**Computer Studies – MARKING SCHEME**

**OPENER EXAMINATION TERM 3, 2022**

 **September-2022 Examination – Form 2**

**Time: 2 Hours**

1. a) Give two functions of the following components:

i) Control unit (2marks)

* + *Controlling data to and from main memory*
	+ *Fetching next instructions to be executed in the main memory*
	+ *Controlling and coordinating various parts of the computer system e.g. main memory, ALU and peripheral devices.*

ii) ALU (2marks)

* *Performs arithmetic functions*
* *Does logical comparisons*

b) State three ways of inputting data into a computer system. Give an example for each. (6marks)

* + *Using keying devices e.g. keyboard*
	+ *Pointing devices e.g. mouse, joystick*
	+ *Using direct data capture devices e.g. digital cameras*
	+ *Voice recognition / speech input devices e.g. microphones*

c) Give three differences between primary and secondary storage memory. (3 marks)

* *Primary storage data is processed from storage directly while secondary storage data must be moved to primary storage.*
* *Primary provides faster access time while secondary is slow.*
* *Primary has low storage capacity, secondary has a high storage*
* *Primary is found inside the CPU while secondary is found outside*

d) i) Define a computer bus. (1 mark)

* *An electrical pathway found on the motherboard used to transmit data and control signals*

ii) Explain three types of buses found on a motherboard of a computer. (6 marks)

Control bus.

* *Pathway for all timing and controlling functions sent by control unit to other parts of a system.*

Data bus

* *Pathway for actual data transfer.*

Address bus

* *Pathway* to locate *stora*ge *position in memory where the data to be processed next is to be found.*

2. Explain four types of ROM. (4 marks)

* *Mask-ROM*
* *PROM*
* *EPROM*
* *EEPROM*

3. Differentiate between the following terms: (6 marks)

i) System software and application software

* + System *performs a variety of fundamental operations that avails computer resources to the user* whileapplication *are programs designed to help the user to accomplish a specific task.*

ii) Vendor off the shelf and In-house developed software

* + *In-house developed programs are designed to meet a particular user needs while Vendor off the shelf programs are developed, packaged and made available for purchase through vendors.*

iii) Open source and proprietary software

* + *Open source is software whose source code is freely made available to users while proprietary its source code is private to the manufacturer.*

4. a) Define the term operating system. (2 marks)

* *A set of complex programs that work together to manage computer resources and control execution of user application.*

b) An operating system consists of two parts: Kernel and shell. Differentiate the two parts.

(4 marks)

* *Kernel – it is the* core *of the operating system responsible for the management of hardware and software resources while shell is the interface provided to the user to interact with the OS.*

c) Describe five functions of the operating system. (10 marks)

i) Job Scheduling

* *Schedules jobs according to priorit*ies

ii) Memory management

*Organizes the main memory into blocks of sizes called page frames and swaps the pages between the main memory and secondary storage*.

iii) Resource allocation- *uses the IRQ number to identify resources being requested by a process.*

iv) Processor scheduling –*allocates each job waiting execution processor time at each given intervals.*

v) Communication control and management – *is responsible for communication among various devices within and outside the computer system.*

5. a) Define word processing as used in computing. (2 marks)

* *The process of using an application software to create, edit, format and a document.*

b) Differentiate between the following terms. (12 marks)

Save and Save as

* *Save command is used to update an already existing file while save as is used to save a document file for the first time.*

Auto-Complete and Auto-Correct

* *Auto-correct is an editing feature that automatically corrects wrongly spelled words as the user types while auto-complete is an editing tool that displays a complete word after the first few letters of the word have been typed.*

Alignment and Orientation

* *Alignment is positioning of text relative to the left, right, and center margins while orientation is positioning of a page relative to the text.*

Overtype and Insert Mode

* *Overtype mode the existing text is automatically replaced with the new text being typed while insert mode the exiting text is pushed automatically to the right to create space for the text being typed without deleting.*

Footer and End note

* *Footer –text that appear at the bottom margin of each page or selected pages while end notes are text used in large documents to explain comment on or provide references for text in a large document. They appear at the end of the document or section.*

Formatting and editing a document.

* *Formatting is making a document attractive and more appealing to the eye while editing a document is making changes to an already existing document.*

c) i) Give four examples of word processors. (2 marks)

* *corel wordstar*
* *Lotus Amipro*
* *Word perfect*
* *Lotus wordpro*
* *Microsoft word*
* *K-Word*
* *Open office writer*

ii) State five features of word processors. (5 marks)

* *Has proofreading tools e.g. spelling and grammar checker, thesaurus & auto-correct*
* *Ability to create document*
* *Has superior document formatting features*
* *Mail merging feature*
* *Word wrap feature*
* *Ability to insert graphics*
* *File protection facility*

iii) Describe four-character case options available in a word processor. (4 marks)

* *Sentence case*
* *Toggle case*
* *Upper case*
* *Lower case*
* *Title case*

6. a) State five safety precautions to be observed when handling a hard disk of a computer. (5 marks)

* *do not expose it to strong magnetic fields*
* *do not switch of the computer when the hard disk is still being accessed*
* *do not drop it*
* *do not pour water on it*
* *keep the computer free from dust and smoke particles*
* *do not expose it to heat*

b) During data entry in a computer it can automatically be done using a scanning device. Using examples explain three types of optical scanners. (6 marks)

* *OMR-detects marks made on a piece of paper using ink or soft pen by passing it over infra-red light.*
* *OBR-used to capture data coded as lines of varying thickness.*
* *OCR- used to read type written or computer printed characters and transforms the hard copy into softcopy.*

7. a) Define the term disk partitioning. (2 marks)

* *The process of dividing a large physical disk into two or more partitions called logical drives.*

b) State two reasons for partitioning a disk. (2 marks)

* *For backup purposes*
* *To allow installation of more than one OS on the same disk*
* *To enable access to information*

c) Describe the types of operating systems classified according to user interface. (6 marks)

* *Command line*
* *Graphical user interface*
* *Menu driven interface*

8. a) Give five factors to consider when purchasing an operating system. (5 marks)

* *hardware configuration of the computer*
* *type of the computer*
* *application intended for the computer*
* *cost*
* *reliability and security*
* *no. of processors & hardware it can support*
* *number of users it can support*

b) Outline three software considerations when purchasing a computer system. (3 marks)

* *documentation*
* *reliability and security*
* *portability*
* *cost*
* *user-friendly*
* *user needs*