**COMPUTER STUDIES**

**MARKING SCHEME**

**FORM 1 END TERM 3 2022**

1. **Using arrows, match the following generations of computers with the technology which they relied on.**

**GENERATION TECHNOLOGY**

First Generation VLSI

Second Generation Thermionic valves

Third Generation ICs

Fourth Generation Transistors (4x1 marks)

1. **Give three advantages of the second generation computers.**
* *They were smaller in size compared to first generation.*
* *They more reliable.*
* *They generated less heat.*
* *They were less prone to hardware failure. (3x1 marks)*
1. Identify three major categories of computer hardware**:** (3x1 marks)
* *Input devices*
* *Output devices*
* *Central Processing Unit*
* *Storage devices*
1. **The illustrations below represent two orientations of a very important part of a desktop computer. Study them to answer the questions below:**

**A**

**B**

1. *Name the object represented in the above images.*
* System unit (1 mark)
1. *Identify the orientations represented in orientations* ***A*** *and* ***B****.*
* A: Tower Orientation B: Desktop orientation (2x1 marks)
1. Give four components that are houses inside the object represented in the above images.

 (2x1 marks)

*Random Access MEMORY*

*Central Processing Unit*

*CMOS battery*

*Expansion slots*

*Hard disk*

*Drives*

*Power supply unit*

5) Give three reasons why a mobile phone is regarded to be a computer.

*- It is electronic \* uses electric energy to operate*

*- It has a display unit (screen)*

*- It has a keypad*

*- It has a memory for storage*

*- It is programmable*

6. (a) Define the term ‘ computer laboratory’. (2mks)

- *A computer laboratory is a room that has been specially prepared to facilitate installation of computers, and provide a safe conducive environment for teaching & learning of Computer studies.*

(b) Give two factors to be considered when preparing a computer laboratory. (2mks)

*- Security of computers*

*- Reliability of the source of power*

*- Number of computers to be installed and the amount of space available*

*- The maximum number of users that the laboratory can accommodate*

7. a) List down three safety precautions one should observe when entering a computer laboratory. (3mks)

*- Avoid smoking or exposing computers to dust*

*- Avoid carrying foods & drinks/ beverages to the computer room*

*- Avoid unnecessary movements as you may accidentally knock the peripheral devices*

*- Only authorized people should enter the computer room*

*- Computers users should be trained on how to use computers frequently*

*- Computer illiterates should not be allowed to operate the computers*

*- collect any waste papers which might be lying in the computer room & put them into the dustbin*

*- Shut the door of the computer room properly*

b). Identify three facilities that will ensure proper ventilation in a room. (3mks)

 *- Large & enough windows and doors*

 *- Installing fans*

 *- Installing air conditioning system*

 *- Avoid overcrowding of either machines or people in the room*

 8. State three reasons for warm booting your computer. (3 marks)

* *During the installation of hardware for the drives to be activated.*
* *During the installation of a new software for the installation to complete.*
* *When a program encounters an error.*
* *When a computer hangs or fails to respond.*
* *When switching between operating systems.*

9. (a) State two reasons why a computer needs to be connected to a stable power supply.(2mk)

 *- To prevent damage to the computer’s secondary storage media*

*- To avoid damage and loss of important data or information such as application software stored on the media*

 *- Prevent loss of data/ information that had not been saved before the failure*

 (b) List down four functions of the uninterruptible Power Supply (UPS) (4mks)

 *- It prevents sudden power surges that might destroy the computer*

 *- It supplies power to the Computer during blackouts and brownouts*

 *- It provides stable (clean) power supply*

 *- Alerts the user of power loss (by beeping)*

 *- Allows the user to save his/ her work, and switch off the system using the correct procedure*

10. Mention two things that are likely to cause strain- in the computer room

 *- Poor lighting of the room*

 *- Bright monitors*

 *- Flickering monitors*

 *- Very bright wall paints reflect too much light*

1. (a) What is a peripheral device?
* *They are connected to system unit using cables called data interface cables that carry data and information to and from the devices.* (1 mark)
1. *Give* ***three*** *examples of* ***common*** *peripheral devices.*
* *Keyboard*
* *Mouse*
* *Monitor*
* *Printer* (3x1 marks)
1. What is the difference between analog and digital computers?
* *Analog process data in continuous form while digital process data in discrete form. (2x1 marks)*
1. Give two reasons why smaller computers like laptops tend to be more expensive than desktop computers.
* *The technology of producing smaller devices is expensive.*
* *Convenience because of their portability. (2x1 marks)*
1. Computers are classified using three criteria namely, functionality, purpose and physical size. In each of these classes, name and describe:

 *(a)* ***Three*** *types of computers under classification by* ***functionality****.*

* 1. Analog computers
	2. Digital computers
	3. Hybrid computers (3x2 marks)

 *(b)* ***Three*** *types of computers under classification by* ***purpose****.*

1. General purpose
2. Special purpose
3. Dedicated purpose (3x2 marks)

 *(c) Four types of computers under classification by physical size.*

1. Super computers
2. Mainframe
3. Mini computers
4. Micro computers (4x2 marks)
5. **(a) Explain the meaning of the following mouse techniques:**

 *(i) Clicking*

* Means pressing and releasing the left mouse button once. (1 mark)

 *(ii) Dragging*

* press and hold down left button and the move the mouse to the new location (1 mark)

 *(iii) Drop*

* release the button immediately after dragging the item to the new location (1 mark)

 *(iv) Right clicking*

* Pressing the right hand side mouse button once. (1 mark)

 *(b) Describe three categories of keys found on the keyboard.*

* Functions keys – F1 to F12.
* Alphanumeric (Tying) keys – labelled A – Z, Caps lock, Enter keys, Tab key, Spacebar, backspace etc.
* Cursor movement (Navigation) & Editing keys – arrow keys, Page up and Page down, Home and end keys, Edit keys, Insert key, Delete
* Special keys – Shift, Ctrl, Alt, Esc etc.
* Numeric keys – 0 to 9, +, “, /, - (stating=1, describing/examples = 1, 3x2 marks)

 *(c) Describe the following terms as used in computers:*

 (i) Cold booting (1 mark)

* Cold booting is starting up a computer while.

 (ii) Warm booting

* A computer that has been turned off but the previous state is stored for easy access of the work that one was previously doing. (1 mark)

**(d) Define the following terms (5 marks)**

 (i) Information

* *Refers to data which has been processed*

 (ii) Processing

* *Refers to the way data is manipulated to turn into information e.g. arithmetic operation, addition subtraction etc.*

 (iii) Input

* *What a computer receives as raw data to process*

 (iv) Data

* *A mass of raw unprocessed facts*

 (v) Storage

* *Saving of information for future reference*

16. (a) What is a softcopy output? (1 mark)

 *Output that can be listened to or viewed. The output is not tangible.*

 (b) Give four differences between an impact and non-impact printer. (4marks)

|  |  |
| --- | --- |
|  *Impact*  | *Non-impact* |
| *Speed of printing is slow* | *Speed of printing is high* |
| *Use inked ribbons, which may be black or colored* | *Use electrostatic or thermal principles* |
| *Multiple copy production is possible when carbonated paper is used* | *Multiple copy production is almost impossible*  |
| *Cheaper to buy and maintain. The ribbons are not expensive.* | *Costly to purchase and maintain. The tonners and cartridges are expensive* |
| *Noisy printers*  | *Quiet printers*  |

 (c) Give five differences between a CRT and flat panel screen. (5 marks)

|  |  |
| --- | --- |
|  *CRT* | *Flat Panel Screen* |
| *It is bell shaped*  | *The screen is flat shaped* |
| *Has poor resolution*  | *Has a high resolution*  |
| *Produces a high amount of radiation*  | *Produces a low amount of radiation* |
| *Consumes more power*  | *Consumes less power*  |
| *Emit a lot of light*  | *Emit very little light*  |
| *Heavier, hence less portable* | *Light, hence portable* |
| *Occupies more space* | *Occupies less space.*  |
| *Cheaper*  | *Expensive*  |

(d) State five reasons why one may go for a hardcopy output. (5 marks)

* *One may need to sign a document, for example a letter.*
* *One may need to read the work away from the computer.*
* *In anticipation of a power blackout.*
* *It is necessary for physical record keeping.*
* *One may want to scan, photocopy or fax a document.*
* *Some users have difficulties reading from the monitor, they experience eyestrain.*
* *Hardcopies are important backups in case the softcopy gets corrupted or the computer system crashes.*

17. a) What do the following acronyms mean in full: (2mks)

i) VDU = *Video Display Unit*

ii) LCD = *Liquid Crystal Display*

iii) VGA = *Video Graphics Adapter*

iv) XGA.= *Extended Graphics Array*

b). State any five factors to consider when choosing a printer. 86 (5mks)

* *Cost-*
* *Speed and the workload available*
* *Technology used – impact and non-impact*
* *Range of capabilities*

c) i) Briefly define a computer bus. (2mks)

* *It is a communication path within which the computer allows different elements of the computer to communicate with each other.*

ii) Describe three types of computer buses. (6mks)

* *Data bus*
* *Address bus*
* *Control bus*

iii) What is a drive? (2mks)

* *It is a computer device for reading data from or writing data into a storage media.*

 iv) State four types of computer drives. (4mks)

* *Hard disk drive*
* *Floppy disk drive*
* *USB port*
* *CD-ROM drive*
* *DVD-ROM drive*
* *Zip drive*