**Name:………………………………………………………. School:……………………………**

**Adm No. ………………………Class ……………………… Index Number:…………………..**

**451/1**

**COMPUTER STUDIES**

**Paper 1**

**THEORY**

**SEPTEMBER 2021**

**Time: 2 ½ Hours**

**WISDOM PRE-MOCK 2021**

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

**INSTRUCTIONS TO CANDIDATES**

* Write your **Name, Class, Admission Number** and **Index Number** in the spaces provided.
* Answer **ALL** the questions in **section A**
* 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 13 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 This Section**

1. During a visit to the typing room, Jane a computer student observed a type of printer that uses a beam to create an image on a rotating drum. As the beam hits the drum, some regions attract ink toner particles. The toner is then fused onto a piece of paper.

1. State the name of this type of printer and indicate whether it is an impact or non-impact printer. (1mark)

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1. List **two** advantages of using the printer mentioned in a. above. (2marks)

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2. Bunam Water Company sends out field officers to take consumer meter readings. The data collected by the officers is then keyed into the computer. The system then generates utility bills which are printed and sent to the consumers.

 i. State **two** transcription errors that are likely to occur during meter reading or input. (1 mark)

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 ii. State **two** ways such errors can be avoided. (1 mark)

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3. Highlight the dangers associated with the following in a computer laboratory set up:

1. Purchasing software before assessing requirements. (1 mark)

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1. Using foreign flash disks on the computer. (1 mark)

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4. To process an instruction, the CPU goes through a cycle of three stages. Name each of the stages. (3 marks)

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5. Explain the importance of the following spreadsheet operations. (2 marks)

 (i) Freezing columns

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 (ii) Data validation

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 (b) Name **two** types of relationships that can be applied in database design. (1 mark)

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6. Briefly explain any Four block operations that can be performed on data in word processing (4 marks)

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7. (a) Mutiso wanted to upgrade the RAM of his computer. State two factors Mutiso should consider when purchasing a RAM module. (1 mark)

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 (b) Define the following terms: (2 marks)

 (i) Computer Port

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 (ii) Power supply unit

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8. Mkulima Bora is a society that embraced E-Commerce recently. The manager is convinced that

 there is illegal access to the company’s system. State TWO ways in which the society can

 overcome this problem. (2 marks)

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9. (a) Study the diagram below and answer the questions that follow.



(i) Name the communication media depicted in the above diagram (1 mark)

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 (ii) Name the parts labelled A, B, C, and D (3 marks)

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B \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

C \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

D \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. In a desktop publishing document, an image embedded can be transformed in various ways.

 Name any **three** ways one can use to make the image fit in a designated area. (3 marks)

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11. Differentiate between source program and object program. (2 marks)

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12. Differentiate between the following terms in Internet (4 marks)

 (i) Drafts and outbox

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 (ii) cc and bcc

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13. State **two** characteristics of a computer that is infected by computer viruses. (2 marks)

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14. Identify each of the following symbols as used in system flowchart. (1 mark)



15. Differentiate between bullets and numbering as used in DTP (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) State any **three** activities that occur in a program compilation process. (3 marks)

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 b) A program is needed for calculating the average age of students in a class. Write a pseudocode that will read the age of the students and calculate the average age. The program should terminate if the value of 999 is entered for age and output the number of times the statements within the loop were executed. (10 marks)

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 c) Give **two** types of errors that may be detected during program testing. (2 marks)

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17. a) State **four** functions which are specific to Network Operating Systems. (4 marks)

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 b) State **two** advantage of using fibre optic cables over satellite in data communication. (2 marks)

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 c) (i) The figure below shows how data is transmitted through a public telephone . (4 marks)



 Name A, B, C, and D

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 d) (i) List any **two** items that may be referred to as data terminal equipments in a network

 (2 marks)

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 (ii) Write the acronym MODEM in full (1 mark)

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 (iii) Explain the purpose of a modem when connecting to the internet. (2 marks)

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18. (a) State **three** roles of a programmer in system development life cycle. (3 marks)

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 (b) State **four** activities that may be carried out when disposing off an old system in an

 organization (4 marks)

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 (c) Distinguish parallel changes over from straight change over as used in system implementation. (2 marks)

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 (d) Discuss **any two** fact finding methods. (4 marks)

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 (e) Differentiate between an open system and a closed system. (2 marks)

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 b) Convert each of the following numbers

i) 1001.0012 to octal. (2 marks)

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 ii) 125.510 to hexadecimal. (3 marks)

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 iii) Add 1100.0112 to 11001.01012 and leave your answer in decimal (3 marks)

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 c) Using two compliment perform the following arithmetic leaving your answer in binary form. (4 marks)

 1310 - 1510

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 20. (a) Distinguish between axis labels and data labels as used in spreadsheets. (2 marks)

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 (b) Name an electronic spreadsheet feature that allows one to perform the following actions. (4 marks)

|  |  |
| --- | --- |
| **Action** | **Feature** |
| Provide pictorial summary of data |  |
| Make one cell out of many |  |
| List items from Highest to lowest or vice versa |  |
| Make many cells out of one |  |

 (c) Explain the difference between the printing of multiple pages and multiple copies as used in word processing. (2 marks)

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(d) Describe the following categories of software (4 marks)

 i) Firmware

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 ii) Proprietary software

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 (e) Explain the meaning of solid state storage media giving **two** examples of it.

(3 marks)

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