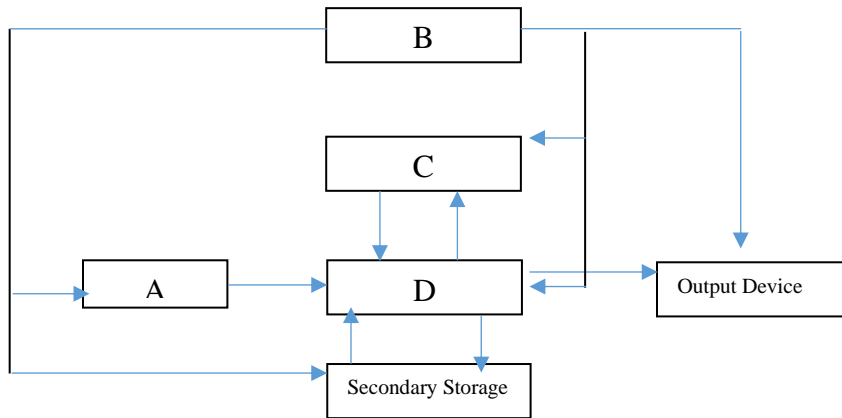


# COMPUTER STUDIES : FORM 3 MARKING SCHEME

1. a) The diagram below represents the essential features of a computer system. Study the diagram and answer the questions that follow.



i) Name the components

[4mks]

A – Input

B- Control unit

C– Arithmetic Logic Unit

D– Primary storage

ii) On the diagram above, indicate the direction of data flow using arrows.

[3mks]

iii) Name and explain the three types of buses in a computer system.

[6mks]

- Data bus - transfers data between control unit and main memory
- Control bus – pathway for timing and controlling functions from the control unit to other parts of the system,
- Address bus – pathway to locate storage in memory where next instruction or data to be processed is located.

2. Describe the functions of the following computer hardware components.

[4mks]

i) Mouse

- This is an input device that works in conjunction with a pointer on the screen. It is used for selecting and other input functions.

ii) Scanner

- This is an input device that works with optical technology to capture data (text and images).

3. State any two features of a user-friendly program.

[2mks]

- Relatively easy for user to start using the software
- Amount of effort and information required of the user to get the system complete required tasks should be kept minimum.
- Systems should be self-contained so that the user is not forced into accessing manuals or dealing with things be kept out the system.
- System should be able to adjust to different levels of expertise between users, and as users grows in competence
- User should be made to feel in control of what is going on.

4. Differentiate between COM ports and LPT ports.

[4mks]

- COM port also known as a serial port transmits data bit by bit.
- LPT port also known as a parallel port transmits multiple bits simultaneously at a time.

5. Explain the term portability in reference to hardware and software.

[4mks]

- Software - Ability of software to work/function in several computer hardware and OS platforms.
- Ability of software to be installed in more than one computer.

- *Hardware - The ability of the hardware to be moved from one place to another due to size.*

6. **Explain three ways in which computer viruses are spread from one computer to another.** [6mks]

- *Through using contaminated secondary storage devices*
- *Opening of e-mail attachment without scanning for virus*
- *Downloading and opening of infected files from the internet*
- *Updating of software through infected networks*

7. a) **What is a computer laboratory?** [2mks]

- *A room specifically designed for installation of computers and provide a conducive environment for learning computer studies.*

b) **State three possible causes of fire outbreak in a computer laboratory.** [3mks]

- *Electrical faults;*
- *Natural causes e.g. lightning*
- *External attacks e.g. arsonists/terrorists*
- *Inflammable materials*
- *Accidents*

c) **State three measures that should be put in place in a computer laboratory to safeguard users' health.** [3mks]

- *All power cables must be insulated and hidden from users*
- *The furniture used must be of standard computer furniture*
- *The room should be lit with adequate lighting.*
- *The room must be well ventilated.*
- *Computer monitor should be fitted with anti-glare to filter excess light rays emanating from the monitor.*
- *Avoid slippery floors/cemented floors.*
- *Controlling dust.*

8. **Give three differences between Post Office mail and electronic mail (email).** [3mks]

- *Email is fast compared to post office mail*
- *With email one can get an immediate feedback.*
- *Email is less expensive than post office*
- *Email can be forwarded to many people without retyping unlike the post office mail.*

9. **Other than I/O devices, list other four components under the control of the operating system.** [4mks]

- *Main memory*
- *CPU/Processor*
- *Secondary storage*
- *Communication devices and ports*

10. **Differentiate between Cache and Buffer memories.** [4mks]

- **Buffer** - *Control the speed difference between communicating device or Control the speed imbalance between two devices.*
- **Cache** - *It boost CPU processing speed because the CPU can access it much more quickly than RAM.*

11. i) **State three importance of internet to society.** [3mks]

- *Enhances commerce*
- *Improved communication*
- *Enhance research*
- *Enhance learning through (electronic learning)*

ii) **Describe four challenges that internet has brought to society.** [4mks]

- *Individual privacy cannot be guaranteed*
- *Moral and cultural issues have been greatly affected*
- *Security as a lot of information can be accessed from the internet.*

- Piracy of information

**12. i) What is a computer keyboard?**

[2mks]

- Input device with keys for keying in data in the form of characters.

**ii) Name and explain the function of the following key symbols found in a keyboard.**

i)

[2mks]

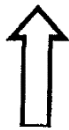


Enter - Used to execute commands

- Used to move the cursor insertion point to the next line

ii)

[2mks]

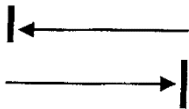


Shift - Used to change lower case to uppercase characters and other keys with two symbols/letters.

- Used together with direction keys to select highlight characters or cells

iii)

[2mks]



Tab — Used to move the cursor at intervals.

**13. A computer laboratory experiences power supply problems. Describe three power related problems that should be addressed.**

[6mks]

- Blackout – this is unexpected disconnection of power supply of power supply in the laboratory.
- Power sag: sudden drop of voltage levels that lasts less than a second.
- Transients/surge: high voltage flowing
- Brownout: partial blackout where there's low voltage flow
- Short circuit: livewires touching each other's
- Loose connection, which may cause tripping or total power failure.

**14. List the three categories of system software.**

[3mks]

- Firmware
- Networking software
- Operating system
- Utilities

**15. State five file details that are assigned a file by the operating system which can assist in tracing the file.**

[5mks]

- File types
- File extension
- File size
- Creating time/date of storage/saves time
- Owner/Account used
- Time of modification
- Usage conditions/file attributes (Read only/Archives/Hidden)
- Protection information
- Contents of the file- access time

**16. State three advantages of word processors over manual typewriter.**

**[3mks]**

- *Editing and formatting is easy*
- *Has punctuation and style checking capability*
- *Allows one to custom document printing needed*
- *Has built in dictionary for spell checking*
- *Offer alternative words (thesaurus)*

**17. List three editing features of word processing. (3 marks)**

**[3mks]**

- *Moving and copying*
- *Cursor movement*
- *Find and replace*
- *Inserting and overtyping*
- *Deleting text*

**18. List three types of font types used in word processing. (3 marks)**

**[3mks]**

- Times New Roman
- Arial Black
- Tahoma
- Arial
- Algerian

**19. Describe each of the following computer crimes. (3 marks)**

a) Hacking

*Unauthorized access to data and information by breaking security codes just for fun.*

b) Piracy

*Illegal copying of copyrighted software, information or data without permission from the owner.*

c) Sabotage

*Illegal or malicious destruction of system, data or information by employees or other people with grudges with the aim of crippling service delivery or cause great loss to an organization.*

**20. Mwende noticed that her PC is taking too long to load programs and files. The computer technician informed her that there was a high possibility it a virus.**

**a) What is a computer virus? (1 mark)**

*A destructive program that attaches itself to other files when files are opened for use and install itself on the computer, without knowledge of the user.*

**b) Give any three sources of a computer virus. (3 marks)**

- i. *Contact with contaminated systems:*
- ii. *Use of pirated software:*
- iii. *Infected proprietary software:*
- iv. *Fake games:*
- v. *Freeware and Shareware:*
- vi. *Updates of software distributed via networks:*

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c) List any three measures that Mwende needs to put into place to protect her computer from virus infection. (3 mks)

- i). *Install up-to-date (or the latest) antivirus software on the computers.*
- ii). *Restrict the movement of foreign storage media, e.g., diskettes in the computer room.*
- iii). *If they have to be used, they must be scanned for viruses.*
- iv). *Avoid opening mail attachments before scanning them for viruses.*
- v). *Write-protect disks after using them.*
- vi). *Disable floppy disk drives, if there is no need to use disks in the course of normal operation.*
- vii). *Backup all software & data files at regular intervals.*
- viii). *Do not boot your computer from disks which you are not sure are free from viruses.*
- ix). *Avoid pirated software. If possible, use the software from the major software houses.*
- x). *Programs downloaded from Bulletin Boards & those obtained from computer clubs should be carefully evaluated & examined for any destructive code.*

