**COMPUTER STUDIES MARKING SCHEME**

**END TERM II FORM TWO**

**2022**

**SECTION A**

1. ***Name three major components of a computer system. (3 marks)***

* Computer Hardware
* Computer Software
* Computer Liveware

1. **John saw the following symbols at the back of his system unit. What do the symbols represent?**



**A**

**B**

* A Universal Serial Bus Port
* B PS/2 Mouse port

1. ***List down any four advantages of using computers as tools of problem solving. (2 marks)***

* Computers are accurate
* Computers are fast in processing information
* Computers can store a lot of data and information
* Computers do not get tired or bored even when required to repeat a task over and over again.

1. ***Since the invention of the first generation of digital computers, much advancement has been realized in the sector of information and technology. Explain two characteristics which have been improved from the first generation to the modern computers. (4 marks)***

* **Size:** Computers are becoming smaller and smaller since they involve Very Large Scale Integration of electronic components leading to the introduction of very small computers like palmtops, notebooks and laptops.
* **Speed:** Computers are becoming faster in processing of data due invention of very high speed processors.
* **Storage Capacity:** This has been increased. Initial devices could only store several kilobytes and they took long to store and retrieve data.
* Energy consumption and heat emission: The modern computers consume little energy and emit little heat.

1. **(a) Name two ways of classifying computer software.**

* According to purpose.
* According to method of acquisition. (2x1 marks)

*(b) Outline any two functions of operating system software.*

* Resource control
* Memory management
* Job scheduling & sequencing
* Interrupt handling
* Input/Output handling
* Error handling
* Communication control and management (2x1 marks)

1. ***Give two ways of classifying operating systems. (2 Marks)***

* By their Interface
* By the number of tasks they can handle at the same time
* By the number of users

1. a)What are toggle keys (1 mark)

* *These are keys that are used to turn a function on and off or switch between two functions.*

b) Give two examples of toggle keys. (1 mark)

* *Caps Lock key*
* *Number lock key*
* *Scroll lock key*
* *Insert key*

1. ***a) What is a computer virus? (1 Mark)***

*A malicious program designed to cause malfunctioning in a computer system*

***b) Give two names of common computer viruses. (2 Marks)***

* *Worms*
* *Boot sector viruses*
* *Trojans*
* *Back doors*
* *File viruses*

***c) State two security measures which should be observed to safeguard data against*** computer viruses. (2 Marks)

* *Scanning all removable storage devices before using them using antivirus programs*
* *Scanning all internet downloads using antivirus programs*
* *Not accepting foreign removable storage media in an organization*

1. ***Name two special purpose memories found either found inside or outside the microprocessor hence explain what each of them does.. (2 marks)***

* *Cache Memory: Cache Memory is a special group of fast memory chips located inside or close to the CPU chip to speed up processing.*
* *Buffers: Temporary holding places built in some input and output devices so as to relieve the CPU some burden of storing all the data during processing.*
* *Registers: Temporary holding locations within the CPU that are used to store instructions and pieces of data being processed by the CPU*

1. ***Describe three facilities or ways of ensuring proper ventilation in a computer laboratory. (3 Marks)***

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

1. ***Computers can store data using three ways namely electronically, magnetically and optically. Give two examples of storage devices in each method: (3 marks)***

(i) Electronically

* *Flash drives - memory cards - memory sticks*

(ii) Magnetically

* *Floppy diskette, hard disk, magnetic tapes, magnetic stripe cards*

(iii) Optically

* *Digital Versatile Disks, Compact Disks, Optical tapes*

1. ***(a) Define the term firmware. (1 mark)***

* *Refers to a class of system software programs that are permanently stored (burnt into) in Read Only Memories (ROMs) of various devices.*

(b) Describe any **two** examples of utility programs. (2 marks)

* *Diagnostic Programs: which deal primarily with diagnosing and repairing disk-related problems, such as recovering damaged or erased files, repairing damaged directories, and recovering from a disk crash.*
* *Backup Utilities: Programs designed to back up the contents of a hard drive, commonly into a removable storage device.*
* *Uninstall Utilities: Used to remove programs that are no longer needed from the hard drive.*
* *Disk Defragmentation Programs: Also called disk optimizers –rearrange data and programs on the hard drive so that they can be accessed faster.*
* *File Compression Programs: Which enable files to be stored in a smaller amount of storage space.*
* *Antivirus Programs: Protect your system from virus attack.*
* *Performance Monitors: Tell you how efficiently your computer system is performing its work.*

1. ***List down two uses of UPSs in a computer laboratory. (2 marks)***

* *Regulating voltage entering into computing devices*
* *Storing energy for use by devices in case of power failure*
* *Notify the user in case of power failure.*

1. ***Describe the two methods of computer booting. (2 marks)***

* *Hard Booting/Cold Booting: This is the process of starting of the computer which was initially off.*
* *Soft Booting/Warm Booting: This is the process of restarting a computer which was initially on.*

1. ***Explain the difference between a hibernating and a sleeping computer. (2 marks)***

* *Hibernating computer: This is a computer which has been shut down whereby the final previous state is stored so that it is recalled when the computer is booted in another session.*
* *Sleeping computer: This is a computer which is on but is in its stand-by mode/a computer which is on but has entered into its power-saving mode*

b. Thesaurus – used to find synonyms, autonyms or related word

Spelling –checking for such common typing mistake as repeated words, irregular capitalization, sentence structure such as very long sentence.

1. Drop caps
2. italicizing
3. bolding
4. columns

***16. (a) Describe five features available in most word processing applications. (5 marks)***

* *They allow the user to create a file, save it, and retrieve (recover/open) it when required for reuse,* *printing, editing or formatting.*
* *Has* ***Text- editing features****, such as: -*
* *Copy & Paste, which allows a marked block of text to be moved to another part of the document.*
* *Find, which allows the user to search for words or phrases within the document.*
* *Search & Replace, which allows replacement of every occurrence of a certain combination of characters with another set of characters.*
* *Undo, which allows actions that have been performed to be reversed, such that if some text was accidentally deleted, then the action can be undone.*
* *Contains* ***Text and Page formatting features*** *such as: -*
* *Justification of text, which could be Left, Right, Centre, or Full.*
* *Indents and use of Tabs for text alignment.*
* *Page Numbering.*
* *Insert of page Headers and Footers.*
* *Has different Fonts (lettering/typescripts), Character sizes & Styles such as* ***Bold****, Italic, Underline, etc.*
* *Enables Printing of documents: single or multiple copies, full or part of a document.*
* *Enables creation of Tables, which can be used to perform certain calculations & sorting on a given text.*
* *Has an inbuilt dictionary.*
* *Contains Tools such as Spelling and grammar checkers, Bookmarks &* ***Thesaurus*** *(which provides alternative words – synonyms).*
* *Typing errors can be corrected and the text modified before printing the final version.*
* *Enables the use of document* ***templates****, which can be used to quickly create the most frequently used documents once the format has been set.*
* *Allows Mail merging, which makes it possible to combine several letters.*
* *This is very useful when similar letters has to be sent to several people. The names and addresses of each person can be merged with one single standard document and printed out.*
* *Enables creation of Newspaper layouts, which can be used for manipulation of Column text.*
* *Has the ability to add graphics within documents.*
* *Allows creation of Footnotes and Endnotes.*
* *Provides file protection using Passwords.*
* *Contain Macros, which can be used to automate the most frequent & repetitive tasks.*
* *Have the ability to create and import tables, text and graphics from other programs.*
* *All Word processors have similar document windows with the following features:*
* *They are designed to look like a piece of paper with a few electronic improvements.*
* *The screen is blank before typing of text.*
* *There is a* ***Cursor****, which blinks at the position where you can begin entering text.*
* *There is a* ***Status bar*** *that provides the user with information about current status such as saving operation, the name of the file in use, the current page, and column cursor position.*
* ***Word wrap****: A facility/feature that automatically moves a word or cursor to the beginning of the next line if there is insufficient room at the end of the current line.*
* ***Scrolling****: This is the vertical movement of text document on the screen, either using the Up or Down arrow keys, Page Up or Page Down keys, or using the Mouse in Windows based word processors.*
* ***Help****: Contains instructions, tips, pointers, explanations and guidance on how to use an application.*
* ***Editing modes****: Word processors have two editing modes;* ***Insert mode*** *and* ***Type over mode****.*
* *In* ***Insert mode****, every character typed between words, lines or characters is placed at the cursor position. This pushes all the text in front of the cursor away without deleting it.*
* *In* ***Type over mode****, every character typed deletes what was there before and replaces it with new text at the cursor position.*

***(b) Explain the following terms as used in word processing: (3 marks)***

(i) Word wrap

* *This is the automatic movement of the cursor/typing bar to the beginning of the next line when the boundary on the right side is reached/if the text cannot fit on the current line.*

(ii) insert mode

* *A mode which allows the user to insert missing text in a document while the other text after the cursor is pushed away so as to create space.*

(iii) Type over mode

* *A mode which allows the user to replace existing characters with the newly typed characters.*

***(c) What is a document password? (2 marks)***

* *This is a combination of characters which form a code to prevent other users from opening one’s document.*

***(d) Outline five formats that can be applied to a paragraph in a word processing document. (5mks)***

* *Text alignment: This refers to text positioning within a text area/text margins. It includes, Left alignment, Right alignment, Centre alignment and Justified text.*
* *Indentation: This refers to moving text away from text margins. It includes: First line indent, hanging indent, full indent and right indent.*
* *Setting tabs or tab stops: These are marks which one can set on the document when organizing text in columnar format. Tab stops include: Left tab, Centre tab, Decimal tab, Right tab, and bar tab.*
* *Drop Cap: This refers to a large initial character of a paragraph which appears lowered a number of lines in the paragraph. Drop caps include: Dropped and In Margin drop caps.*
* *Line spacing: This refers to the spaces left between the lines of a paragraph e.g. Double, Single, Multiple etc.*
* *Space before and after a paragraph: Space before paragraph refers to an empty space which can be set above a paragraph. Space after paragraph refers to an empty space which can be set below a paragraph.*
* *Bullets and numbering: Bullets refer to symbols which one can apply to enumerate paragraphs in form of points using symbols at the beginning of each point (e.g. ●, ♦, ♥, ♣). Numbering refer to numbers used to enumerate paragraph inform of points. Numbers can be Numeric, Roman numbers and Alphabetical letters*

e) State the function of the following keyboard short cut keys (3Marks)

1. CTRL+S…………………………………… SAVE
2. CTRL+V……………………………………… PASTE
3. CTRL+X………………………………………. CUT
4. CTRL+F……………………………………..… FIND
5. ALT+F4…………………………………………… EXIT
6. CTRL+H……………………………………… REPLACE

17. a) i) Give one advantage of using GUI over command Line Interface(1 mark)

* *It supports picture, sound and motion pictures*
* *It is easier to use because one does not necessarily need to learn and remember the command*

ii) Some computer systems still use command line interfaces. State **TWO** advantages of command line interface. (2 marks)

* *If the user knows the correct commands, then the interface is much faster than any other interface.*
* *This type of interface needs much less memory (RAM) compared to other interfaces*
* *This type of interface does not use much CPU processing time as others*
* *A low resolution, cheaper monitor can be used with this type of interface*
* *A CLI does not require widows to run*

b) i) List four devices that are needed in order to listen to music from a computer system. (2 marks)

* *Sound card*
* *Audio video player programme*
* *Speakers*
* *DVD/CD drive*
* *VGA monitor*

ii) What is LED in reference to softcopy output devices? (2 marks)

* *A Light Emitting Diodes is a small low powered device that is programmed to emit light when a current flows through it.*

c) i) Outline **THREE** precautions one should take when assembling a computer. (3 marks)

* *Disconnect all devices from power source before starting to work with them*
* *Do not work on any peripheral devices without the guidance of a teacher*
* *Never work alone because you may need help in case of an emergency*
* *Discharge any static electricity that might have built upon the hand by touching an earthed metallic object and then wearing an anti-static wrist member. This is because human beings can hold as much as 200 volts of static charge that can damage sensitive components on the motherboard.*

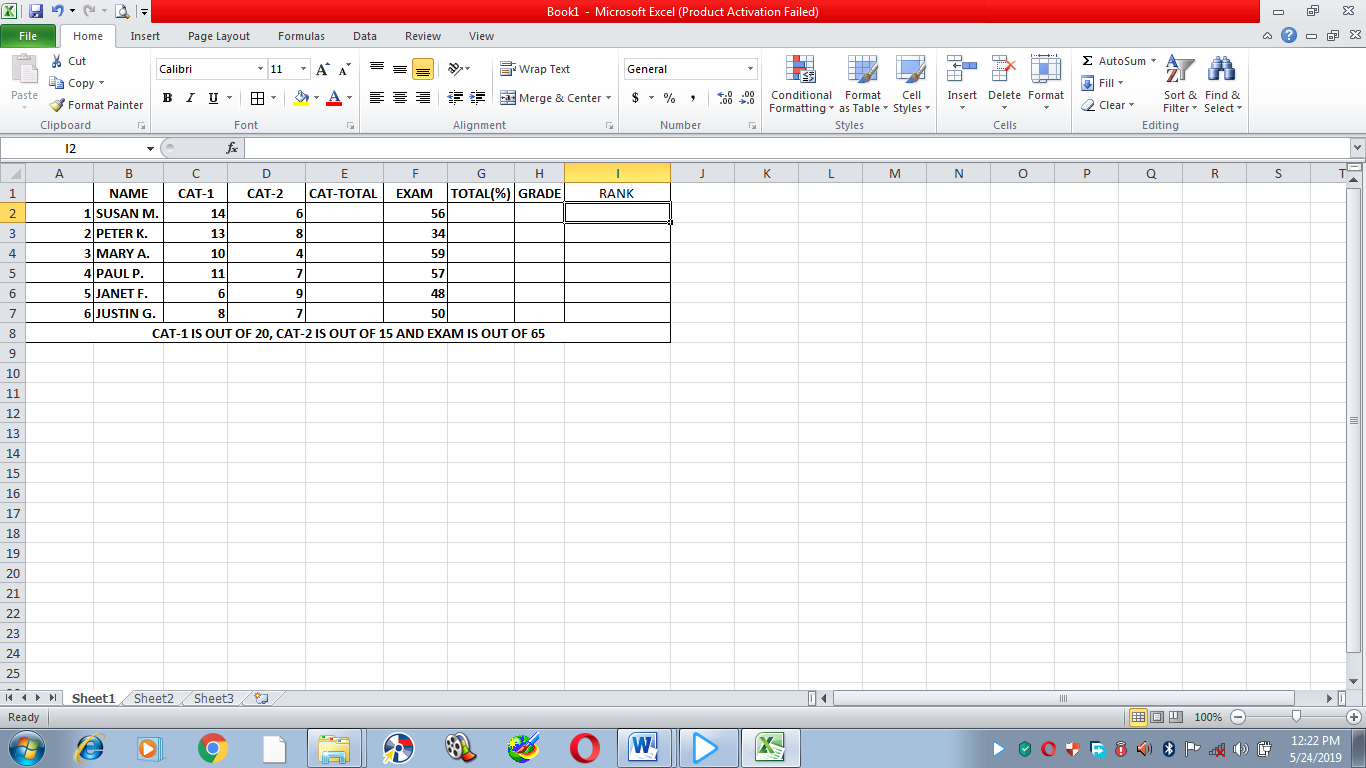
ii) Give the **THREE** components of a good warranty (3 marks)

* *Scope of cover e.g. six months, one year e.t.c.*
* *Callout response and liability agreement. For example how long should the supplier take to repair a fault or to replace the product and if he delays who bears the cost.*
* *Preventive maintenance for example regularity of service, at intervals etc.*

d) Distinguish between serial and parallel communication ports of a computer. (2 marks)

* *Serial ports transmit information one bit at a time while parallel transmit information simultaneously.*

18. a) Mr. Matano is a teacher at Kamangu High School and wishes to use MS-Excel to process the marks obtained by his students during the term. The table below shows the details entered in the Ms-Excel worksheet.



i) Write a logical function that display PASSED when the total marks is greater than 70% marks otherwise display FAIL. (3mks)

***=IF (G2>70,”PASSED”,”FAIL”)***

ii) Write a function that RANKs the students according to their total performance. (5mks)

***=RANK (G2, $G$2: $G$7, 0)***

iii) Write a function that displays the GRADE in column H based on total performance, using the following grading system: (5mks)

80..100 - A

60..79 - B

40..59 - C

0..39 - E

***=IF(G2>=80,”A”, IF(G2>=60,”A”, IF(G2>=40,”A”,”E”)))***

iv) The formula =COUNTIF (F2:F7,”>=50”) was entered at cell F9. Write down the value that was displayed. (2mks)

* ***4***

v) Write down the formula that would be entered at cell C9 to sum the values in column C whose values are greater or equal to 10. (3mks)

***=SUMIF (C2:C7,”>=10”)***