'' (9<sup>th</sup> generation)

<https://www.apple.com/ipad-10.2/>

[https://www.gsmarena.com/apple\\_ipad\\_10\\_2\\_\(2021\)-11106.php](https://www.gsmarena.com/apple_ipad_10_2_(2021)-11106.php)

Device 2: Apple iPad Pro 11'' (2022)

[https://support.apple.com/kb/SP882?locale=en\\_US](https://support.apple.com/kb/SP882?locale=en_US)

[https://www.gsmarena.com/apple\\_ipad\\_pro\\_11\\_\(2022\)-11940.php](https://www.gsmarena.com/apple_ipad_pro_11_(2022)-11940.php)

<https://www.devicespecifications.com/en/model/c7075ae0>

Device 3: Microsoft Surface Pro 9

<https://www.microsoft.com/en-us/d/surface-pro-9/93vkd8np4fvk?activetab=pivot:fulltechspecstab#tab145ea0bb9-3f2d-4972-9c84-6ec8264c05eb>

[https://en.wikipedia.org/wiki/Surface\\_Pro\\_9](https://en.wikipedia.org/wiki/Surface_Pro_9)

<https://www.intel.com/content/www/us/en/products/details/processors/core.html>

<https://techmart.lk/microsoft-surface-pro-9-12th-gen-intel-core-i5-8gb-ram-128gb-ssd-in-sri-lanka.html>

Device 4: Samsung Galaxy Tab S8+

<https://www.samsung.com/levant/tablets/galaxy-tab-s/galaxy-tab-s8-plus-5g-graphite-128gb-sm-x806bzaamea/>

[https://www.gsmarena.com/samsung\\_galaxy\\_tab\\_s8+-11342.php](https://www.gsmarena.com/samsung_galaxy_tab_s8+-11342.php)

<https://nanoreview.net/en/soc/qualcomm-snapdragon-8-gen-1>

Device 5: Apple iPad Mini 6

<https://www.apple.com/ipad-mini/specs/>

<https://www.devicespecifications.com/en/model/0754574e>

[https://www.gsmarena.com/apple\\_ipad\\_mini\\_\(2021\)-11105.php](https://www.gsmarena.com/apple_ipad_mini_(2021)-11105.php)

Device 6: Amazon Fire HD 10

<https://www.amazon.com/Fire-HD-10-tablet/dp/B08BX7FV5L>

[https://www.gsmarena.com/amazon\\_fire\\_hd\\_10\\_\(2021\)-10881.php](https://www.gsmarena.com/amazon_fire_hd_10_(2021)-10881.php)

Device 7: Samsung Galaxy Tab A8

<https://www.samsung.com/us/tablets/tab-a8/compare/?device-1=galaxy-tab-a8&device-2=galaxy-tab-s8%2B&device-3=undefined>

[https://www.gsmarena.com/samsung\\_galaxy\\_tab\\_a8\\_10\\_5\\_\(2021\)-11265.php](https://www.gsmarena.com/samsung_galaxy_tab_a8_10_5_(2021)-11265.php)