**COMPUTER STUDIES**

**FORM 1 END TERM 2 – 2024 EXAMINATION**

**MARKING SCHEME**

1. a) What is a peripheral device? [1mk]

* ***Peripheral devices*** *are the elements (components) connected to the system unit so as to assist the computers satisfy its users.*
* ***Peripheral devices*** *are the elements (components) connected to the system unit via the data interface cables.*

b) Name four examples of peripheral devices. [2mks]

* *keyboard, mouse, monitor, printer, storage device, microphone etc.*

c) Differentiate between data interface cable and power cable. [4mks]

* *Data interface are used to connect a device to the computer system and are used to carry data power cable are used to transmit power.*

d) List three types of interface cables. [3mks]

* *Serial*
* *parallel*
* *VGA cable*
* *HDMI*
* *Firewire cable*
* *USB cable*

2. Name four characteristics of a computer. [4mks]

* *Accuracy*
* *Versatile/flexibility*
* *Diligence*
* *Memory /vast storage*
* *Speed*
* *Reliability*

3. State four characteristics of the fifth generation of computers. [4mks]

* *Technology used is superconductor and parallel processing*
* *Voice recognition input devices introduced such as microphone*
* *Artificial intelligence was introduced*
* *Internet introduced*
* *Distributed computing system has been introduced*
* *Small, but high capacity storage device called*
* *Speed*
* *Portability*
* *Emitted very little or negligible*
* *Easy to use and maintain*
* *Software user-friendly*

4. Name four mouse techniques and give the function of each. [8mks]

* Double click- *open a program*, *select a word*
* Click- *select an item, execute a command*
* Right click- *opens a context sensitive menu*
* Drag and drop- *move an item from one place to another.*

5. Name three categories of keyboard keys. [3mks]

* *Alphanumeric*
* *Number*
* *Numeric keypad*
* *Cursor movement and editing keys*
* *Special purpose keys*
* *Function keys*

6. State three facilities that will ensure proper ventilation in a computer laboratory. [3mks]

* *Large & enough windows and doors*
* *Installing fans*
* *Installing air conditioning system*
* *Avoid overcrowding of either machines or people in the room*

7. Explain the following power related problems experienced in the computer lab. [6mks]

* Brownout- *this is a partial blackout. It is the condition whereby there is low voltage flowing to the system.*
* Blackout-*this is the situation where there is no current flowing to the system.*
* Power surge-*is a condition where there is high voltage flowing to the system.*

8. Name three ways of classifying computers, giving an example for each category. [6mks]

* *Functionality – analog, digital and hybrid*
* *Physical size and processing power- supercomputer, mainframe, mini and microcomputer.*
* *Purpose – general and special purpose*

9. Explain the following components of a computer system.

Hardware [2mks]

* *The physical components of a computer which are tangible.*

Software [2mks]

* *A set of instructions that guide the computer in each and every activity during data processing.*

Liveware

* refers *to the computer user.* [2mks]

10. a) Give two functions of an input device. [2mks]

* *Accepts data from the medium in which it is stored*
* *Convert data from human readable form to computer/machine readable form*
* *Transmit the data to the computer for processing.*

b) List six examples of input devices. [3mks]

* *mouse, keyboard, joystick, trackball, touch screen/monitor/screen, scanners OMR, OCR, OBR, badge readers, microphone,*

c) State three factors to consider when choosing an input device. [3mks]

* *Volume of data to be entered*
* *The type of data to be entered*
* *Speed of input*
* *Special needs of the user*
* *The cost of the input device*
* *Compatibility of the input device*
* *The reliability of the input device*

11. a) Differentiate between softcopy output and hard copy output. [4mks]

* *Softcopy output is the output that can be listened or can be viewed while hardcopy output is the printed output from a printer, plotter etc.*
* *Softcopy refers to the intangible output while hardcopy refers to the tangible output.*

b) Give two examples of softcopy output devices and two hardcopy output devices.

[4mks]

* *Softcopy output devices- LED, Monitor, speakers, data projectors, TV screen*
* *Hard copy output devices – printer, plotter, fax machines, COM*

c) State three differences between an impact and a non-impact printer. [6mks]

|  |  |
| --- | --- |
| Impact printers | Non-impact printers |
| *Speed of printing is low* | *Speed of printing is high* |
| *Use inked ribbons, which may be colored or black* | *Use electrostatic or thermal principles or toners* |
| *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 toners and cartridges are expensive* |
| *Noisy printers.* | *Quiet printers.* |
| *Poor quality prints out.* | *High quality print out.* |

12. a) Describe three functional elements of the Central Processing Unit. [6mks]

* *Control Unit*
* *Arithmetic and logic*
* *Main memory*

b) Define a computer bus. [2mks]

* *Electronic pathway for data and instructions.*

c) Name and explain three types of computer buses. [6mks]

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

13. a) Write in in full the following acronyms. [2mks]

* RAM- *Random Access Memory*
* ROM- *Read Only Memory*

b) State three differences between RAM and ROM. [3mks]

|  |  |
| --- | --- |
| RAM | ROM |
| *Volatile* | *Non volatile* |
| *Temporary* | *Permanent/semi-permanent* |
| *User defined* | *Firmware* |
| *Hold data* |  |

14. Give three difference between CRT monitor and flat panel displays. [3mks]

|  |  |
| --- | --- |
| *CRT* | *FLAT PANEL DISPLAY* |
| *It is bell shaped* | *It is flat shaped* |
| *Has poor resolution* | *Has a high resolution* |
| *Heavier, hence not portable* | *Light, hence portable* |
| *Occupies more space* | *Occupies less space* |
| *Cheaper* | *Expensive* |
| *Produces a high amount of radiation* | *Produces a low amount of radiation* |
| *Consumes more power* | *Consumes less power* |
|  |  |

15. State three factors to consider when selecting a storage device. [3mks]

* *Cost: the storage devices come in different prices*
* *Availability: is the desired storage device available in the market*
* *Accessibility to information stored in it: this may be sequential or direct/random*
* *Durability: one should buy a device that is long lasting.*
* *Storage capacity: a device with large storage capacity will hold more data and information. Some devices have large capacities in megabytes, gigabytes etc.*
* *Physical size and portability: some devices can easily fit in a pocket while others cannot. Some devices have storage are more portable; that is, they can easily be carried from place to place.*
* *Compatibility with the existing computer system hardware: a system should have for example, a CD drive if the device to be used is a CD.*

16. State three ways a computer can be used in a school. [3mks]

* *In research*
* *Analysis of examination*
* *In library*
* *During registration especially NEMIS-admission of new student*
* *Preparing examination*
* *For entertainment*
* *As teaching aids*