

UNIT 1

1. Circle **two** items which are internal hardware components.

Actuator	Keyboard	Linker	Monitor
Mouse	Printer	Processor	Sound card

[2]

2.

One component of the internal memory of a computer is Random Access Memory (RAM).

State **two** characteristics of RAM.

- 1 .. RAM can be read from and written to
..... RAM is volatile memory
..... RAM is temporary storage
- 2

[2]

3. A smartphone has many uses, for example making and receiving telephone calls.

Give **four** other uses of a smartphone.

- 1 Global Positioning System//satellite navigation
-
- 2 Calendar.....
-
- 3 Video calling
-
- 4 Social networking
-

[4]

4.

A computer system consists of both hardware and software.

(a) Explain what the following types of software provide in the computer system.

Applications This provides the services that the user requires to solve a task.

..... It Allows the user to perform a task.

System This provides the services that the computer requires to operate
..... It controls the hardware and software

..... This provides a link between the user and the hardware

[2]

(b) Give **two** examples of each type of software.

(i) Applications

1 Word processing software

2 Spreadsheet

[2]

(ii) System

1 Compilers

2 Linkers

[2]

5.

There are two forms of data: analogue and digital.

Contrast analogue and digital data.

Analogue data is continuous

It is in waveform

It has Low bandwidth

Digital data is discrete

It is in the form of 1s and 0s/binary

It has high bandwidth

[4]

6.

Computers contain a Central Processing Unit (CPU).

Describe the role of the CPU in processing instructions to produce an output.

It controls all CPU operations

It controls the input and output devices

It controls the movement of data within the computer

It retrieves instructions

It retrieves data from memory

It decodes instructions

[4]

7.

A doctor uses a gesture-based user interface.

State **two** other types of user interface.

1 Command line interface

2 Graphical user interface

[2]

8.

Augmented Reality can be used with a Global Positioning System (GPS) device.

(a) State **two** other uses of Augmented Reality.

- 1 Gaming
- 2 AR glasses in healthcare

[2]

(b) Describe the differences between Augmented Reality and Virtual Reality.

AR uses a real-world setting whereas VR only enhances a fictional reality.

AR can be accessed with a smartphone whereas VR usually requires a headset device

[2]

9. (a) Discuss the advantages and disadvantages of using desktop computers rather than tablet computers for doing work at home.

ADVANTAGES

All the peripherals are separate therefore easier to customise to user's needs.

All the peripherals are separate therefore it is easier to repair.

Connected to the mains electricity therefore no battery issues.

Tends to have a stronger internet signal as it can use wired connections.

More expandable.

DISADVANTAGES

It is more difficult to move around and also it has as a larger footprint.

It has trailing leads therefore can be a safety issue

If there is a power outage the unit will lose power instantly whereas the tablet may operate for longer.

The tablet can use wifi and 4/5/6G whereas the desktop tends to use wifi or wired.

[6]

10.

Circle **two** internal hardware components.

Actuator

Cloud

DVD

HDD

Motherboard

Printer

ROM

SD Card

[2]

11.

One benefit of using a command line interface (CLI) is that it uses less computer memory.

(a) State **two** other benefits of a command line interface (CLI).

1 Experts can operate the user interface faster.

2 Does not require a high resolution monitor and aslo requires less processing power to run the CLI.

[2]

(b) State **two** other types of user interface.

1 gesture based

2 graphical user

[2]

12.

1 Circle **two** items of internal memory.

Actuator

Cloud

DVD

Memory stick

Printer

RAM

ROM

Sensor

[2]

13.

An organisation has provided laptops for its sales team to use when working at home and in the office.

(a) Give **two** benefits to the employees of using these laptops for their work.

Benefit 1 **Data can be stored on the laptop**

.....

Benefit 2 **Does not require the use of external storage devices when**
transferring data to and from the office

[2]

(b) Give **two** issues that may arise from providing employees with these laptops.

Issue 1 **Laptop can be lost/stolen in transit**

.....

Issue 2 **Laptop can be more easily damage**

.....

[2]

14.

Virtual reality can be used when training for sports.

(a) State **two** other uses of virtual reality.

1 **Gaming**

.....

2 **Example of training systems**

.....

[2]

(b) Discuss the impact of virtual reality on everyday life.

People can be trained allowing them to practice over and over until they have perfected a particular task

People can be trained in a virtual environment without risk to themselves/others.

Allows training in dangerous situations where it is impossible to practice the real thing.

Can give people a much more interactive experience when they are trained.

Allows people to retain knowledge much better than reading about it in a book/training room.

Confusion between real life and the game.

Causes headaches/eye strain/motion sickness/falling over.

Can become addicted to gaming with this system.

[6]

15.

One difference between a command line interface (CLI) and a graphical user interface (GUI) is that a GUI takes up more memory.

(a) State **two** other differences between a CLI and a GUI.

1 GUI is a WIMP system and More user friendly

2 In CLI the user has to type in commands
The user needs a good knowledge of commands

[2]

(b) State **two** other types of user interface.

1 Dialogue based

2 Gesture based

[2]

A college principal has decided that students can use mobile devices to take notes in lessons. Some students use laptop computers whilst others use smartphones.

- (a) Describe the benefits and drawbacks of using laptop computers rather than smartphones for this purpose.

Benefits of using laptop computers

It has a large screen making it easier to read back the notes.

The software used is more compatible with other devices.

More ports on a laptop therefore easy to transfer data.

Has a large/separate keyboard therefore less errors on data entry

Drawbacks of laptop computers

Laptops are less portable

More difficult to take pictures using a laptop

Laptops need a flat surface to work on

[4]

16. (a) Explain the differences between virtual reality (VR) and augmented reality (AR).

Virtual Reality is completely computer generated world whereas

Augmented Reality combines both the virtual and real world

Virtual Reality may require a headset whereas Augmented Reality can be accessed with a smartphone

[2]

(b) Discuss the impact of augmented reality (AR) on everyday life.

It can help people connect with others to improve communication skills.

Overlays warnings on the display therefore leads to safer activities.

Using it in (interactive) gaming could allow people to have a better experience of the game.

Could damage social relationships/skills as it removes face to face interaction.

On screen information could be distracting.

Allows us to interact with various characters/situations in real-time but not necessarily the real life.

[6]

17.

One of the benefits of a Graphical User Interface (GUI) is that it is user friendly.

(a) State two other benefits of a GUI.

1 Uses a WIMP system

2 It can be customised

Don't have to learn commands

[2]

18. Artificial Intelligence (AI) is having an impact on everyday life. Social media now uses AI for many tasks.

(a) State what is meant by Artificial Intelligence (AI).

It's a computer system

It can simulate human intelligence

.....

.....

.....

[2]

(b) Evaluate the impact of Artificial Intelligence (AI) in the use of social media.

It targets advertisements allows advertisers to attract more relevant customers but targetted adverts may not be relevant

.....

Allows for better content on the site as customised to the user

.....

Makes it easier to locate/communicate with people therefore improve communication skills

.....

It can easily detect spam

.....

.....

.....

.....

[4]