

Agha abuzar khan

by Agha Abuzar Khan

Submission date: 12-Jan-2024 11:57PM (UTC+0000)

Submission ID: 221816533

File name: 45411_Agha_Abuzar_Khan_Agha_abuzar_khan_547275_768275554.docx (1.94M)

Word count: 2002

Character count: 10933



COMPUTER SYSTEM FUNDAMENTALS

ACCA4028



AGHA ABUZAR KHAN

STUDENT ID: 2219946

[Company address]

Contents

Task 1.....		1
CPU:.....		1
Motherboard:.....		1
RAM:.....		2
Storage:		2
Case:.....		2
Power supply:.....		2
Monitor:		3
WIFI card:		3
Operating system/handbook:		3
Antivirus software:		4
Keyboard and Mouse:		4
Headset:		4
Handbook:.....		4
Price list:.....		5
Task 2.....		7
Device:.....		7
Processor (CPU):.....		7
Random Access Memory (RAM):		7
System Type:		7
Pen and Touch:.....		7
Operating System:.....		8
Storage Capacity:		9
CPU Speed:.....		10
Hard Disk Transfer Speed:		11
Graphics Performance:.....		12
Internet Connectivity:		13
Network/Internet Speeds:		14
Installed Applications:		14
Various I/O Devices:		15

Task 1

2.

3 stand for central processing unit. It is an integral part of the computer which acts as a brain of the computer. It controls every function the computer has to offer. CPU that will be suitable in this case scenario would be the Intel Core i3 10100F/3.6GHz. It provides sufficient power for everyday task and is energy efficient alongside memory support and wifi technology. There are many other options available in the market to choose from like the Intel core i7-13700kf for £384.98 which would not be necessary to choose in this case and it would be more suitable for someone who use computer for gaming as the graphics card is the main component of this CPU.



Figure 1: CPU

Motherboard:

It is important to choose a correct motherboard to keep a balance between performance and cost. It is the main circuit board that allows all the computer pieces together e.g CPU, GPU, RAM and hard drive. Alongside housing and controlling input/output ports, USB, earphone port and card readers. As the customer is an elderly individual, they do not need to overspend on a high-capacity motherboard as it will not be used in its full capacity.

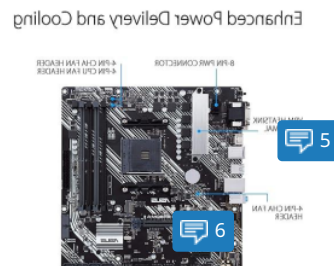


Figure 2. Motherboard

RAM:

Kingston Fury 8GB DDR4 RAM since it is one of the cheapest options with great reviews and it's ample for multitasking with basic applications. Getting a larger RAM would originally a better choice but cost wouldn't be worth it as it would be more than they would require.



Figure 3: RAM



Storage:

WD blue 250GB provides fast boot times and application loading and ensures smooth performance. Therefore, it is sufficient for the intended use.



Figure 4:



Case:

DEEPCOOL matrexx 30 is sufficient case for a small form factor.



Figure 5: Case

Power supply:

Aerocool integrator 500W meets the power needs of the equipment. Also, it is cost effective.



Figure 6: Power Supply

Monitor:

ASRock cl25FF 25inch monitor provides a decent size screen and high resolution. It essentially makes it user-friendly and easy on eyes because of its better colour reproduction and viewing arrangement.



Figure 7: Monitor

WIFI card:

A Cudy New AX3000 wifi card can be added to increase better connectivity for the internet.



Figure 8: Wi-Fi Card

Operating system/handbook:

Windows 11 – A latest version for windows, which is cost effective and user-friendly to complete everyday basic tasks and learning Microsoft windows.



Figure 9: Operating System

Antivirus software:

McAfee – A reliable and reputable antivirus which is cost effective and compatible with most operating systems.

Keyboard and Mouse:

A wired Logitech K120 keyboard and Genius DX-110 mouse would be the right choice in this scenario as it avoids the connectivity issues one can face to connect it to the PC.



Figure 10: Devices

Headset:

Since they wish to watch videos and make skype calls, for better voice quality and to cancel noise it is best to use headphones. GBL quantum 200 wired headsets are easy to connect to the PC.



Figure 11: Headset

Handbook:

After research there were no viable courses on Windows 11 and any tutorial videos were online. So, to simplify the process of learning, a plain and simple handbook for elderly will be a great fit.

Price list:

Table 1: Price List

Unit	Component	Model/Specification	Cost
1	CPU	Intel Core i3-10100	£69.00
1	Motherboard	ASUS Ryzen PRIME B450M-A II	£74.99
1	RAM	Kingston Fury beast 8GB DDR4	£34.63
1	Storage	WD Blue 250GB	£14.99
1	Case	DEEPCOOL Matrexx 30	£32.99
1	Power supply	Aerocool Integrator 500W	£24.05
1	Monitor	ASRock cl25ff 25inch	£98.99
1	Wifi card	Cudy New AX3000 Wireless	£25.00
1	Operating system	Microsoft Windows 11 home USB	£109.99
1	Antivirus software	McAfee	£26.99
1	Keyboard	Logitech keyboard K120	£12.50
1	Mouse	Genius DX-110	£6.49
1	Headset	GBL quantum 200	£39.99
1	Handbook	Windows 11 handbook for seniors	£11.99
		Total cost	£582.59

A total cost to set up this PC is £582.59 which is a decent price to build a PC of your own choice with personalised requirements. In this specific case scenario, a mid-range CPU and motherboard would be suitable to cover the minimum requirement for the client wishes to do. It is not overly priced or high specification in comparison to what else is available in the market. 8GB RAM is more than adequate for the use of the computer. Since there was not a big price difference between 4GB and 8GB RAM it was more appropriate to use 8GB in case PC was used more activities in the future. A 250GB storage provides a sufficient space for the user's requirements and ensures that they have sufficient storage available to save pictures or videos sent from friends and family. 250GB storage will also help the system to run efficiently and respond quickly. Integrated graphics system is suitable for no gaming users, eliminating the need for a dedicated GPU. DEEPCOOL matrexx 30 is a compact and Aerocool integrator 500W is an efficient power supply. It matches the requirement for a small form factor. A 25Inch

Monitor is sufficient in this case as it will provide a clear view of the screen with font and images to a large size and easy to navigate. ASRock cl25ff also provides high resolution video quality ensuring that client has a good video quality experience. A suitable Wifi connection will suffice the need for internet connectivity and helps them place the PC in a convenient place without hazardous trailing wires. Internet connectivity is also essential for the users' need in this case as they will to watch videos and browse internet. A wired keyboard and mouse were chosen to make it more convenient for the user as there can be connectivity issues with Bluetooth devices. The keyboard is also wide enough for user to easily use. Microsoft Windows 11 is the latest version of operating system available in the market. Since, there is not a big price difference between Windows 10 and Windows 11 price, it was best to get the latest version. It is also super friendly to use and easy to install by plugging in a USB stick and following step by step instructions. It is also crucial to have an up-to-date operating system to ensure that their PC runs smoothly. Since, we have invested a significant amount of money into building a PC it would make sense to have a high-quality anti-virus software in place which is why I choose McAfee software as it is a reliable and cost effective. Anti viruses keep your computer safe from malware, viruses and hacking and therefore is important to have as part of your system.

This system caters to user's specific needs and keeps the cost reasonable and ensure a smooth and efficient computing experience.

Task 2

For this task, I am using the Laptop of my friend and will be discussing the specifications of his laptop. My friend uses his laptop for personal and professional purposes. Since, he is a data scientist and has to use complex and advanced software, tools and programming languages. Therefore, the system specifications of this laptop are in accordance with the usage. The system is primarily used for coding machine learning and data science algorithms using python programming language on visual studio software. In addition to that, numerous data analytical and visualization software are also frequently used. Moreover, there is also a need to store large amounts of data.

Device:

The system being discussed is a Dell Laptop.

Processor (CPU):

The laptop is based on Intel(R) Core(TM) i7-10750H CPU. This means that the system uses a registered i7 intel class processor as its central processing unit. This is a very powerful processor and is also found in gaming laptops.

Random Access Memory (RAM):

The system has an installed RAM of 16 GB which is enough for usage in the field of data science.

System Type:

The system is a 64 bit operating system type. This refers to the amount of data that the CPU of this system can easily process while running an operation. This system can easily process 16 exabytes of information.

Pen and Touch:

The display of this system is also pen and touch capable.

The above mentioned specifications were taken from:

Control Panel > System & Security > System > About > Device Specifications

Figure is a screenshot of the above mentioned page containing all the discussed specifications.

Device specifications	
Device name	DESKTOP-A8Q7L1B
Processor	Intel(R) Core(TM) i7-10750H CPU @ 2.60GHz 2.59 GHz
Installed RAM	16.0 GB (15.8 GB usable)
System type	64-bit operating system, x64-based processor
Pen and touch	Touch support with 10 touch points

Figure 12: Device Specifications

Operating System:

The system has Windows 11 installed as its operating system.

The above mentioned specification was taken from:

Control Panel > System & Security > System > About > Windows Specifications

Figure is a screenshot of the above mentioned page containing specifications regarding the Operating System.

Windows specifications	
Edition	Windows 11 Home
Version	22H2
Installed on	6/25/2023

Figure 13: Windows Specifications

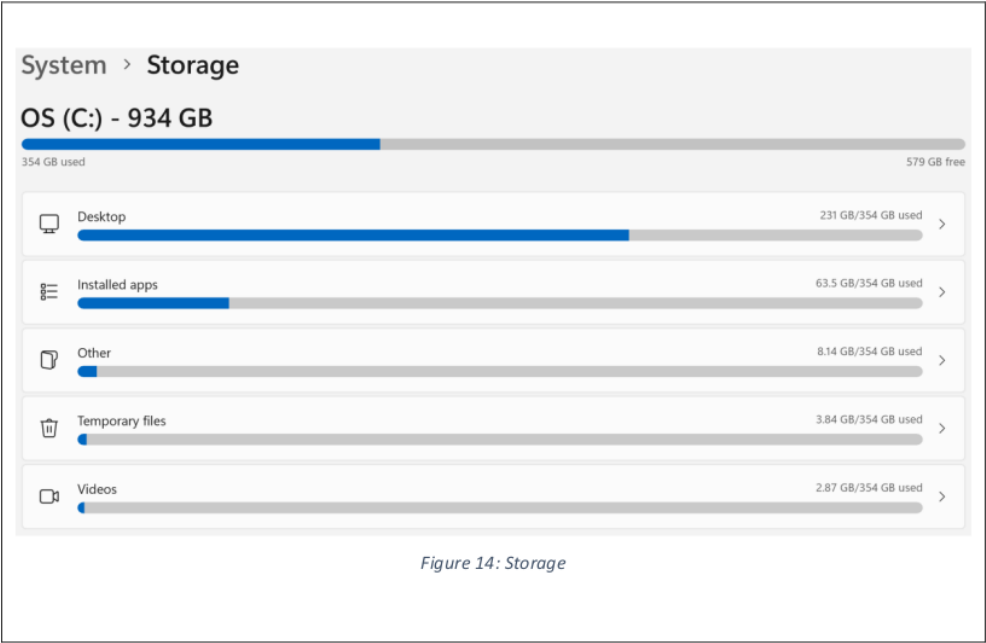
Storage Capacity:

The storage capacity of this system is approximately 1 Terabyte. Currently, 354 Gigabytes of the hardware storage capacity is in use and the remaining space is free to be used further.

The above mentioned specification was taken from:

Control Panel > System & Security > System > Storage

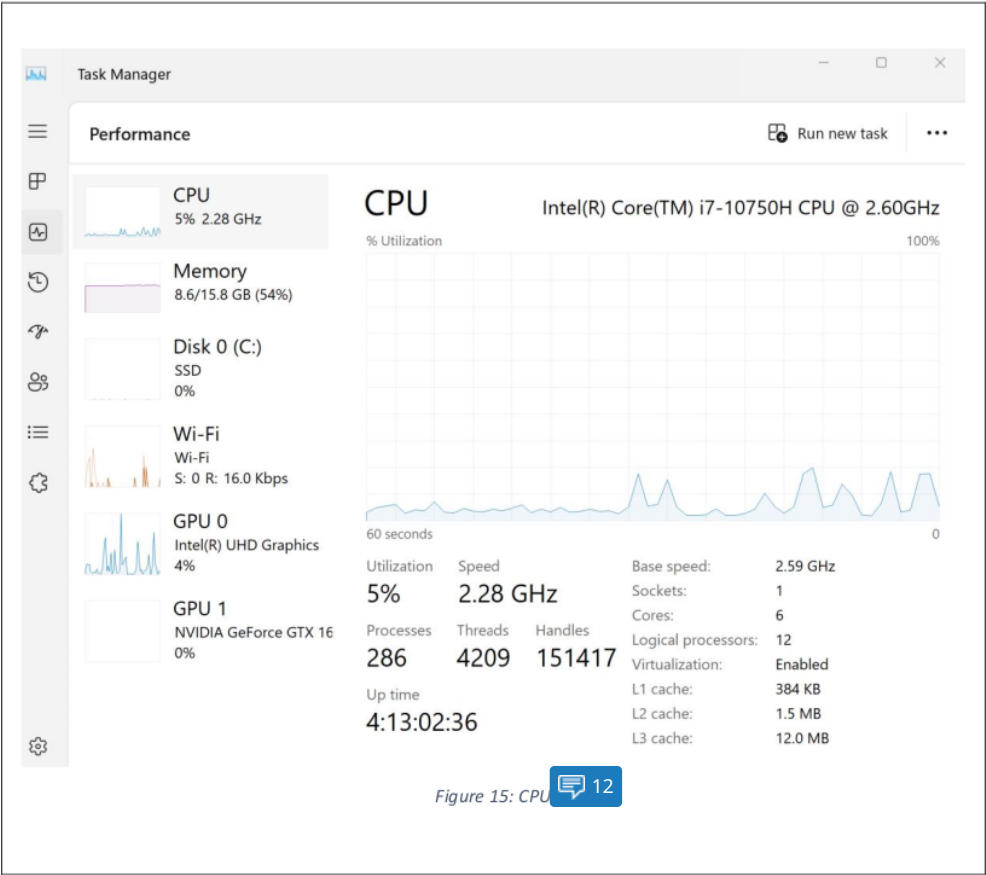
Figure is a screenshot of the above mentioned page containing specifications regarding the Operating System.



CPU Speed:

The base speed of the central processing unit of the system is 2.59 GHz with 6 cores and 12 logical processors.

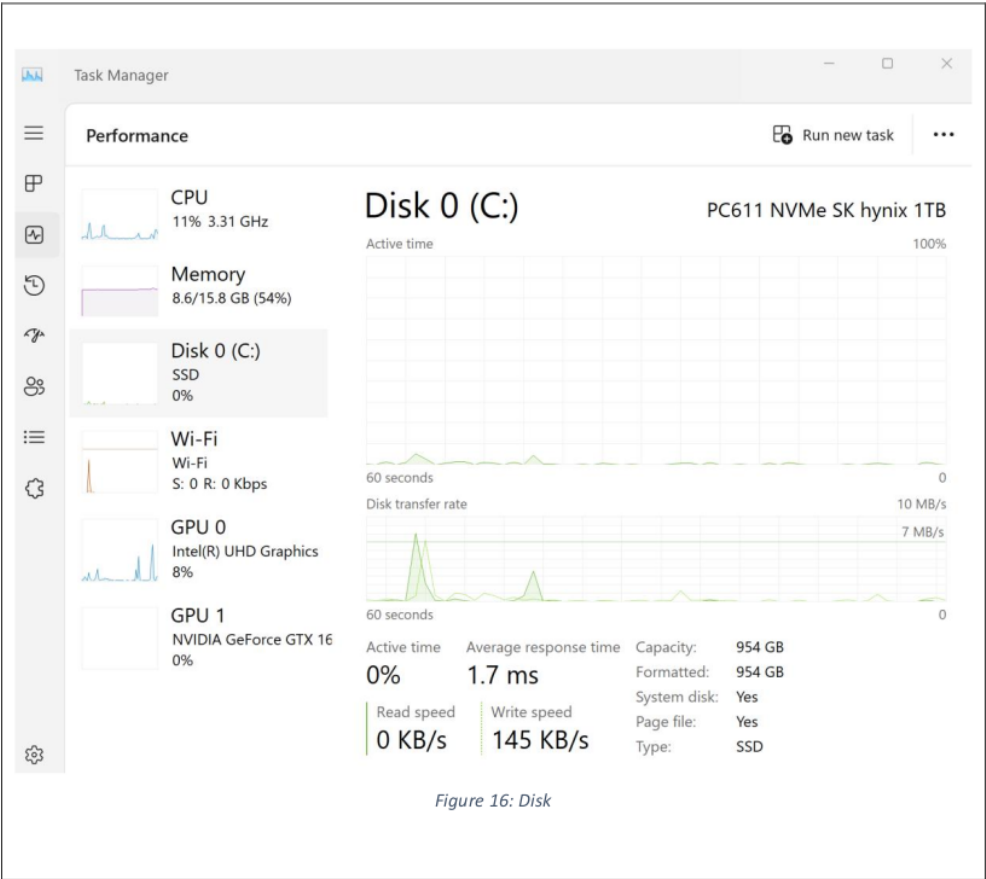
The above mentioned specification was taken from the CPU section of the Performance tab of the Task Manager as shown in Figure.



Hard Disk Transfer Speed:

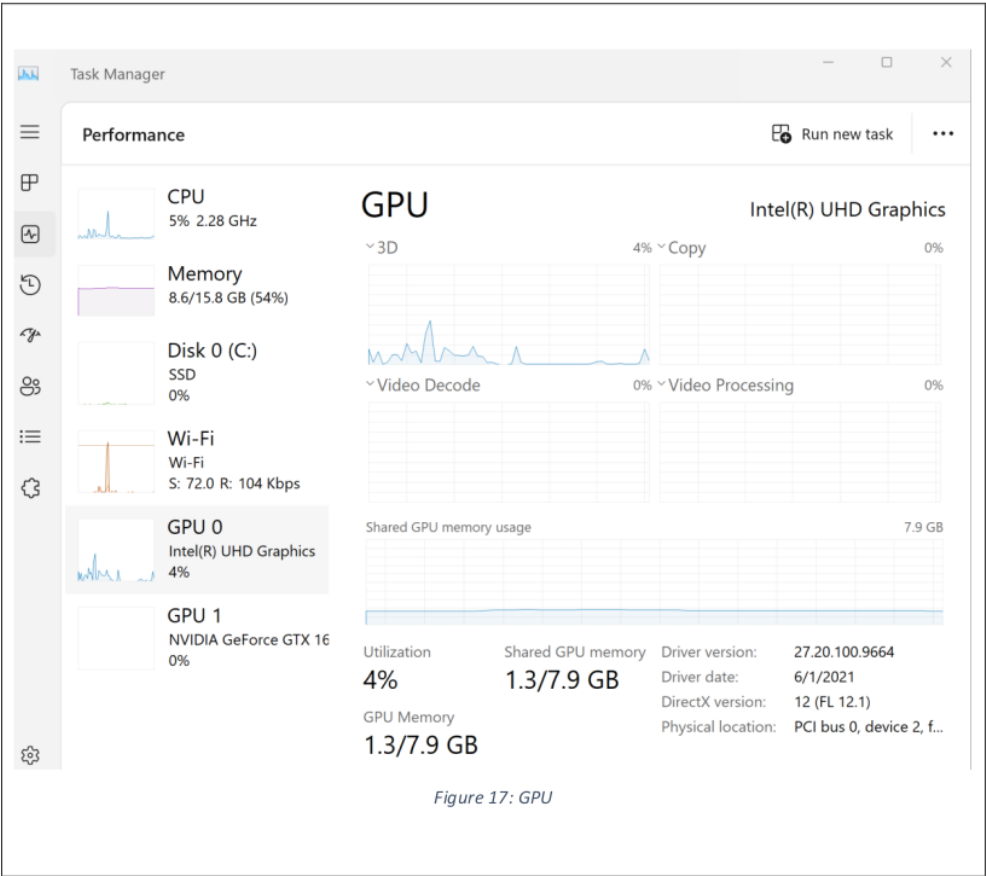
The hard disk transfer rate of the system is 10 MB/s as shown in Figure which is taken from the Disk section of the Performance tab of the Task Manager.

13



Graphics Performance:

The Graphics Performance Unit of the system has an allocated memory of 7.9 GB and is enough for the usage of the system as it is never fully used. The performance of the graphics is shown in **Figure 14** which is taken from the GPU section of the Performance tab of the Task Manager.



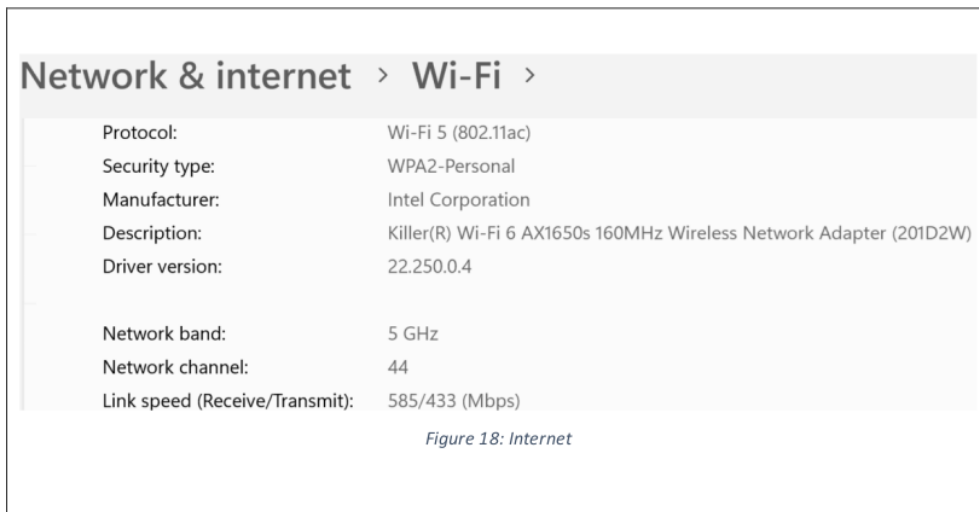
Internet Connectivity:

The internet normally used for the system has a link speed of 585/433 Mbps and is enough for the usage.

The above mentioned specifications were taken from:

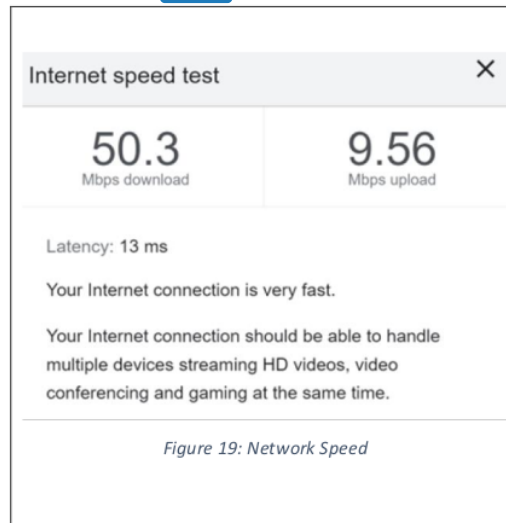
Control Panel > Network & Internet > Wi-Fi

Figure 15: Screenshot of the above mentioned page containing all the specifications related to the internet connection.



Network/Internet Speeds:

The download internet speed of the internet being normally used by this system is 50.3 Mbps and the upload network speed is 9.56 Mbps. The internet speed was taken from an online Internet speed test as shown in Figure 16



Installed Applications:

The most usable applications installed in this system are:

- Microsoft Office Suite (containing MS word, excel, power point, outlook, etc.)
- Visual Studio (used to run programming algorithms and codes)
- PyCharm (used specifically for running python programming language codes)
- Anaconda (used for virtual environment and library packages for python programming)
- Multiple Programming Languages (installed languages including; python, C++, C#, R, etc.)
- PostgreSQL (database for data storage)
- Tableau (software used for data analysis and visualization)
- Adobe Acrobat Reader (used to read and edit pdf format files)
- Google Chrome and other web browsers (for online browsing)

Various I/O Devices:

Additional advices used for convenience includes:

- Wireless Keyboard and Mouse
- Headsets
- Built-in Web Camera



REFERENCES:

Fig 1: https://m.media-amazon.com/images/I/61m1lZf82OL._AC_SL1500_.jpg



Fig 2: https://m.media-amazon.com/images/I/91FFsVjjzL._AC_SY450_.jpg

Fig 3: <https://img.ebyrcdn.net/1032601-1265313-800.jpg>

Fig 4: https://m.media-amazon.com/images/I/71reIT1ZzgL._AC_SX450_.jpg

Fig 5: <https://www.awd-it.co.uk/media/catalog/product/3/0/3038979-1-a.jpg?optimize=high&bg-color=255,255,255&fit=bounds&height=&width=&canvas=:>

Fig 6: https://www.awd-it.co.uk/media/catalog/product/i/n/integrator500_2.jpg?optimize=high&bg-color=255,255,255&fit=bounds&height=&width=&canvas=:

Fig 7: [https://www.asrock.com/Monitors/photo/CL25FF\(L1\).png](https://www.asrock.com/Monitors/photo/CL25FF(L1).png)

Fig 8: https://m.media-amazon.com/images/I/61SLf5e87CL._AC_SL1257_.jpg

Fig 9: https://cdn-bjdfc.nitrocdn.com/IXZjKPhBhHIMRHTvQCCdgVgYoaFycguy/assets/images/optimized/re-v-e32ad4b/www.totalityservices.co.uk/wp-content/uploads/2021/06/windows_11-1024x576.jpg

Fig 10: https://m.media-amazon.com/images/I/51nKw8Bv9+L._AC_SL1500_.jpg

Fig 11: https://m.media-amazon.com/images/I/61VjbMIQz7L._AC_SL1050_.jpg

Fig 12: https://m.media-amazon.com/images/I/61vWiCThSHL._AC_SL1500_.jpg

FINAL GRADE

GENERAL COMMENTS

83/100

PAGE 1

PAGE 2



Comment 1

Good work

PAGE 3



Comment 2

It is better to start with an introduction or abstract



Comment 3

It is
better to number each heading



Comment 4

You
have included a figure without mentioning it in the text. You should refer to the figure in the text, otherwise it is not worth including as the reader will not know what it relates to.



Comment 5

There would be an issue in pasting this image



Comment 6

You
have included a figure without mentioning it in the text. You should refer to the figure in the text, otherwise it is not worth including as the reader will not know what it relates to.

PAGE 4



Comment 7

You
have included a figure without mentioning it in the text. You should refer to the figure in the text, otherwise it is not worth including as the reader will not know what it relates to.



Comment 8

You
have included a figure without mentioning it in the text. You should refer to the figure in the text, otherwise it is not worth including as the reader will not know what it relates to.

PAGE 5



Comment 9

You
have included a figure without mentioning it in the text. You should refer to the figure in the text, otherwise it is not worth including as the reader will not know what it relates to.

PAGE 6



Comment 10

You
have included a figure without mentioning it in the text. You should refer to

the figure in the text, otherwise it is not worth including as the reader will not know what it relates to.

PAGE 7



Comment 11

good work

PAGE 8

PAGE 9

PAGE 10

PAGE 11

PAGE 12



Comment 12

You have included a figure without mentioning it in the text. You should refer to the figure in the text, otherwise it is not worth including as the reader will not know what it relates to.

PAGE 13



Comment 13

Figure number

PAGE 14



Comment 14

figure number

PAGE 15



Comment 15

figure number

**Comment 16**

figure number

**Comment 17**

The report would have been enhanced by the inclusion of screenshots depicting various windows.

**Comment 18**

It is better to number the references

GRADING FORM: GRADING

AGHA ABUZAR KHAN

83

ENGAGEMENT WITH LITERATURE

*Marks will be awarded based on the extent of research and/or own reading, selection of credible sources, application of appropriate referencing conventions. Your research sources should extend beyond simply using the links provided in the moodle content. You **MUST** include evidence of sources that you have discovered yourself during the course of your own student centred work.*



Engagement with a wide range of literature, including sources retrieved independently.

3

Generally sound referencing, with no/very few inaccuracies or inconsistencies. Citations and referencing require improvement.

KNOWLEDGE AND UNDERSTANDING

Marks will be allocated based on the demonstration and extent of knowledge and understanding of the general concepts and underlying principles covered in this module.



Exceptional, detailed knowledge and understanding of the basic underlying concepts and principles of Computer System Fundamentals, which is evident through the description on the experimental setups, calculations and theoretical explanation.

27

COGNITIVE AND INTELLECTUAL

This section covers your ability to look at the alternative solutions, and provide solid justification as to why your chosen components are the most suitable compared to others.



Excellent evaluation of the underlying concepts and principles of Computer System Fundamentals. Can interpret data accurately and with some insight. Excellent ability to devise arguments using evidence and make appropriate and valid judgements is evident from the description.

20

PRACTICAL SKILLS

This section will allocate marks based on the real life practicality of overall system. Have you come up with a sensible, balanced, usable system with no obvious omissions or unsuitable choices etc.



Exceptional levels of application and deployment skills in Computer System Fundamentals. Outstanding identification of problems.

17

TRANSFERABLE SKILLS FOR LIFE

This section will be assessed based on the written and presentational quality of the report. Style, structure, grammar, spelling etc. Make sure it conforms to the layout conventions previously discussed in class.



The report exhibits a high level of structure and coherence. Presentation is clear, contributing to a very good overall quality. Demonstrates strong transferable skills for life and professional practice.

16