**END OF TERM 2 2024 EXAM COMPUTER STUDIES MARKING SCHEME**

**FORM 2**

1. State the component of a computer system which performs each of the following tasks
   1. Comparison of numbers (1mk) ***Arithmetic and logic unit (ALU)***
   2. Convert data into a computer format (1mk) ***Input devices***
   3. Coordinate operations of an entire computer (1mk) ***Control unit***
   4. Instruct the computer on what to do (1mk) ***software***

2. Define the term system software (2mks)

* *This is a software that manages the computer system resources and avails computer resources to the user.*

1. 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*

1. 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 male 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*

1. 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*

2. 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*

1. 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*

1. 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.*

1. Name three hard ware and three software considerations to be made when purchasing a computer system.
2. Hardware considerations (3mks)

* *Processor type and speed*
* *Main memory capacity*
* *Purchase warranty*
* *Purchase cost*
* *Upgradeability and compatibility*
* *Portability*
* *Special user needs*
* *Multimedia capability*

1. Software considerations (3mks)

* *Authenticity*
* *Documentation*
* *User requirements*
* *Data security and reliability*
* *Compatibility*
* *Software cost*
* *User friendliness*

1. Explain the following registers found in the central processing unit. (6mks)
2. Accumulator – *it temporarily holds the results of the last processing step of the ALU*
3. Storage register- *Temporarily holds a piece of data that is on its way to and from the CPU and main memory*
4. Instruction register- *temporarily holds an instruction before it is interpreted into a form the CPU can execute*
5. 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*

1. Give three factors to consider when purchasing an output device. (3mks)

* *Type of output i.e. hardcopy or softcopy*
* *Special user needs*

1. 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*

1. 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*

1. 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*

1. 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*

2. Explain the meaning of the following word processing terms
3. Editing a document (2mks)

* *Refers to making necessary changes/ modifications to an existing word document*

1. Proofreading a document (2mks)

* *Refers to checking the document for typographical or grammatical errors*

1. 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*

1. Copying text (2mks)

* *Creating a duplicate of text or an object*

1. 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*

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

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

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

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

1. 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.*

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

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

1. 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 |  |

1. Write a function that would be used to obtain:
2. The total cost of cooking fat (2mks) *=PRODUCT(B2:C2)*
3. The average unit price for the items (2mks) *=AVERAGE (C2:C5)*
4. 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*

1. Which cell contains the item ***RICE*** (1mk) *A4*
2. Which column contains the total cost of items (1mk) *Column D*
3. State the function of the following keyboard keys. (5mks)
4. Enter key

* *Moves the cursor to the beginning of the next line*
* *Used to execute a command*

1. Delete key

* *Used to erase text from left to right*

1. Tab key

* *Moves the cursor at set horizontal interval on the same line*

1. Arrow keys

* *They move the cursor to the right, left, up or down the current cursor position depending on the arrow pressed*

1. Space bar

* *Used to insert space between characters or words when typing.*