451/1

Computer Studies

Paper 1

(THEORY)

2 ½ Hours

**2021 TRIAL 3 OCT/N0VEMBER INTERNAL EXAMINATION**

***Kenya Certificate of Secondary Education (K.C.S.E.)***

**Name………………………………………………………. Adm No……………….**

**Stream……………………………………………………. Date ………………………….**

**Sign ..............................................................................**

INSTRUCTIONS TO CANDIDATES

* *Write your name and index number in the spaces provided above*
* *Sign and write your name in the spaces provided above*
* *This paper consists of* ***two*** *sections; A and B*
* *Answer all questions in section A*
* *Answer question 16 and any other three questions from section B*
* *All answers should be written in the spaces provided on the question paper*

***For official use only***

|  |  |  |
| --- | --- | --- |
| **Section** | **Question** | **Candidates score** |
| A | 1-15 |  |
| B | 16 |  |
| 17 |  |
| 18 |  |
| 19 |  |
| 20 |  |
| TOTAL SCORE | |  |

**SECTION A (40 Marks)**

*Answer* ***all*** *questions in this section*

1. Give **TWO** reasons why Powder type fire extinguishers are not recommended to be used in a computer laboratory. (2 Marks)

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1. State the purpose of each of the following memories in a computer system. (2 marks)
2. ROM

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1. RAM

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1. State two factors that one would consider when selecting data entry method in computing. (2 Marks)

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1. Describe the following types of printers and state one application area of each.(3Marks)
2. Dot matrix

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1. Thermal printer.

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1. Differentiate between in-house software and freeware. (2 Marks)

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1. Give two importance of feedback mechanism in systems (2 Marks)

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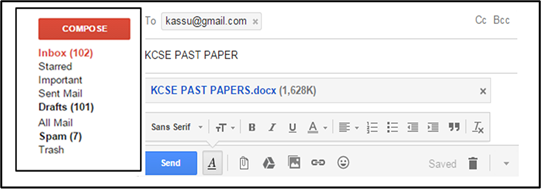
1. With an aid of a diagram, explain one-to-one database relationship. (2 Marks)

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1. KASSU Secondary School intends to set up internet connection in their school for e-learning purposes. Advise the school management on four internet connectivity requirements that is required for them to be able to access internet. (2 Marks)

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1. The figure below shows an extract of an e-mail application.



What is meant by each of the following terms: (3 Marks)

1. Trash

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1. Spam

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1. ***Inbox***

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1. State two ways in which users in an organization can be a security threat to data in an information system. (2 Marks)

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1. State three negative impact of information communication technology on the Environment. (3 Marks)

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1. In a computer based information system, state the purpose of the following files and give **one** example where such a file may be required in a school. (4 marks)
2. Report file.

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1. Sort file.

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1. State three responsibility of a Database administrator in an organization. (3 Marks)

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1. With an example for each, describe how computers are used in the following areas of education; (3 Marks)
2. Simulation

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1. Tutorial

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1. a. Dan a computer student noticed that every time a person enters the computer lab the computer screen flickers. Identify three reasons why the monitor might be flickering (3 Marks)

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b. State two ways in which the problem can be solved (2 Marks)

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**SECTION B (60 Marks)**

*Answer* ***question 16*** *and any other* ***three*** *questions*

1. a. State two advantages and two disadvantages of high level programming language (2 Marks)

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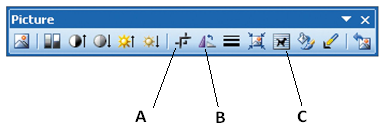
b. State three situations when REPEAT .. UNTIL structure can be used in writing a program (3 Marks)

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1. ![](data:application/x-msmetafile;base64,)The roots of the equation **ax2 + bx + c = 0** are given by the formula
2. Write a pseudocode for the above program (5 Marks)

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1. Draw a flow chart for the above pseudocode (5 Marks)
2. (a) (i) The figure below shows a picture tool bar



Name and state the functions of the features marked A, B and C:

1. A (1 Mark)

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1. B (1 Mark)

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1. C (1 Mark)

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(b) State the importance of Column breaks as used in word processor. (1 Mark)

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(c) Change case is where a user applies so that the text can have some contrast in size. Write the word ![](data:application/x-msmetafile;base64,) (2 Marks)

* 1. Title case

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* 1. Toggle case

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(d) Define the following terms as used in charts. (2 Marks)

1. Legend

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1. Data range

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(e) The table below shows how a kiosk owner uses a spread sheet to keep records in a shop.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **A** | **B** | **C** | **D** | **E** | **F** |
| **1** | **ITEM NAME** | **NUMBER OF ITEMS** | **UNIT COST** | **TOTAL BUYING PRICE** | **TOTAL SELLING PRICE** | **PROFIT** |
| 2 | Blue band | *150* | *120* |  |  | *3600* |
| 3 | Toss | *135* | *50* |  |  | *1350* |
| 4 | Cow boy | *120* | *120* |  |  | *2880* |
| 5 | Panga soap | *118* | *50* |  |  | *1180* |

1. Write a **function** to calculate the total buying price. (2 Marks)

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1. Write a **formula** to calculate the Profit. ( 2 Marks)

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1. The total buying prices of all items was increased by 12% and the value 12% is placed in cell B6. Using cell addresses with absolute referencing, write a formula to calculate the Total Selling Price in cell E2. (2 Marks)

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1. State the output of the expression =SUMIF(F2:F5,"<1 500")would return.(1 Mark)

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1. a. Describe the term prefixing an extra sign bit as used in data representation. (2 Marks)

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1. Convert each of the following numbers system.

(i) ![](data:application/x-msmetafile;base64,)to binary (2 Marks)

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(ii) ![](data:application/x-msmetafile;base64,) to Octal (2 Marks)

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1. Perform the following binary operation. (3 Marks)

![](data:application/x-msmetafile;base64,)

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1. Using one’s complement, perform the following binary arithmetic leaving the answer decimal notation. ![](data:application/x-msmetafile;base64,)![](data:application/x-msmetafile;base64,) (6 Marks)

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1. a. Distinguish between the following terms as used in data communication (6 Marks)
2. Guided transmission medium and unguided transmission media

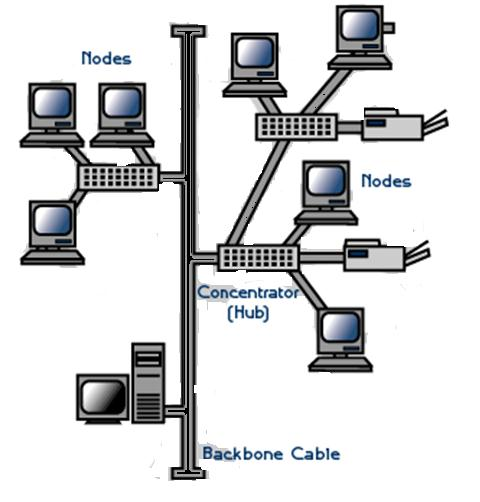
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1. Multiplexing and demultiplexing

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1. Logical and physical Topology

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b. Below is a diagram of a network topology.

1. Name the above topology (1 Mark)

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1. State two advantages and two disadvantages of using the topology named above (4 Marks)

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c. List and explain the two data transmission techniques (4 Marks)

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1. a. Distinguish between a computer drive and computer driver (2 Marks)

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1. State any four factors to consider when selecting an operating system (4 Marks)

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1. Explain any four factors that dictates how the operating system organizes data in a computer (4 Marks)

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1. Define the term file in relation to the operating system (1 Mark)

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1. The operating system stores details of a file for easy identification and retrieval of files. Explain any four file details the operating system uses to search and identify a file (4 Marks)

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1. Distinguish between a menu driven operating system and graphical user interface operating system (2 Marks)

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