ASUMBI GIRLS HIGH SCHOOL

 POST -MOCK 1

AUGUST/SEPTEMBER

2022

**COMPUTER PP1 MS**

**Instructions to Candidates**

1. *Write your Name, Admission number and Class in the spaces provided above.*
2. *This paper consists of* ***two*** *sections****; A*** *and* ***B****.*
3. *Answer* ***ALL*** *the questions in section A*
4. *Answer question 16 and any other THREE questions from section B*
5. ***ALL*** *answers should be written in the spaces provided on the question paper.*
6. ***This paper consists of 7 printed pages.***
7. ***Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing****.*
8. ***Candidates should answer the questions in English***

**SECTION A (40 MKS)**

**Answer all questions in this section.**

1. State the software technological differences between the second generation and the third generation computers [2]

**2nd generation used assembly languages while 3rd generation used high-level languages**

1. State **two** ways of ensuring proper ventilation in a computer room [2]
* **Wide windows**
* **Use of vents/ventilators**
* **Air-conditioners/dehumidifiers/fans**
* **Providing spacious environment**
* **Avoid over crowding**

3. Convert the decimal number 20.375 to it binary number system equivalent [3]

**2010 = 101002**

**.375 x 2 = 0.75**

**.75 x 2 = 1.5**

**.5 x 2 = 1.0**

**Hence 20.37510 = 10100.0112**

1. Pat has installed internet in his home computer in order to use it for browsing. State three ways in which he would prevent viruses from infecting the computer. [3]
* **Using antivirus software**
* **Surfing smart e.g. avoid certain sites/ovoid downloading certain attachments**
* **Use of firewalls to prevent certain attachments/hackers**
* **Use of complex password to restrict data access**
* **Scanning downloads**
* **Enabling the security settings in the browser**
1. State **three** ways of transforming a picture embedded in a Desktop Publishing programme in order to fit in a designated space on a computer. [3]
* **Rotation**
* **Flipping**
* **Cropping**
* **Stretching**
* **Resizing**
1. Distinguish between a line printer and a page printer as used in computers. [2]

**Line printer prints one line of text at a time while page printer prints a whole page at a time**

**Line printer is impact while page printer is non-impact**

**Line printer is slow while page printer is fast**

**Line printer is noisy while page printer is quiet**

1. Describe virtual reality as used in computers. [2]

**Computer generated simulation of a three-dimensional image/environment that can interarcted with in a seemling real or physical way by a person wear specialized head gear.**

1. State the function of each of the following features of an email software
2. Inbox [1]

**Storage location where new email messages aare stored.**

1. Draft [1]

**A storage location where messages composed but not yet sent are stored**

1. a) Explain the term toggle key as used in computer keyboard [2]

**Keys that alternate the input mode. When press ON they intended to perform a task, when pressed OFF, they perform a different task.**

b) List two examples of toggle keys on a keyboard [2]

**Caps lock, Insert, Num lock and Scroll locl**

10. State the type of error that would occur in data processing for each of the following cases:

a) Entering the number 315 instead of 351 [1]

**Transposition error**

b) Entering the text “Kwys” instead of “Keys” [1]

**Transcription error**

11. State **four** factors to consider when selecting an input device for use in a computer room. [4]

**- Compatibility with existing system**

**- Cost of the device**

**-Extra features in the device**

**- Purpose of the device**

**- Nature of data to be captured**

**- Portability**

12. State **three** functions of Un-Interruptible Power Supply (UPS) [3]

**- Stabilizes power**

**- Stores power**

**- Alerts user through an alarme system when poer is down**

13. Distinguish between a page break and a column break as used in a word processor. [3]

**Page breaks marks the end of a page while column page marks the end of a column**

NB. Accept illustrations

14. State **three** factors to consider when selecting an operating system to install in a computer. [3]

**-Hardware configuration a computer e.. RAM.HDD, and othersystemrequirements**

**- Type of computer in terms of size and make**

**- User-friendliness**

**- Number of users it can support**

 - Cost

**- Applications intended for use in the computer**

15. Differentiate between analogue signal and digital signal as used in computers. [2]

**Analog data uses values that change continuously while digital uses values that are descrett**

**NB. Accept illustrations**

**SECTION B (60 marks)**

**Answer ALL questions from this section in the spaces provided.**

16. a) Explain the term dry running as used in program development. [2]

**Process where a programmer manually (pen & Pencil) work through a code to trace the values of variables and to identify errors**

b) Describe **three** properties of an algorithm. [3]

**\_Must have a start and a stop**

 **-Steps must be precise**

**- Statements must not have more than one meaning/no ambiguity**

**- There should be clear indentation of statements**

**- Input,Output and Procesing statements should be clearly defined using keywords**

c) Write an algorithm using both pseudocode and flow chart to print the sum and average of numbers from 1 to n where n is provided by user and n>=1. [10]



**Start**

 **Sum=0, k=1**

**Read n**

**If n>=1 then**

 **Repeat**

**Sum=Sum + k**

**k=k+1**

**Until k=n**

**Average=Sum/n**

**Print Sum, Average**

**Stop**

17. a) State **four** outcomes that may result from using incorrect requirement specifications during system development. [4]

**- System may end up being costly**

**- System may be delivered late**

**- System may not meet user specification**

**- Higher cost of maintenance**

**- System may be unreliable and prone to errors**

**- System may not meet legal requirements**

b) A school opted to use direct change over approach when installing a new system. Explain three challenges that the school may face as a result of this approach. [6]

**- In case of a problem thre will be no fall back**

**- There will be less time for users to familirise themselves with new system**

**- Possibility of sabotage by users because of less time to monitor and manage stress resistance**

c) State **three** reasons that may lead an organization to install an intranet. [3]

**- to isolate resource from the internet**

**- to provide communation and collaboration amongst organization staff**

**- to publish and share valuable information easily with users**

**- to safely run critical applications**

d) The figure below shows a coaxial cable. State the function of the part labelled A. [2]



**A**

**Used to provide insulation**

**To block electromagnetic fields from interference**

**To protect signal distortion**

18. Use the figure below to answer the questions that follow:.



a) Give the name of the above network topology [1]

**Bus**

b) State three disadvantages of the above topology [3]

 **- Slow**

**- T-Joints weaken the signal (BNC connectors)**

**- A bus that is not terminated causes Ringing**

c) A publisher intends to use a desktop publishing programme to create a publication which is to have many graphics. State three ways in which the graphics may be acquired for this purpose. [3]

- **Using digital camera**

**- Scanning thegraphics from other sources**

**- Downloading from the Internet**

**- Drawing/Drawing tools**

**- Clipart**

d) Interpret each of the following spreadsheet formula:

1. =count if(D2:D9,”>”B4) [2]

**Count those values in the range D2;D9 with values greater than the value in cell B4**

1. =sumif(B3:B11,”4M”,D3:D11) [2]

**Sum the values in the cell range D3;D11 for records whose corresponding values in cell range B3:B11 equals to “4M”**

d) i) The following are the fields of products table in a database created to store records of products manufactured in factory:

* Product number **Autonumber/Text**
* Product name **Text/String**
* Price **Currency/Number**
* Product description **Memo/Text/String**

I. State the appropriate data type for each field [4]

19. Explain **three** features of a graphical user interface as used in computers. [6]

**- Windows**

**- Icons**

**- Menus**

**- Pointers**

b) State the function of each of the following computer keyboard keys:

 i) Caps Lock [1]

**Is a toggle key when ON the characters typed are in uppercase and when OFF the characters typed are in lower case**

ii) Shift [1]

**Used together with alphanumeric key to type the alternate character**

1. Home [1]

**Used to take the cursor to the beginning of a line**

**Used in conjunction with other keys to modify the function of the key**

c) Using two’s complement notation, determine the value of the operation 2510 – 2910. [6]

**2510 = 0001 10012**

**2910 = 0001 11012**

**2s complement of 2910 = 1110 0010**

 **+ 1**

 **1110 0011**

**Adding the two binary numbers**

 **0001 1001**

**+ 1110 0011**

 **11111100**

20. a) Distinguish between a computer drive and computer driver. [2]

*A computer drive is a hardware component that facilitates storage and retrieval of data on incorporated to the operating system the controls the functionality of their specific peripheral devices. A removable storage device while a computer driver is sets of instructions installed*

Difference @ 2 Marks

b) State **two peripheral** devices connected to the computer via PS2 [1 ]

*- Keyboard*

*-Mouse*

c) Jane encountered desktop computer with the following features

*- 3.0 USB ports*

*- 4.0 GB primary storage*

*-19” TFT VDU*

*- 500 SATA HDD*

*-Linux 7.1*

*-AVG antivirus*

1. Give 3 reasons for wide use of USB gadgets in the society today. [3]
2. *Allows multiple peripheral devices on a single port*

*Quality data transmission*

*Faster data transmission*

1. What is the meaning of the following specifications :

*- 4.0 GB primary storage [1 ]*

*-19” TFT VDU [1]*

*- 500 SATA HDD [1]*

 *-Linux 7.1 [1]*

iii) Give **three factors** to consider when selecting an **OS** to install in your computer. [3]

* *Processor speed*
* *Purpose of the computer*
* *Memory size*
* *Compatibility and*
* *Upgradeablility*
* *User needs*
* *User friendliness*
* *Make of the computer*

iv). Describe **two symptoms** of a computer infected by virus. (2]

*-Hang ups*

*-Shutting down frequently*

*-Error messages*

*-Quizical messages*

*- file increase and decrease*