

END OF TERM 2 2023 EXAM COMPUTER STUDIES MARKING SCHEME

FORM 2

1. State the component of a computer system which performs each of the following tasks

a. Comparison of numbers (1mk)	Arithmetic and logic unit (ALU)
b. Convert data into a computer format (1mk)	Input devices
c. Coordinate operations of an entire computer (1mk)	Control unit
d. Instruct the computer on what to do (1mk)	software

2.
 - a) Define the term system software (2mks)
 - *This is a software that manages the computer system resources and avails computer resources to the user.*
 - b) Name three functions of the system software. (3mks)
 - *Booting the computer and making sure that all the hardware elements are working properly*
 - *Performing operations like retrieving, loading executing and storing application programs*
 - *Storing and retrieving files*
 - *Performing a variety of system utility functions*
 - c) State and explain three disk management activities that may be performed on a computer hard disk. (6mks)
 - *Disk formatting- it is the process of preparing a storage media for first time use or to make it compatible with another operating system or to make it blank for reuse.*
 - *Disk partitioning- the process of subdividing a large physical disk into two or more partitions called logical drives that are treated as independent drives*
 - *Disk diagnostics/scanning a disk- checking and repairing minor drive problems on a disk and files such as lost storage locations or damaged surfaces.*
 - *Disk compression- reducing the amount of space data occupies on a disk to save on storage space*
 - *Disk backup- creating copies of data and programs on a separate drive to help the user to avoid losing data and programs in case a storage device or computer fails*
 - *Scanning for viruses/ malware- checking for presence of viruses and malware using an antivirus software*
 - *Disk defragmentation- the process of moving file fragments into a contiguous location to optimize on storage space and performance*

3. The following is a list of computer output devices: **speaker, plotter, projector, printer, LED, monitor**. Categorize each as either softcopy output devices or hardcopy output devices. (3mks)
 - *Softcopy devices: speaker, projector, LED, monitor*
 - *Hardcopy devices: plotter, printer*

4.
 - a) Differentiate between serial and parallel cables as used in computers. (4mks)
 - *Serial cables transmit one bit of data at a time. They offer data transmission over a longer distance. They are slower than parallel cables*
 - *Parallel cables transmit multiple bits of data simultaneously and used for short distance transmission. They are fast compared to serial cables*
 - b) Name three cables other than those mentioned in 4 a) above that are used to connect a computer to other devices. (3mks)
 - *USB cables*
 - *VGA cables*
 - *HDMI cables*
 - *Fire wire interface cables*
 - *Audio interface cables*

- c) State three precautions to take to avoid damaging removable storage media. (3mks)
- Do not expose media to excessive heat to avoid damaging the disk shape. Data surface or electronic components
 - Do not drop a removable media to avoid breakage or damage on its electronic components in case of solid state media
 - Do not bend fold or scratch the surface of optical disks to avoid loss of data due to damaged data surfaces
 - Do not forcefully eject a storage media from the drive or USB to avoid loss of data.
5. Name three hardware and three software considerations to be made when purchasing a computer system.
- a) Hardware considerations (3mks)
- Processor type and speed
 - Main memory capacity
 - Purchase warranty
 - Purchase cost
 - Upgradeability and compatibility
 - Portability
 - Special user needs
 - Multimedia capability
- b) Software considerations (3mks)
- Authenticity
 - Documentation
 - User requirements
 - Data security and reliability
 - Compatibility
 - Software cost
 - User friendliness
6. Explain the following registers found in the central processing unit. (6mks)
- a) Accumulator – it temporarily holds the results of the last processing step of the ALU
- b) Storage register- Temporarily holds a piece of data that is on its way to and from the CPU and main memory
- c) Instruction register- temporarily holds an instruction before it is interpreted into a form the CPU can execute
7. State three characteristics of ROM. (3mks)
- One can only read its content but cannot write unless it's a special type of ROM
 - Its non-volatile
 - Stores permanent and semi-permanent instructions called firmware
8. Give three factors to consider when purchasing an output device. (3mks)
- Type of output i.e. hardcopy or softcopy
 - Special user needs
- 9.
- a) Differentiate between keying devices and scanning devices. (4mks)
- Keying device are devices that enter data by pressing its keys
 - Scanning devices enter data directly from an object and convert it into digital format
- b) Name two examples of keying devices and two examples of scanning devices. (4mks)
- Keying devices: keyboard, keypad, touch screen keypad, braille keyboard
 - Scanning devices: OMR, OCR, OBR, MICR, badge readers
10. Describe three types of operating system classified according to the user interface. (6mks)
- Command line interface- lets the user to type the commands at a command prompt
 - Menu driven interface- it provides the user with a list of options to choose from

- *Graphical user interface (GUI) - consist of rectangular application windows icons and menus. Commands are executed using a pointing device*

11. Name five features that are common in most word processors. (5mks)

- *They allow the user to create a file, save it and open it for reuse editing formatting or printing*
- *They have editing tools such as spell checkers thesaurus and autocorrect features*
- *They have the capability to import tables, text and graphical objects from other programs*
- *They have common application window layout*
- *They provide inbuilt features for generating headers, footers, indexes, footnotes and references*

12.

a) Explain the meaning of the following word processing terms

- Editing a document (2mks)
 - *Refers to making necessary changes/ modifications to an existing word document*
- Proofreading a document (2mks)
 - *Refers to checking the document for typographical or grammatical errors*
- Word wrap (2mks)
 - *Refers to a feature that automatically moves the cursor or a word to the beginning of the next line if it doesn't fit on the current line*
- Copying text (2mks)
 - *Creating a duplicate of text or an object*
- Thesaurus (2mks)
 - *An editing tool that helps the user to find words or phrases with similar meaning (synonyms) or opposite meaning (antonyms) to the one selected*

b) State six text formatting features used in word processing. (3mks)

- *Bolding*
- *Font color*
- *Font type*
- *Font size*
- *Italics*
- *Underline*
- *Changing text case*
- *Subscript*
- *Superscript*

13.

a) List three components of a spreadsheet. (3mks)

- *Worksheet*
- *Graphs/ charts*
- *Database*

b) Describe two cell data types that can be entered into a worksheet. (4mks)

- *Values- numeric data that can be manipulated mathematically*
- *Labels- any text or alphanumeric characters entered in a cell to describe the contents of a row or column*
- *Formula- user defined mathematical expressions used to manipulate vales in a range*
- *Functions- predefined/ inbuilt formula provided by excel to perform calculations just by providing the values.*

c) Name three types of cell referencing used in spreadsheets. (3mks)

- *Relative cell reference*
- *Absolute cell reference*
- *Mixed cell reference*

14. Below is an extract from a spreadsheet program used by a shopkeeper to keep records for their business. Use it to answer the questions that follow.

	A	B	C	D
1	ITEM	UNITS	UNIT PRICE	TOTAL COST
2	Cooking fat	3	390	
3	Sugar	12	150	
4	Rice	20	120	
5	Bread	10	50	

- a) Write a function that would be used to obtain:
- The total cost of cooking fat (2mks) =PRODUCT(B2:C2)
 - The average unit price for the items (2mks) =AVERAGE (C2:C5)
- b) What is a cell with reference to spreadsheets? (1mk)
 - *This is the intersection between a row and a column identified using the column and row number*
- c) Which cell contains the item **RICE** (1mk) A4
- d) Which column contains the total cost of items (1mk) Column D
15. State the function of the following keyboard keys. (5mks)
- Enter key
 - *Moves the cursor to the beginning of the next line*
 - *Used to execute a command*
 - Delete key
 - *Used to erase text from left to right*
 - Tab key
 - *Moves the cursor at set horizontal interval on the same line*
 - Arrow keys
 - *They move the cursor to the right, left, up or down the current cursor position depending on the arrow pressed*
 - Space bar
 - *Used to insert space between characters or words when typing.*