

COMPUTER PP 1 2024 KCSE MOCK

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NAME.....ADM.....
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COMPUTER STUDIES

PAPER 1

(THEORY)

451/1

Instructions to Candidates

- (a) Write your Name, Admission number and Class in the spaces provided above.
- (b) This paper consists of **two** sections; **A** and **B**.
- (c) Answer **ALL** the questions in section A
- (d) Answer question 16 and any other **THREE** questions from section B
- (e) **ALL** answers should be written in the spaces provided on the question paper.
- (f) **This paper consists of 7 printed pages.**
- (g) **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**
- (h) **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 marks]

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2. State **two** ways of ensuring proper ventilation in a computer room [2 marks]

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

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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 marks]

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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 marks]

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4. Distinguish between a line printer and a page printer as used in computers. [2 marks]

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

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5. State the function of each of the following features of an email software
a) Inbox [1 mark]

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Draft [1 marks]

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

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

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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 marks]

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

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

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

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

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

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

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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 marks]

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

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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 $n \geq 1$. [10 marks]

[illegible]

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

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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 marks]

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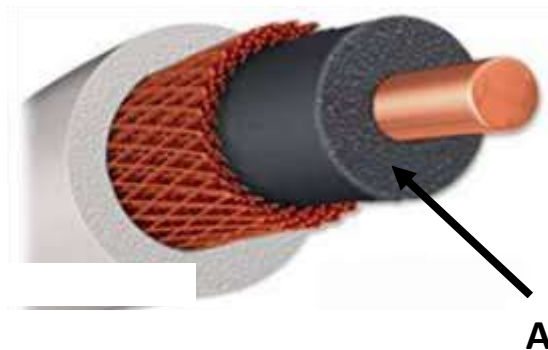
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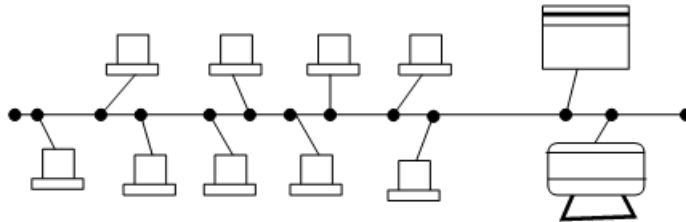
c) State **three** reasons that may lead an organization to install an intranet. [3 marks]

.....

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



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



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

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

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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 marks]

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d) Interpret each of the following spreadsheet formula:

i) =count if (D2:D9,">" B4) [2 marks]

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ii) =sumif (B3:B11,"4M", D3:D11) [2 marks]

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

- Product number
- Product name
- Price
- Product description

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

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

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

i) Caps Lock [1 mark]

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ii) Shift [1 mark]

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iii) Home [1 mark]

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c) Using two's complement notation, determine the value of the operation $25_{10} - 29_{10}$. [6 marks]

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

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b) State **two peripheral** devices connected to the computer via PS/2 [1 mark]

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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

i) Give 3 reasons for wide use of USB gadgets in the society today. [3 marks]

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ii) What is the meaning of the following specifications:

i. *4.0 GB primary storage* [1 mark]

ii. *19" TFT VDU* [1 mark]

iii. *500 SATA HDD* [1 mark]

iv. *Linux 7.1* [1 mark]

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

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

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NAME.....ADM.....

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COMPUTER PP1 SERIES 2

Instructions to Candidates

- a) Write your name and admission number in the spaces provided at the top of this page.
- b) Sign and write the date of examination in the spaces provided above.
- c) This paper consists of **TWO** sections; **A** and **B**.
- d) Answer **ALL** questions in section **A**.
- e) Answer question **16** and any other **THREE** questions from section **B**.
- f) All answers should be written in the spaces provided on the question paper.
- g) **This paper consists of 13 printed pages**
- h) **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing**

For Official Use Only

SECTION	QUESTION	SCORE

A	1 - 15	
B	16	
	TOTAL	

This paper consists of 13 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing

SECTION A (40 marks)

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

1) Describe the following **input/output** terms as used in computer systems. Give an example for each (3marks)

a) Read

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.....

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b) Write

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2) Using relevant examples distinguish between a formula and function. (3marks)

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3) 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 marks)

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4. The management of an organisation intends to purchase a printer. State three factors that they should consider during the purchase (3 marks)

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5. State three reasons why it is important to define data types of fields in a database correctly
(3 marks)

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6. An engineering company requires a computer system to design roads and bridges. (2 marks)

Explain one suitable choice for:

(i) output device;

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(ii) software.

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7. State three circumstances under which the use of wireless communication would be preferred in data communication. (3 marks)

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8. Headache, back and neck pain may result from the use of computers. State how each of them can be minimized (2 marks)

(a) Headache

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(b) Back & Neck Pain

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9. Explain the importance of each of the following in word processing:

(i) tab stops; (2 marks)

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(ii) Section breaks. (2 marks)

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10. State three problems associated with using e-mail technology for communication (3 marks)

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11. State two ways in which each of the following can be prevented

(a) Software errors (1 mark)

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(b) Computer fraud

(1 mark)

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12. Differentiate between analogue data and digital data as used in computers (2 marks)

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13. State four properties that an operating system displays about a file

(2 marks)

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14. State the functions of each of the following keys on the computer keyboard (2 marks)

(a) backspace;

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.....
(b) insert (ins)

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15. Give three file organization methods in a computer

(3 marks)

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SECTION B (60 Marks)

*Answer question 16 and any other **THREE** questions from this section in the spaces provided.*

- 16.(a) State three ways in which a programmer can make program code easy to follow
(3 marks)

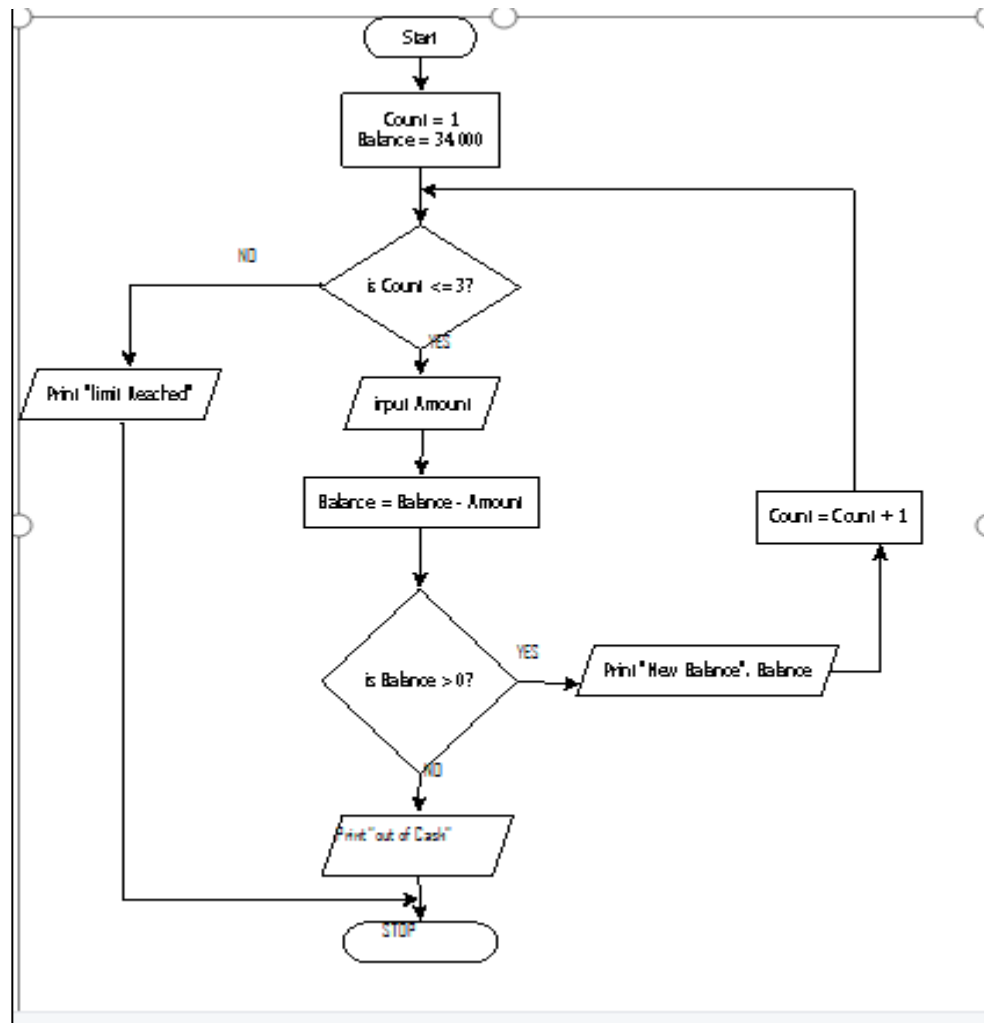
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- (b) Study the flowchart below and use it to answer the questions that follows;



(i) State the output of the above program flowchart for the inputs given below (3 Marks)

Amount = 15,000, 14,000 and 23,000 respectively

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(ii) State the purpose of the flowchart

(1 Mark)

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(iii) Write a pseudocode for the flowchart in question (16. c) above

(8 Marks)

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17. (a) Interpret each of the following spreadsheet formula:

(i) =countif(A2:A9, ">=E7")

(2 marks)

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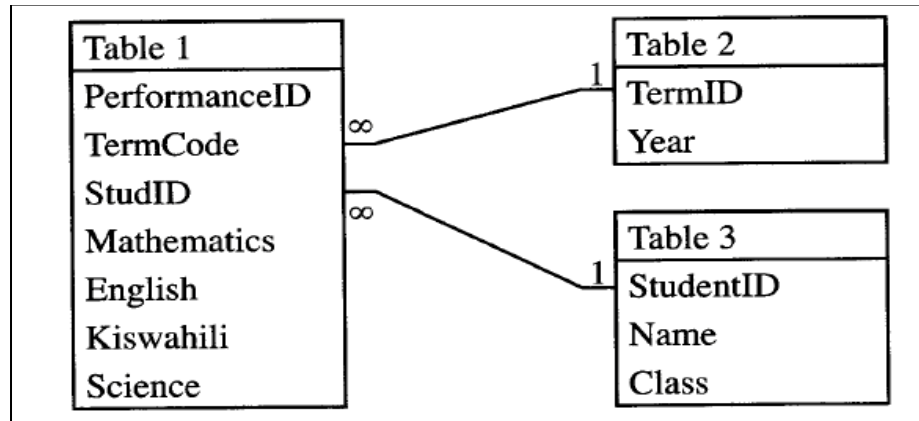
.....

(ii) =sumif(B2 :B10, "WP", D3 :D11)

(2 marks)

.....

(b) The figure below shows relationships between tables in a database.



Identify two primary and two foreign keys used in the relationship. (4 marks)

(c)(i) Convert the hexadecimal number $C7D_{16}$ to its equivalent decimal number (2 Marks)

(ii) Using the twos complement and 8-bit notation subtract 27 from 12 leaving your answer in binary notation (5 Marks)

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18. (a) Explain three circumstances under which observation method may be preferred during data

collection (6 marks)

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(b) Describe each of the following types of maintenance

(i) Perfective; (2 marks)

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(ii) Corrective; (2 marks)

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(iii) Adaptive.

(2 marks)

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(c) Name three approaches that may be used to replace an old system with a new computerized system

(3 marks)

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19. (a) With the aid of a diagram, describe the time sharing mode in computer data processing (5 marks)

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(b) A company's management has opted to use computers to process data. State four factors that the management needs to consider when selecting the company data processing mode.(4 marks)

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(c) Describe each of the following validation checks as used in data processing

(i) Preserve check (2 marks)

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(ii) Data type check (2 marks)

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.....

(iii) Check digit (2 marks)

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20. (a) State the function of each of the following

(a) Network Interface Card

(1 mark)

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(b) Modem

(1 mark)

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(c) Repeater

(1 mark)

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(d) Crimping tool

(1 mark)

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(b) State any two reasons why the fibre optic cable is preferred for data transmission over the other cables

(2 marks)

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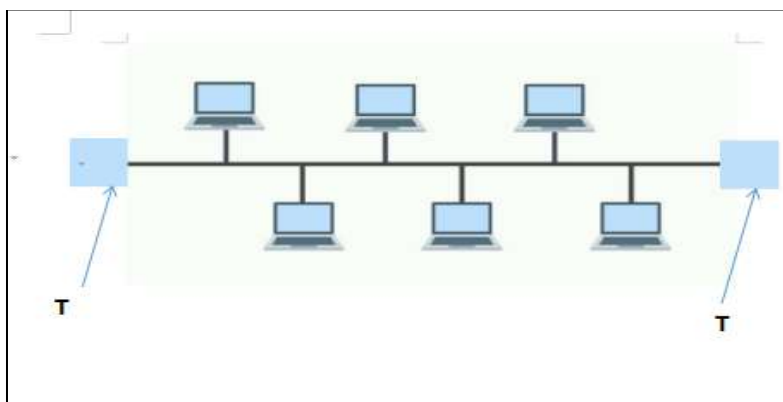
.....
.....
(c) State three functions of networking operating systems other than providing network security.
(3 marks)

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(d) A company has three branches X, Y and Z where X is the headquarter. The local area network (LAN) at X is directly connected to the LAN at Y and directly to the LAN at Z. Explain two benefits of having the LAN at Y also directly connected to the LAN at Y Also directly connected to LAN at Z(4 marks)

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(e) The figure below shows a network topology . use it to answer the questions that follows:



(i) What is the name of the topology?

(1 mark)

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.....

(ii) What is the work of the part labelled T.

(1 mark)

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NAME.....ADM.....

SCHOOL.....INDEX.....

DATE.....SIGN.....TARGET.....

COMPUTER PP1 SERIES 3

Time: 2 ½ Hours

INSTRUCTIONS TO CANDIDATES

- b) Answer **ALL** the questions in **section A**
- c) Answer **question 16 (compulsory)** and **ANY OTHER THREE** questions from **section B**.

For Official Use Only

Question	Maximum score	Actual score
1-16		
17		
18		
19		
20		
TOTAL SCORE		

This paper consists of 148 printed pages. Candidates should check the question paper to ensure that all the printed pages are printed as indicated and no questions are missing.

SECTION A: (40 MARKS)

*Answer **ALL** questions in the spaces provided*

1. i) Explain the *emerging trends* in microcomputer technology in relation to Size (1 mark)

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- ii) Name four categories of input devices (2 marks)

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2. State **three** ways in which computers have been used to fight the spread of corona virus in Kenya.
(3marks)

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3. A Form four student wants to send a large document to a printer.

- a) State the name for the area of memory that the document is sent to immediately from RAM.

(1 mark)

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.....
As the printer runs out of paper during printing, the operating system sends a signal back to the computer to stop temporarily. Name this function of the operating system (1 mark)

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4. i) Give **two** advantages of the higher number of pixels per square centimeter. (1 mark)

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.....
ii) Differentiate between *Data interface cable* and *power cable*. (1 mark)

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iii) Explain **two** differences between *serial* and *parallel* communication ports of a computer. (2 marks)

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5. i) What is *line spacing* as used in word processing? (1 mark)

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ii) Describe any **two** line spacing specification used in Microsoft Word. (2 mark)

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iii) Name the *two* documents used in mail merge. (1 mark)

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iv). With reference to the concept of graphics as used in Microsoft word. Explain the *difference* between object linking and embedding? (1 mark)

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6. Who am I?

i) Am is skilled in software/program development as per requirement and technical operations of Computer hardware. I also develop and update both system and application software together with the associated documentations. (1 mark)

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ii) Am is skilled in designing computer hardware and also improves on existing ones. (1 mark)

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7. During the COVID 19 pandemic, the government advised the citizens to use electronic funds transfer and other popular mobile phone money transactions to make payments.

i) State **two** ways how the above method of conducting business would help to curb on the spread of the disease. (2 marks)

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ii) What is the meaning of *Electronic Funds Transfer*? (1 mark)

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8. Define the term *dual booting* as used in computing. (1 mark)

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9. Differentiate between *cropping* and *grouping*. (2 marks)

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10. Other than flow chart, state **two other** tools that can be used to represent an algorithm (2 marks)

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11. Differentiate between a *deadlock* and *interrupt* as used in operating system. (2 marks)

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12. (a) Securem is a company that deals with providing security services to its clients. Name any **two**

Ways the company can protect its computer network from hackers. (2 marks)

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(b) State **four** characteristics of a suitable password. (2 marks)

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13. During system development the system analyst should consider the correct requirement Specifications for the new system. State any **four** outcomes that may result from using incorrect requirement specifications. (2 marks)

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14. (a) Define the term *Computer Aided Design*. (1 mark)

(b) List **two** advantages of using *Computer Aided Design*.

(2 marks)

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15. Explain **two** arithmetic errors that may occur during computerized data processing. (2 marks)

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SECTION B (60 marks)

Answer **question 16** and **ANY OTHER THREE** questions from this section in the spaces provided.

16. (a) Give **two** examples of syntax errors in programming. (2 marks)

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(b) With aid of a diagram, explain the “Repeat Until” construct as used in structured programming (3 marks)

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(c) Classify the following programming languages according to their category: (3 marks)

<i>Programming language</i>	<i>Category</i>
HTML	
JAVA	
JAVASCRIPT	
PASCAL	
VISUAL BASIC	
LISP	

d) Study the pseudocode below and answer the questions that follow.

```

Start
    N=0
    X=0
    While N < 3
        Repeat
            X = X + 1
        Until X < 2
        N = N + 1
    End while
    Print N, X
Stop

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(i) What will be the output from the program

(2 marks)

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Draw a flowchart that was used to come up with the following pseudo code

(5marks)

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17. (a) State the **stage** in system development life cycle where each of the following activities are

Carried out:

i. Identifying shortcomings of a system. (1 mark)

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ii. Preparing the system migration plan (1 mark)

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iii. Identifying the technologies that may be used in the proposed system. (1 mark)

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(b) State and explain **THREE** components of an expert system. (3 marks)

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(c) E-mail technology has become a very important part of today's communication. Explain any

three problems associated with using e-mail technology for communication. (3 marks)

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(d) Sarafina wants to download her favorite movie from YouTube. State any **three** factors that

may determine how long it will take her to complete the download. (3 marks)

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e). Most computerized security systems make use of biometric analysis. Name physical features of human beings that can be considered for this analysis. (3 marks)

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18. The following Digital Club Member details were to be entered in a database: Name, Date of registration, Registration fee and Class.

iv) Prepare a suitable structure showing field names and their field types (4 marks)

Field	Data type
Name	
Date of registration	
Registration fee	
Class	

v) Name one other field that the Club Patron may need to add to uniquely identify the records (1 mark)

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(c) Write the statement that can be used to select members of the class form 3. (2 marks)

	Name	Date of registration	Registration fee	Class
Criteria/ Expression				

(d) The following is an extract from a spreadsheet created to manage sales. Use it to answer the questions that follow.

	A	B	C	D
1	ITEM NAME	UNIT PRICE	UNITS SOLD	
2	HDD 300 GB	7,500	2	
3	Optical Drive	4,500	8	
4	DELL Latitude core i5	44,500	3	
5	DDR4 8GB RAM	10,000	4	
6	Lenovo Yoga Smart Tab	28,953	1	

(i) Write a formula that will compute the number of items whose unit price whose price more than

10,000

(3 marks)

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(ii) If the formula =B2*C\$2 was placed in D2, state the output if copied to D3. (2 marks)

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(iii) Write the cell referencing used in c(ii) above.

(1 mark)

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(iv) Write the data type that is stored in cell C5 and A6 respectively (2 marks)

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19. a) Define the term attenuation as used in networking and data communication. (1 mark)

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b) The following are figures of networking cables. Identify each. (2 marks)



Figure 1

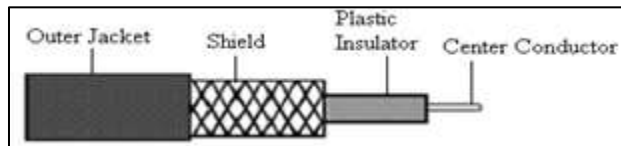


Figure 3

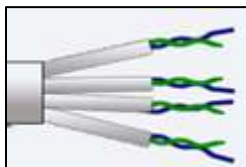


Figure 2

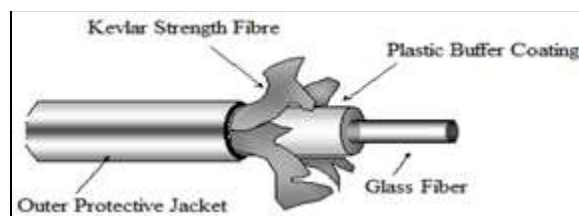


Figure 4

Figure 1

Figure 2

Figure 3

Figure 4

c) (i) Give **two** examples of network software

(2 marks)

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(ii) In a network setup, list any **two** items that may be referred to as data terminal equipment.

(2 marks)

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d) Explain the following terms as used in networking

(4 marks)

(i) Remote Communication

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(ii) Distributed processing

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e) State **four** functions of a server in a network

(4 marks)

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20. a (i) Define the term accreditation as used in education. (2marks)

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(ii) Explain **two** factors you would consider before enrolling for an ICT course in a College (2marks)

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b) Describe **three** guidelines that should be followed when conducting an interview during information gathering (3marks)

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c) Convert the following number systems (4 marks)

37.625_{10} to binary

- d)** Using Two's compliment, perform the following arithmetic operation leaving your answer in decimal.

$$39_{10} - 19_{10}$$

(4 marks)

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NAME.....ADM.....

SCHOOL.....INDEX.....

DATE.....SIGN.....TARGET.....

COMPUTER PP1 SERIES 4

Time: 2 ½ Hours

Instructions to Candidates

1. Write your **name** and **index number** 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** (compulsory) and any other **THREE** questions from section B.
5. **All** answers should be written in the spaces provided.
6. This paper consists of **12** printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing

FOR EXAMINER'S USE ONLY

Section	Questions	Candidate's score
A	a) 15	
B	16	
	17	
	18	
	19	
	20	
	TOTAL SCORE	

Section A (40 Marks).

Answer all questions in the spaces provided

- (i) i) Define the term computer booting. (1 mark)

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- ii) State three reasons that can make a user to warm boot a computer (3 marks)

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Direct data capture is one major way of inputting data into computers. State Three advantages for using an optical bar recognition. (3 marks)

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tate the function of the following keyboard keys. (2 marks)

- i) Scroll Lock

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- ii) Num Lock

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.....E

Explain why powder and liquid fire extinguishers are not recommended in a computer laboratory.

(2 marks)

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Distinguish between relative cell referencing and absolute cell referencing as used in computing giving an example in each case

(2 marks)

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Computer technology has evolved from the first to the fifth generation computers. Name the technology, memory and programming language used in the 2nd generation computer. (3 marks)

Technology

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Memory

.....

programming

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Language

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(j) Describe each of the following computer cables

i) Universal serial Bus cable (USB)

(2 marks)

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ii) Serial cable (2 marks)

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i) Define the term proofreading as used in word processing (1 mark)

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ii) Name **four** types of proofreading tools used in word processing (2 marks)

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A computer system needs a stable power supply. To filter out power problems such as black out, brownout, power surge and power sag, connect your computer to an interruptible power supply (UPS).

What do you understand by the following terms? (3 marks)

i) Power sag

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Power surge

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Brownout

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.....
Define the term networking as used in computing. (1 mark)

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.....
Differentiate between softcopy output and hard copy output in computers. (2 marks)

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.....
Explain the following monitor terminologies as used in computing. (3 marks)

(ii) Resolution

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.....
Color depth

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.....
Pixels

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.....
Differentiate between registers and Buses as used in computing. (2 marks)

(k) Explain the following types of memories .

(2 marks)

i) Buffer memory

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.....

ii) Cache memory

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a) Define the term troubleshooting as used in computing.

(1 mark)

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b) State Three problems that may be experienced when using windows operating system (3 mrks)

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Section B (60 Marks).

Answer Question 16 and Any Other Three Questions from this Section

(l) While developing software, the source code must be converted to object code, so that the computer can understand and execute the instructions; that process is called **translation**.

iii) List **two** translating programs required to do that process.

(2 marks)

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State **two** reasons why some programming experts prefer low-level languages over high-level languages while developing programs for use in a computer. (2 marks)

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A MOKASA class sat for a test in eight subjects. A student must get an average of 60% in all subjects in order to pass. A program is needed to accept data, process and generate a report that will show the **name**, **marks** obtained by each student per subject, the **average** mark and whether the student has **passed** or **failed**.

(i) **Write** a pseudocode used to solve this problem.

(5 marks)

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(ii) Draw a flowchart for the above program.

(6 marks)

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(m)(a) Define the term data processing

(1mk)

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(b) Distinguish between the following sets of terms as used in data processing

(i) Indexed sequential and Serial file organization

(2mks)

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(ii) Interactive and Batch processing modes

(2mks)

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(iii) Master file and Report file

(2mks)

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(c) Explain Three computer crimes that compromise data integrity

(6mks)

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(d) Explain WORM with respect to viruses. (1mk)

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(e) Identify the name given to the type of error that results from an arithmetic operation failing to produce an expected result (1mk)

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.....a

) i) Describe how data is represented in an optical storage device. (2 marks)

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b) i) Convert the decimal number 38.625_{10} to binary (2 mrks)

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ii) Convert the Hexadecimal number DA3.BC₁₆ to Octal

(2 mrks)

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c) i) Letter N is represented by 1001110 using a certain coding scheme. Identify the type of coding scheme used (1 mark)

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i) Using the same coding scheme named in C (i) above , show how letter K can be represented (2 marks)

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d) Using twos complements, 8-bit representation, subtract 43₁₀ from 27₁₀ giving your answer in decimal notation (5 marks)

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e) Using Binary coded decimal (BCD), find the value of 234₁₀

(1 mark)

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(a) Explain the following functions of operating system

(i) Memory management

(2mks)

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(ii) Input/Output management

(2 marks)

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(b) Maria, the school secretary prefers to compress her disk instead of using it in its original form. Give Two reasons for her preference

(2 marks)

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(c) Identify two ways in which operating system organizes information in a computer (2 marks)

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(d) Distinguish between portability and authenticity in relation to computer software (2mks)

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(e) A file is a group of related data designated by file name and the extension. The table below shows the file extension and the description of the file. Fill the blank spaces

(2 marks)

File extension	File description
.Sys	System file containing commands loaded during boot up
.txt	_____
_____	Ms-word document file

f) i) Differentiate between Firmware and Utility software

(2 marks)

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ii) Name the application software used to create presentations inform of slides

(1 mark)

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A school wishes to be connected to the internet to enhance its service delivery.

3. State any **two** internet connectivity requirements that should be considered for the school to get connected. (2 marks)

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Nashipae wants to download a music album from a website to her computer. State **two** factors that determine the time taken to complete the download. (2 marks)

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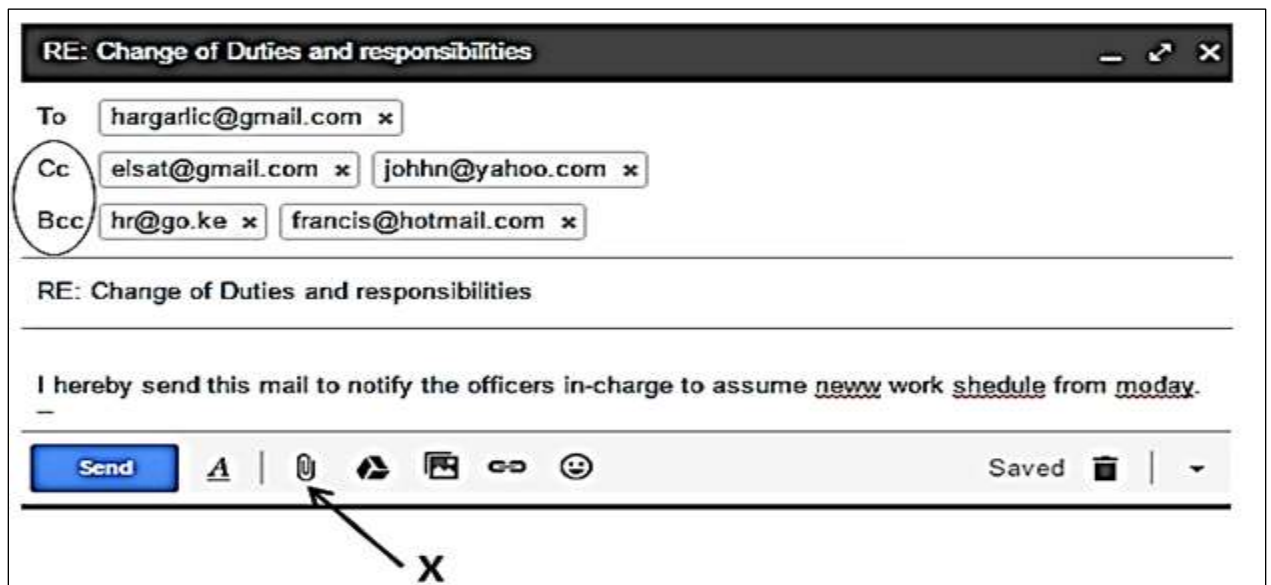
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he figure below shows an extract from compose e-mail window. Use it to answer questions that follow.



- Name the icon labeled **X** and explain its purpose in e-mail. (2 marks)

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Write in full the meaning of the abbreviations **Cc** and **Bcc** respectively. (1 mark)

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One advantage of a database management system is centralization of data and enforcement of integrity.

- v. Explain what is meant by enforcing integrity in databases. (1 mark)

Identify the type of database models depicted in each of the figures Q and R below. (2 marks)

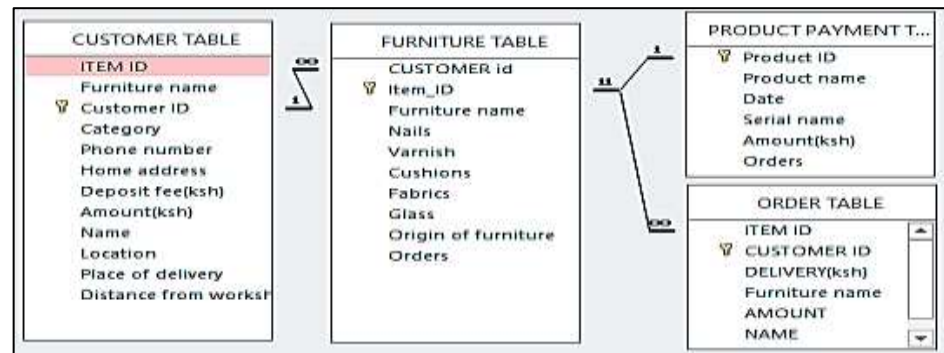


Figure Q

Pilot_Name	Abdul Mohammed
Emp_Number	KQ649
Total Pay	680,000
Number of flights	100
Flight Hours	68
Position	Lead Pilot

Figure R

- (i) Define the following terms as used in desktop publishing. (2 marks)

- a. Master page

.....
.....
.....
.....
Cropping

.....
.....
.....
.....
(ii) State **three** factors considered when choosing a desktop publishing software.
(3 marks)

NAME.....ADM.....

SCHOOL.....INDEX.....

DATE.....SIGN.....TARGET.....

COMPUTER PP1 SERIES 5

Time: 2 ½ Hours

Instructions to candidates

- a) Write your Name, Adm No., Stream, Index No., Date and Sign in the spaces provided above
- b) The paper consists of two Sections A and B
- c) Answer **ALL** questions in **Section A**.
- d) Answer Question 16 (**COMPULSORY**) and any other three questions in **Section B**
- e) All answers must be written in English
- f) The paper consists of 14 printed pages
- g) Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing

For examiner's use only

Section	Question	Maximum Score	Candidate's Score
A	1 – 15	40	
B	16	15	
	17	15	
	18	15	

	19	15	
	20	15	
TOTAL SCORE			

Section A (40 marks)

Answer all questions in this section on the spaces provided.

- 1 Why must food and beverages be kept out of the computer lab? *[2 marks]*

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.....

.....

- 2 State two key technological developments that occurred during the third generation of computers *[2 marks]*

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.....

- 3 a) What are toggle keys in relation to keyboards? *[1 marks]*

.....

.....

- b) What type of keyboard would you prefer for the following and why? *[4 marks]*

i) Visually impaired users

.....

.....

ii) Busy restaurant

.....

.....

4 State two differences between buffers and registers *[4 marks]*

.....

.....

5 As a computer expert, you were approached by certain organization to help them secure some computers they require. You were keen at certain considerations based on the knowledge you have in computing. What would the following considerations imply? *[3 marks]*

i) Software Authenticity

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ii) Multi-media capability

iii) Software portability

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b State **three** purpose of establishing relationship among tables.

[3 marks]

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9 Most spreadsheets usually accept certain type of data to be entered into the worksheets.
Outline four types of these data.

[2 marks]

.....

.....

10 a Outline four benefits of using word processors over manual typewriters

[2 marks]

.....

.....

b Differentiate between the following

i. Merging and splitting cells in word processor table

[2 marks]

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.....

.....

ii. Data source and main document in mail merge **[2 marks]**

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11

Why are system analysts referred to as change agents in an organization?

[1 marks]

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12

Why would one defragment his storage media?

[1 marks]

.....

.....

13

What is the meaning of the phrase 'syntax error' as used with computer programming?

[1 marks]

.....

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14

Why are repeaters necessary when setting up a large network?

[1 marks]

.....

.....

15

State one major reason why organizations are opting for telecommuting .

[1 marks]

.....

.....

Section B (60 marks)

Answer question 16 and any other three questions

- 16 a State **two** distinct differences between compilers and interpreters. **[2 marks]**

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.....

- b b) Outline three demerits of using low level programming languages

..... **[3 marks]**

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.....

- (ii) Differentiate between monolithic and modular programs **[2 marks]**

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.....

.....

- c Study the following statements and answer the questions that follow **[7 marks]**

Start

Initialize x to 3 and y to 4

Count = 1

While Count <=10

Increment x by 1

Multiply y by 2 and subtract $\frac{1}{2}$

Add x to y to attain z

Increase the value of Count by 2

Endwhile

Print the values for x, y and z

Stop

i) What does the above statements represents? [**1 mark**]

.....

ii) What is the value for y and z [**1 mark**]

.....

ii) Implement the above statements using a program flowchart [**6 marks**]

17 a Outline three ways +4 denary can be represented in a computer

[3 marks]

.....

.....

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b Use one's compliment to represent -6_{10} in 8-bits formation.

[2 marks]

c Briefly explain how data are represented on a floppy disk

[2 marks]

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d Differentiate between wavelength and frequency of a signal *[2 marks]*

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.....

.....

e Describe each of the following computer terminologies as used in data representation *[4 marks]*

i. Word

.....

.....

ii. Bit

.....

.....

iii. Byte

.....

.....

iv. Nibble

.....

.....

f Convert 9.625_{10} to binary *[2 marks]*

- 18 i A school intends to network its computers in the computer laboratory. Outline three benefits that this would bring to the lab users *[3 marks]*

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- ii a) What is signal attenuation? *[1 mark]*

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.....

- b) State **three** advantages unbounded media *[3 marks]*

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- iii Network servers run a special type of operating system. State four key functions that this kind of operating system perform *[4 marks]*

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- iv International Organization for Standardization, ISO developed Open System *[4 marks]*

Interconnection, OSI reference model to help in developing network protocols. State the first four layers of this model.

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19 Otieno was tasked with entering marks for a certain exam that was done by an entire class.

a State two types of errors he is likely to encounter during this exercise

[2 marks]

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.....

.....

b How can the above identified errors be avoided?

[1 mark]

.....

.....

c Other than the errors identified above, list two other errors that can be encountered during data processing

[1 mark]

.....

.....

d i. A certain research institution had his staff collect data from the field. The collected data are then surrendered to the central location where they are

[1 mark]

processed as a unit over a period of term. What processing mode is being used?

.....

.....

ii. State one merit of this mode. *[1 mark]*

.....

e Describe data integrity.

[1 mark]

.....

.....

f There are so many ways that can be used to reduce threat to data integrity. Mention any two *[2 mark]*

.....

.....

.....

g Give the best file organization employed by Magnetic tapes and SD Cards.

[2 mark]

.....

.....

h (n) The school's LAN is done using UTP cable. List **two** advantages of using this type of cable.

[2 mark]

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.....

(o) List **two** advantages of using fibre optic cable in networking

[2 marks]

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- i Data flows in the school's LAN in a duplex manner. List **two** other modes of data transmission in a network ***[1 mark]***

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.....

20 a i. Outline **three** threats to data stored in a computer

[3 mark]

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ii. Database design can take several forms depending on the user's needs. Explain two models that one can use

[2 marks]

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.....

b The following is a spreadsheet relating to a retailer.

[2 marks]

	A	B	C	D	E	F
1	Item	Quantity	Unit Price	Total	Tax	Gross Total
2	Suga	50	120			
3	Bread	41	75			
4	Margarine	39	250			
5	Diapers	103	25			
6						
7	Tax Rate	15%				

If the Tax Rate is applicable to all items listed, write a formula that can be entered in cell E2 and can be copied along the column to get the tax for other items

.....

.....

c i. Study the passage below

[2 marks]

Raila Amolo Odinga (born 7 January 1945) is a Kenyan politician who served as the [Prime Minister of Kenya](#) from 2008 to 2013. He is assumed as the [Leader of Opposition](#) in Kenya since 2013 as the [New Constitution of Kenya](#) does not prescribe for such a position. He was the Member of Parliament (MP) for [Langata](#) from 1992 to 2007. Raila Odinga served in the [Cabinet of Kenya](#) as Minister for Energy from 2001 to 2002, and as the Minister for Roads, ~~Public Works and Housing~~ from 2003 to 2005. Odinga was appointed [High Representative for Infrastructure](#)

[Development](#) at the [African Union Commission](#) in 2018.

Outline four formatting styles that have been applied to the passage

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d List **three** career opportunities in the field of ICT.

[3 marks]

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.....

e Outline **three** services offered on the internet.

[3 marks]

.....

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THIS IS THE LAST PRINTED PAGE

NAME.....ADM.....

SCHOOL.....INDEX.....

DATE.....SIGN.....TARGET.....

COMPUTER PP1 SERIES 6

Time: 2 ½ Hours

INSTRUCTIONS TO CANDIDATES:

- c) Write your name and index number in the spaces provided above.
- d) Write the date of examination and sign in the spaces provided.
- e) This paper consists of **two** sections.
- f) Answer **all** the questions in section **A**.
- g) Answer question **16** (compulsory) and **any other three** questions from section **B**.
- h) All answers **must** be written in the spaces provided in this question paper.

FOR EXAMINER'S USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	ACTUAL SCORE
A	1 – 15	40	
B	16	15	
		15	
		15	
		15	
		TOTAL SCORE	

This paper consists of 13 printed pages

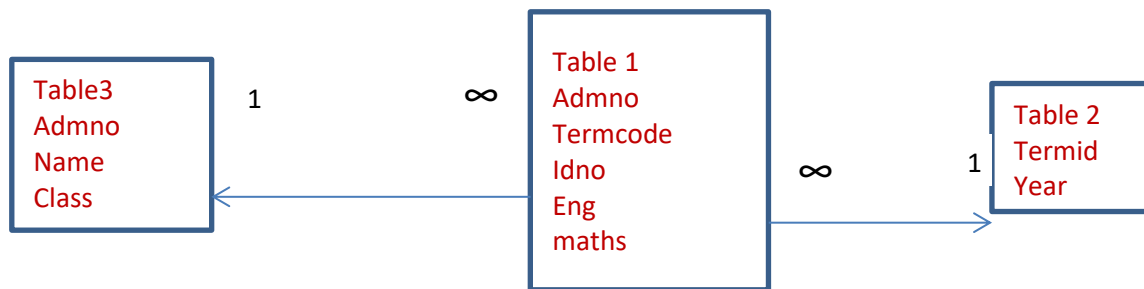
Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

SECTION A (40 MARKS)

ANSWER ALL THE QUESTIONS FROM THIS SECTION IN THE SPACES PROVIDED

1. One of the functions of an operating system is to control computer resources. State three resources under operating system control (3 marks)

2. (a) The figure below shows the relationship between tables in a database.



Identify two primary keys and two foreign keys used in the relationships (2 marks)

- (b) Distinguish between bound and unbound controls as used in database forms (2 marks)

Explain why an impact printer is suitable for printing multiple copies (2 marks)

State any four examples of document readers (2 marks)

(a) Define the term simulation (1 mark)

(b) List two educational areas where simulation programs can be used (1 mark)

Explain two ways of protecting data and information against unauthorized access (2 marks)

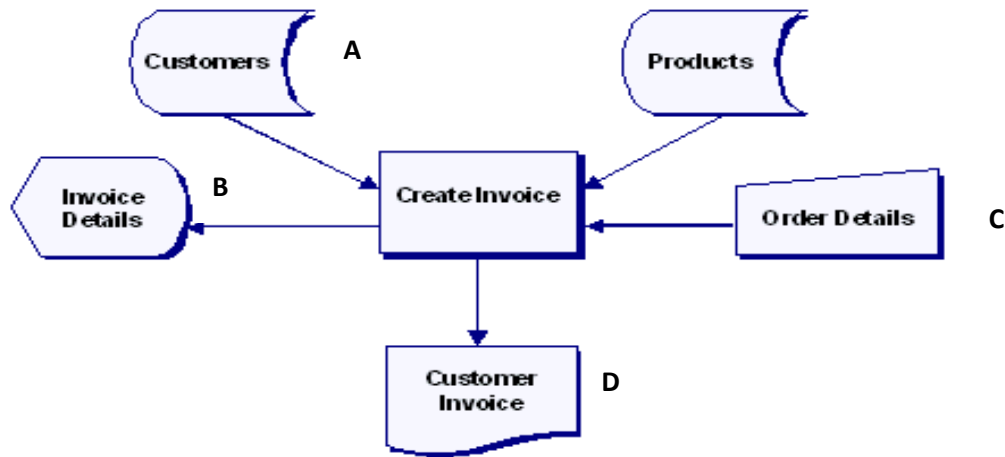
7. Explain two characteristics of good information (2 marks)

Explain three types of errors that are likely to exist in a program (3 marks)

9. State two roles of a network administrator (2 marks)

10. State three negative impacts of information communication technology on the environment (3 marks)

11. Study the follow flowchart then answer the questions that flow.



d) Identify the type of flowchart represented by the flowchart in figure (1 mark)

Name the flowchart symbols labeled **A, B, C and D** in the flowchart. (2 marks)

12. Mary a computer student noticed that every time a person enters the computer lab, the computer screen flickered. Identify three reasons why the monitor might be flickering (3marks)

13. (a) state the importance of column breaks as used in a word processor (1 mark)

(b) List any two line spacing specifications used in Ms- Word

(1 mark)

14. The first column in the table below contains the formula stored in cell **C10** of a spreadsheet. Enter the formula as they would appear when copied to cell **F15** of the same spreadsheet (2 marks)

FORMULA IN C10	FORMULA IN F15
=A5*B5	
=4*B\$6	

15. (a) Differentiate between an analog and digital data signal

(2 marks)

(b) The government of Kenya is in the process of laying out fibre optic cables throughout the country. State three advantages of fibre optic cables (3 marks)

SECTION B(60 MARKS)

ANSWER QUESTION 16 AND ANY OTHER THREE QUESTIONS FROM THIS SECTION

16.(a) Draw a program flowchart that would accept and their sum. If the sum is greater than 200, it adds 30 to the sum, otherwise subtracts 20 from the sum. The program should then display the results (7 marks)

(b) Study the pseudo code below and determine its output (3 marks)

STEP 1: T=0
 M=0
 K=1
STEP 2 M=M+T
 T=T+5
 K=K+1
STEP 3 REPEAT STEP 2 WHILE K<3
 WRITE M, T
 EXIT

(c) (i)List two benefits of using interviews as a method of fact finding (2 marks)

(ii) Explain three types of system change over strategies (3 marks)

17. (a) state three functions of a database management system (DBMS) (3 marks)

(b) if a database was to be created for a list, Tables, Forms, Queries and Reports are likely to be used. State the purpose of each of the objects (4 marks)

c) The information below is maintained by Jessica Fruit store. Study it and answer the questions that follow:

Product number	Product name	Qty in stock (kg)	Value per unit (ksh)
001	Peach	1000	200
002	Oranges	1200	200
003	Mangoes	1300	100

Write down the query statements you can use to list the following;

i) Product names starting with letter P. (2 marks)

ii) Value per unit below 200. (2 marks)

(d) The following is a spreadsheet relating to a farmer (2 marks)

	A	B	C
1	Crop	Amount	
2	Maize	150	
3	Bean	300	
4	Cashew nuts	850	
5	Cabbages	1036	

A function = IF (B2<200, "Not Viable", IF (B2>300, "Moderate", IF (B2>1000, "Viable"))). Give the appropriate result returned in cells C2, C3, C4 and C5

d) Name **four** data types used in spreadsheets. (2 Marks)

18. (a) Explain the use of the following commands found in the spell check dialog box in reference to word processing (3 Marks)

i) Change _____

ii) Ignore once _____

iii) Add _____

(b) State four font styles supported by Ms. Word (2marks)

(c) Work out the following binary arithmetic (2marks)

4. $11101.0011_2 + 101.011_2$

$101001.10101_2 - 110.01101_2$

Using twos complement, perform the following calculation. (4marks)

$23_{10} - 41_{10}$

5. Convert 13.125_{10} to decimal. (2marks)

A particular computer stores numbers in a single 8-bit word. How would it represent 0.3125_{10} ? (2 marks)

19 (a) Explain each of the following type of operating systems (4marks)

i. Distributed

ii. Multi-user.

b) List any two types of embedded operating systems used in modern cell phones (2marks)

c) Most operating systems provide a *file system*. Mention any TWO file systems used in windows environment. (2 marks)

(d) Define the term interactive data processing. (1mark)

(e) Explain why input screens are better data entry designs than entering data directly a table. (2 marks)

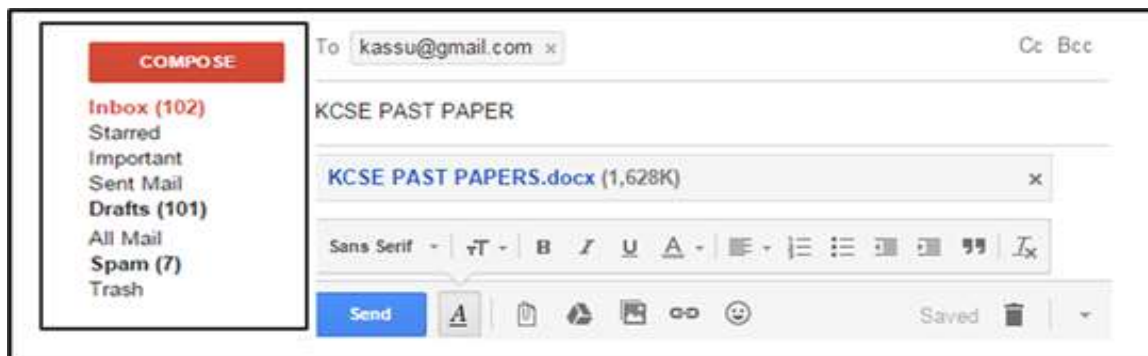
(f) State two likely causes of data and program loss in a computer system? (2 marks)

(g) Explain the meaning of the following terms as used in data security (2marks)

a. Fraud

b. Alteration

20. (a) The figure below shows an extract of an e-mail application.



State what is meant by the following (3 marks)

(a) Trash

(b) Spam

(c) Inbox

b) Explain the following interactive sensory equipment used in virtual reality

(2marks)

i) Head gear

ii) Body suit

c) Most computerized security systems make use of Biometric analysis, name **three** physical features of human beings that can be considered in this analysis (3marks)

For marking scheme call sir abraham **0729125181**

(p) (i) Define the term networking topology (1mark)

(q) (ii) Distinguish between logical and physical network topologies (2marks)

(d) Explain the functions of the following network devices (4marks)

(i) Network interface card (NIC)

(ii) Gateway

(iii) Bridge

(iv) Repeater

NAME.....ADM.....

SCHOOL.....INDEX.....

DATE.....SIGN.....TARGET.....

COMPUTER PP1 SERIES 7

Time: 2 ½ Hours

Instructions to Candidates

- (r) Write your Name, Admission number and Class in the spaces provided above.
- (s) This paper consists of **two** sections; **A** and **B**.
- (t) Answer **ALL** the questions in section A
- (u) Answer question 16 and any other **THREE** questions from section B
- (v) **ALL** answers should be written in the spaces provided on the question paper.
- (w) **This paper consists of 7 printed pages.**
- (x) **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**
- (y) **Candidates should answer the questions in English**

SECTION A (40 MKS)

Answer all questions in this section.

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

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7. State **two** ways of ensuring proper ventilation in a computer room [2 marks]

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

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7. 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 marks]

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8. 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 marks]

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9. Distinguish between a line printer and a page printer as used in computers. [2 marks]

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10. Describe virtual reality as used in computers. [2 marks]

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11. State the function of each of the following features of an email software

e) Inbox [1 mark]

.....

.....

.....

.....

f) Draft [1 marks]

.....

.....

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.....

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

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

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.....

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 marks]

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.....
.....
.....

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

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.....
.....

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

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

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.....

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

For marking scheme call sir abraham **0729125181**

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

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.....

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

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 marks]

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

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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 $n \geq 1$. [10 marks]

[illegible]

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

For marking scheme call sir abraham **0729125181**


[illegible]

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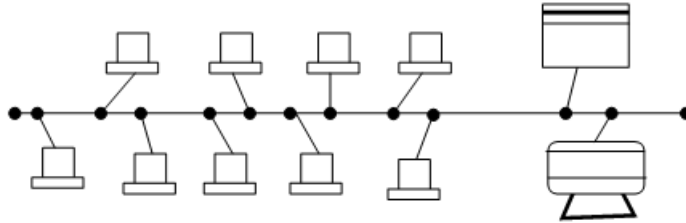
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A

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



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

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

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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 marks]

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d) Interpret each of the following spreadsheet formula:

vi) =count if (D2:D9,">" B4) [2 marks]

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vii) =sumif (B3:B11,"4M", D3:D11) [2 marks]

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

- Product number
- Product name
- Price
- Product description

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

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

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

i) Caps Lock [1 mark]

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ii) Shift [1 mark]

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viii) Home [1 mark]

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c) Using two's complement notation, determine the value of the operation $25_{10} - 29_{10}$. [6 marks]

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

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For marking scheme call sir abraham **0729125181**

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b) State **two peripheral** devices connected to the computer via PS/2 [1 mark]

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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

iv) Give 3 reasons for wide use of USB gadgets in the society today. [3 marks]

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v) What is the meaning of the following specifications:

vi. *4.0 GB primary storage* [1 mark]

vii. *19" TFT VDU* [1 mark]

viii. *500 SATA HDD* [1 mark]

ix. *Linux 7.1* [1 mark]

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

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

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NAME.....ADM.....

SCHOOL.....INDEX.....

DATE.....SIGN.....TARGET.....

COMPUTER PP1 SERIES 8

Time: 2 ½ Hours

Instruction to candidates

- vi) Write your name and index number in the space provided above.
- vii) Sign and write the date of examination in the spaces provided above.
- viii) This paper consists of **two** sections **A** and **B**.
- ix) Answer **all** the questions in section **A**.
- x) Answer question **16** and any other **three** questions from section **B**.
- xi) All answers should be written in the space provided in the question paper.
- xii) This paper consists of **16 printed pages**.
- xiii) Do not remove and pages from this booklet.
- xiv) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- xv) Candidates should answer the questions in English.

For Examiner's Use Only

Section	Question Number	Candidate's Score
A	1-15	
B	16	
	17	
	18	
	19	
	20	
Total Score		

SECTION A (40 MARKS)

Answer all question

- ii) In a computer class a teacher taught on removable storage media. State three precautions of preventing data loss in such media that the teacher may have mentioned.

(3 marks)

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- iii) What is the function of an antistatic wrist member?

(1 mark)

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- iv) Classify the following software's according to purpose.

(4 marks)

	software	Classification
1.	Need for Speed Game	
2.	BIOS	
3.	Google Chrome Browser	
4.	Adobe InDesign 6	

- v) Differentiate between Sequential file organization and indexed-sequential file organization.

2 marks)

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List four threats to a computer system.

(4 marks)

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Distinguish between relative and absolute cell references as used in spreadsheet. (2 marks)

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vi) List three characteristics of a soft computer system. (3 marks)

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Briefly describe two transcription errors. (2 marks)

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a) List two advantages of secondary storage devices which make them indispensable part of a computer. (2 marks)

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b) Give two reasons why magnetic tape is not a popular secondary storage device. (2 marks)

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Define the following as used in word processing. (2 marks)

(iii) Word wrap.

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Drop Cap

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(iv) Orphan

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Widow-

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Name the two common types of system units and differentiate them. (2 marks)

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Without proper marketing, a business cannot survive in a competitive environment hence computers are being used in a number of ways to enhance marketing. List any three ways of ensuring this is effected. (3 marks)

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.....C

ontrol unit is an essential component of the CPU. Describe the functions of the control unit.

(2 marks)

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vii) Speech recognition devices are used to capture natural sound and convert the input into digital form. State two problems related to speech recognition devices. (2 marks)

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viii) (a) Differentiate between pasteboard and master page as used in DTP (2 marks)

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Differentiate between graphic-based and layout based desktop publishing software. (2 marks)

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SECTION B (60 MARKS)

ANSWER QUESTION 16 AND ANY OTHER THREE QUESTIONS IN THIS SECTION

c) (a) Define the following terms as used in programming
(2 marks)
i) Source code

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ii) Object code

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(b) Differentiate between Assembler and Interpreter as used in programming. (2 marks)

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(c) Identify the type of programming language used in the codes below;
(1 mark)

(i)	1101 1101	1011 1011
	1110 0001	1100 0111
	0010 1110	1011 0011

.....

.....

(ii) **LDA A, 20**
 ADD A, 10
 STO B, A
 NOP

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(d) On the Nairobi-Nakuru highway, the Kenya Police have put speed cameras at a certain point to read the time a vehicle passes a point (A) on the road and then reads the time it passes a second point (B) on the same road. (Points A and B are 200 meters apart). The speed of the vehicle is calculated using:

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- ***Speed*** = $\frac{100}{(\text{time at point B} - \text{time at point A})}$ (Km/ hr)
- *The maximum allowed speed is 100 kilometers per hour.*
- *500 vehicles were monitored using these cameras over a 1-hour period.*

(j) Write a pseudo code, which:

(5 marks)

- Inputs the start time and the end time for the 500 vehicles that were monitored
- Calculates the speed for each vehicle using the formula above.
- Outputs the speed for each vehicle and a message if the speed exceeded 100 km/hour.
 - >=100km/hr “High Speed”
 - <100km/hr “Normal Speed”

[illegible]

(k) Draw a flow chart for the above pseudo code.

(5 marks)

[illegible]

a) Describe two health issues related to working with computers and give a remedy for each.

For marking scheme call sir abraham **0729125181**

(4 marks)

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b) Robots are introduced into a factory which makes car engines. Describe three ways this could affect the workers. (6 marks)

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c) List two duties performed by the following personnel (2 marks)

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i) Database administrator

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g) Computer trainer (2 marks)

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iii) Web administrator (2 marks)

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d) a) Differentiate between a database and DBMS. (1 mark)

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b) List two advantages of using electronic database systems. (2 marks)

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c) In database system, data integrity ensures the correctness and completeness of the data in the database. Differentiate the following types of integrity constraints.

i) Validity integrity
 (1 mark)

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• Entity integrity (1 mark)

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- Referential integrity (1mark)

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- d) Briefly describe any three database models. (3marks)

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- e) (i) Differentiate between error handling and interrupt handling as used in operating systems.

(2 marks)

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- (ii) State **three** reasons why most network technicians prefer using command line operating systems to configure networking equipment. (3 marks)

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- e) (a) Define the following terms as used in networking. (3marks)

(z) Network

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(aa) Intranet

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(bb) Browser

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(b) The World Health Organization is global entity that deals with health issues around the world. It has computer networks linking its regional and continental offices using internet. State **two** importance of the internet to such organization. (2 marks)

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(c) Mr. Zuma, the Principal of a school wishes his school to have an internet connection in a bid to improve its service delivery. Mention **four** internet connectivity requirements that must be present to enable the connection. (2 marks)

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(c) Explain the following as used in e-mail:

c) Inbox

(1 mark)

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Drafts

(1 mark)

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(e) (i) Failure of information systems is a major concern in the security of data in computing systems. State **two** causes of such failure. (2 marks)

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(ii) Explain the following computer crimes.

d) Fraud

(1 mark)

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Industrial espionage

(1 mark)

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(f) Excluding passwords, state **two** other security control measures used to guard against unauthorized access to computers in a network. (2 marks)

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f) (a) Convert the 1010.011_2 to decimal equivalent. (3 marks)

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(b) Perform the following number system conversions.

(3 marks)

(i) 342.25_8 to binary.

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.....

(ii) 503_{10} to hexadecimal (3 marks)

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(c) (i) Compute the binary arithmetic given below: (3 marks)

$$10111 + 10001 + 101$$

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- (ii) Using 8-bit notation, perform the **twos** complement of $25_{10} - 15_{10}$, leaving your answer in binary. (4 marks)

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NAME.....ADM.....

SCHOOL.....INDEX.....

DATE.....SIGN.....TARGET.....

COMPUTER PP1 SERIES 9

Time: 2 ½ Hours

Instructions to Candidates

- b. This paper consists of two sections A & B.
- c. Answer all the questions in section A
- d. Answer question 16 and any other three questions in section B.

SECTION A(40 MARKS)

Answer ALL questions in this section in the spaces provided.

13. Define term artificial intelligence. (1mk)

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14. List three roles of system analyst. (3mks)

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Outline three way IEBC will use technology to ensure free and fare election. (3mks)

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Write the following acronymes in full

- WIFI

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HDMI

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a) List two reasons why USB interface has become popular than other interfaces.(2mks)

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b) Give three disadvantage of using serial file organisation. (3mks)

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15. Name three common malicious programs that are harmful to computers. (3mks)

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Define the term deadlock as used in operating system. (1mk)

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Give any three categories of functions that are available in ms excel. (3mks)

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Differentiate between count and count if functions as used in ms excel. (2mks)

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Explain why liquid-based powder fire extinguishers are discouraged in a computer laboratory. (2mks)

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Explain the following terms as used in computer crimes.

(2mks)

- Piracy

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Industrial espionage

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.....
16. List three advantages of using fibre optic cable in networking.

(3mks)

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.....
Explain two database models.

(4mks)

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.....
a) Give three ways in which ICT can be used to conserve forests.

(3mks)

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b) Give three factors to consider when selecting ICT related career.

(3mks)

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.....
List four sub categories of system software.

(4mks)

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SECTION B (60 MARKS)

Answer question 16 and any other three questions in this sections.

17. a) List two examples of

(v) Third generation languages.

(2mks)

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Object oriented programming languages

(2mks)

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b) Differentiate between source code and object code.

(2mks)

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c) Draw a flow chart that will take two numeric values X and Y . compare the two numbers to give the following output:

If X is more than Y, the program should compute the difference of the two numbers.

If X is less than Y, the program should compute the sum of the two numbers.

If X is equal to Y, the program should compute the product of the two numbers.

(7mks)

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e. List two repetitive control structures.

(2mks)

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18. a) Differentiate between the following as used in data communication.

h) Baseband and broadband

(2mks)

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Multi-plexing and demulti-plexing

(2mks)

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b) ABC company intends to start their operations across all the East African Countries.

(i) Recommend to them the most ideal computer network that they should use. (1mk)

(ii) List three challenges the company is likely to encounter while using the network. (3mks)

With an example state three networking elements that the company will need for them to implement the network. (6mks)

c) Give one advantage of using unbound media for networking. (1mk)

19. Study the worksheet below and answer the questions that follow.

1	A	B	C	D	E	F
2	SKY WAYS AGENCIES					
3	Product	Region 1	Region 2	Regions 3	Region 4	TOTAL
4	Rexona	3400	3700	4000	4100	
5	Lifeboy	2500	2600	2100	2500	
6	Omo	6000	6100	6300	1600	
7	Ushindi	1200	1500	1400	6400	
8	Carmel	7000	6900	7200	8000	
9	Total					
10	Maximum					
11	Average					

ix) Write functions that can be entered to get total, maximum and average of each region.

(3mks)

x) Write down the function that returns the number of sales in the four regions whose values is greater than or equal to 2000.

(2mks)

The prices for region 4 were reduced with n% value which was placed in cell C13. Write a formulae to calculate the new price of product Rexona and applied to other products in the same region.

(3mks)

Differentiate between stroke and fill as used in D.T.P (2mks)

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(2mks)

i) Define text wrap (1mk)

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(1mk)

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(ii) List four ways you can wrap text on an object. (4mks)

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(4mks)

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a) State three ways in which a signed binary number can be represented. (3mks)

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b) Convert the following numbers into binary form

(i) 247_{10} (2mks)

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(i) 247_{10} (2mks)

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(2mks)

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(ii) $9AC_{16}$

(2mks)

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c) Using two complements compute $27_{10} - 13_{10}$ and leave your answer in binary form

(use 8 bits)

(3mks)

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d) Differentiate between logical file and physical file.

(2mks)

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e) Explain three parameters that can be used to measure data integrity.

(3mks)

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a) i) State the importance of information fact finding in system development.

(1mk)

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(ii) State any two advantages and two disadvantages of using interview method for information gathering. (4mks)

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b) Explain three system development theories and methods. (6mks)

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c) Your school wishes to replace the original system with an information system.

(i) With a reason, advise the school on the best change over strategy to implement. (2mks)

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(ii) Give two challenges the school may encounter while implementing the new system.

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NAME.....ADM.....

SCHOOL.....INDEX.....

DATE.....SIGN.....TARGET.....

COMPUTER PP1 SERIES 10

Time: 2 ½ Hours

INSTRUCTIONS TO CANDIDATES

8. Write your name and Admission number in the spaces provided above
9. Answer all questions in section A
10. In section B, answer question 16(compulsory) and any other three questions

FOR EXAMINER'S USE ONLY

SECTION	QUESTION	CANDIDATE'S SCORE
A	1-15	
B	16	
	17	
	18	
	19	
	20	
TOTAL SCORE		

SECTION A (40 marks)

Answer all the questions in this section.

- Identify the transmission mode used when communicating with the devices listed below.
(2marks)

- Public address system

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Phone chat via WhatsApp

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a)List **two** categories of system software (2marks)

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b) A warranty is an agreement between the buyer and the seller. It spells out terms and conditions after selling a product in case of failure or malfunction. Describe any three basic requirements a good warranty should cover.

(3 marks)

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- vBeryl does not understand why computers are said to be Automatic at the same time they have No Intelligent Quotient (IQ)

(2marks)

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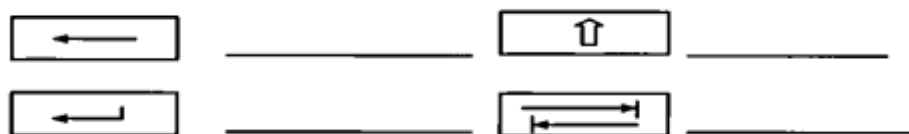
.....

- Vero a student from Nyamira Girls lives in a house with full internet access. She spends most of her time on phone and Desktop computer. State any three social issues associated with doing this.

(3 marks)

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 5. The following are symbols of some keys on the keyboard. Name the keys represented by the symbols
 (2marks)



- x. Give three reasons that might have necessitated the development of Second generation computers. (3 marks)

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- xi. Millicent wrote a program but it did not behave as expected. Describe two types of errors that may hinder the program from running or run but give invalid results. (2marks)

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- xii. Describe two password options that Ms-Word employ to protect its documents.(2marks)

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- xiii. Mention two limitations of using counterfeit software. (2marks)

.....

- xiv. Name the computer parts listed below. (2marks)

Diagram	 <p>Figure 1</p>	 <p>Figure 2</p>
Name		

xv. Describe the following functions of the operating system. (3marks)

xvi) Network Management

xvii) Security

xviii) Interrupt Handling

xvi. State three ways in which computer virus infection can be prevented other than through restricting the usage of removable storage media (3marks)

xvii.

20. Define the term normalization.
(1 mark)

21. State a reason to justify why database administrators usually perform normalization when creating a database for an organization.
(2marks)

- xviii. Mention three factors to consider when choosing a file organization method.
(3marks)

- xix. As Jayden was entering data into the computer, He typed byocott instead of boycott.
f. Identify the type of error made by Jayden (1 Mark)

- g. Other than using direct data entry devices, state two other methods Jayden can use to avoid the error (2 Marks)

SECTION B (60 marks)

Answer questions 16 and any other three questions from this section.

xx.

(a) Describe the following qualities of an algorithm.

(2marks)

3. Definiteness

4. Finiteness

g) Describe the three essential programming constructs which form the basis of structured programming

(3 marks)

c) State two advantages of low-level languages

(3 marks)

d) The table below shows the monthly charges applicable to different amount of water consumed by clients in a particular town

Volume of Water consumed in m ³	Consumption in Kshs
0 – 10	200
10 - 20	350
20 – 30	500
Over 30	1000

In addition to the consumption, the amount of the water bill will consist of a standing charge of Kshs 200 and a sewerage fee equivalent to 20% of the consumption.

- Write a pseudo code for a program that prompts a user to enter the volume of water consumed per month. The program then computes and output the amount of the water bill in a year.

(7 marks)

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xxi.

(I) The table below is an extract from a spreadsheet use it to answer the questions that follow

	A	B	C	D	E	F
1	Customer Number	Product Name	Quantity	Unit Cost	Total	Type Remark
2	145321	Malomalo	20	100	2000	Bronze
3	143561	Kisambo	40	200	8000	Silver
4	156784	Weeti	40	400	16000	Gold
5	123454	Wheat	20	50	1000	Bronze
6	453218	Nyozi	10	10	100	Bronze
	GRAND TOTAL				27100	

(cc) Identify the Ms-Excel feature that is used in cell A1 and B1 to enable the texts appear the way they are.

(1mark)

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.....

(dd) Name the data type in cell E4 and F3.

(2marks)

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(ee) Use absolute reference to represent a formula that is used to calculate total for wheat

(2 marks)

.....

(ff) Suggest how named reference can be used to calculate the GRAND TOTAL.

(3marks)

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.....

(gg) Write a formula that will classify product type base on the total as shown in the table below.

(2 marks)

Total	Type
0-5000	Bronze
5001-10000	Silver
10001 and Above	Gold

(m) State the difference between Cc and Bcc.
(2marks)

(n) Mention three factors to consider when choosing an ISP.
(3marks)

xxii.

- ix) What is the binary equivalent of $12/32$ base 10.
(4marks)

- x) What is the decimal equivalent of the number 1.0111_2 ?
(3 marks)

- c) Explain four control measures that can be taken to avoid unauthorized access to data in a
Computer system or data. (4 marks)

- d) List four career opportunities in the field of ICT. (2marks)

- e) With reference to DTP describe the following terms. (2marks)

e) Gutter

f) Stroke

xxiii.

- (vi) State two circumstances under which a system analyst may prefer to use questionnaire instead of observation during facts finding. (2marks)

- (vii) Mention three operational factors that a system analyst need to consider when sourcing for hardware and software to be used with the proposed system. (3marks)

- (viii) Describe two advantages of parallel changeover. (2marks)

- (ix) Name any two wireless communication devices (2Marks)

- v) Describe two factors to consider when choosing a transmission media. (2marks)

- vi) The Chairman IEBC has called upon a System Analyst to implement an electronic rating system. He intends to use voter's fingerprints, Identity cards and voter's cards as security measures to ensure free and fare elections. Recommend with reasons four input devices that they should use/buy.

(4marks)

xxiv.

- iii. The following records were entered in a database

Date	Class	Registration No
1/1/2007	East	1425-A
1/1/2008	North	1426-A
12/1/2008	North	1426-B

- (a) Suggest a validation rule for date given that it should be not before 1/1/2006
(2marks)

- (b) List the records that will be displayed after running the following criteria?
(2marks)

(d) <>#1/1/2008ondate

1426-A on class

- (c) Write the input mask for registration No
(1mark)

- (d) Choose the most appropriate data type for Date and Registration No
(2marks)

Explain the following terms as used in Word Processing

(3marks)

e) Word Wrap

f) Orientation

g) Indenting

f) **State three** specifications that should be set in the print dialog box when printing a document (3 marks)

g) State **two** major reasons why organizations are opting for telecommuting. (2 marks)

THIS THE LAST PRINTED PAGE