

Candidates Name..... Index Number

School Name Date..... Signature.....

451/1 - Theory

Computer Studies Paper 1

Time 2 ½ Hours

SUKELLEMO JOINT EVALUATION TEST MOCK EXAMINATIONS 2022

Kenya Certificate of Secondary Education

Instructions

- i. This paper contains 10 printed pages. Candidates to check that all pages are printed
- ii. All answers to the questions should be in English
- iii. All answers to the questions should be written below each question
- iv. Answer all questions in section A
- v. Answer question 16 (Compulsory) and any other three questions from section B

For examiners only

Question	Candidates Score
1-15	
16	
17	
18	
19	
20	
Total	

SECTION A - 40 MARKS

Answer all the questions in this section

- 1. Current smart phones have various biometric security features to prevent unauthorized access. Name any four such features (2 marks)

- 2. Outline four data types that can be entered in a spreadsheet (2 marks)

- 3. Tracy used her computer to perform the following mathematical operation $78 - 67 = 11$. Describe the three stages that her computer processor followed in executing the task. (3 marks)

- 4. Mary got the following errors while working on a spreadsheet file. State the meaning of each (1 mark)

- a. #REF!

- b. #####

- 5. Differentiate between an impact and non-impact printer (2 marks)

- 6. Bidii high school wants to purchase application programs for use in the computer laboratory. Their computer teacher has advised the school to consider compatibility issues when choosing the software.

- a. explain the term **compatibility** with respect to computer software (1 mark)

b. Software selected should be **upward** and **downward** compatible. Explain the difference between these two terms (1 marks)

7. Explain the three parts of a windows taskbar (3 marks)

8. A CPU has got registers for internal operations.

a. Define the term register (1 mark)

b. Describe the function of the following registers

i. Instructions register (1 mark)

ii. Address register (1 mark)

9. Network technicians are found to prefer use of Command Line Interfaces (CLI) rather than GUI based interfaces during network configuration. State any two reasons for this (2 marks)

10. State two reasons why powder and water based fire extinguisher are not recommended for use in computer laboratory (2 marks)

11. a. Name two different tools that can be used to search for records in a database (1 marks)

b. Consider the following query grid used to extract details from a table in a student's database

	Student name
Criteria A	Like *D
Criteria B	Like T?M

Explain the purpose of each of the criteria in the query above (2 marks)

c. During database creation, it is important to enforce referential integrity. Give two reasons for this. (2 marks)

d. Differentiate between bound and unbound controls as used in a database (2 marks)

12. a. Ian an employee at SUKELEMO INC illegally access the accountants computer, made changes to the data and sold some of the data to a competing company. Identify three computer crimes that Ian Committed. (3 marks)

b. As the ICT manager, the CEO has approached you for advice on how to prevent such crime. State two possible ways (2 marks)

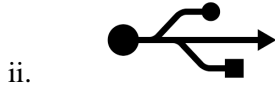
14. Use 8 bit-twos complements to perform the following arithmetic leaving the answer in denary notation (4 marks)

$$25_{10} - 29_{10}$$

15. Identify the interface represented by the symbols shown below (2 marks)



i. _____



Section B

Answer question 16 and any other three from this section

16. a. Define the term algorithm as used in computer programming (1 mark)

b. Differentiate between the following pair of terms (2 marks)

i. Compiler and interpreter

ii. Syntax and semantic errors

c. By use of a well labeled diagram describe the following control structures (4 marks)

i. RepeatUntil loop

ii. While.....Do loop

- d. During election of a school captain at SUKELEMO High School only students are allowed to vote. A student is declared a winner after garnering at least 25% of the votes in all classes and at least more than half the total votes cast in all classes. Assuming that there were three candidates and 210 voters equally distributed in the three classes, draw a flowchart that would: (8 marks)
- i. Capture the votes in each class,
 - ii. Compute the total votes for each candidate
 - iii. Display if a candidate is validly elected or not

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17. Define the following terms (2 mark)

a. information system

b. system entropy

c. Most information systems are reviewed or examined three to six months after being implemented or put into operation.

i. State the purpose or objective of this review (2 mark)

ii. List four areas of systems operation on which the review focuses (4 marks)

iii. Explain four types of system maintenance likely to be conducted after the review (4 marks)

d. Name and explain the use of any three buttons found in a spells check dialog box (3 marks)

18.

a. Subtract 111.111_2 from 11110.0111_2 giving the answer in octal notation (3 marks)

b. Describe the concept of line of sight as used in wireless data communication (2 marks)

c. In satellite communication, the satellite in space has to rotate in the same speed and direction as earth. Give a reason for this (1 mark)

d. With the aid of a diagram, describe a hybrid network topology (3 marks)

e. Identify one advantage of a client-server network (1 mark)

f. Write the following in full (2 marks)

- i. FTP _____
- ii. HTTP _____

g. State the function of the following communication devices (2 marks)

i. Gateway _____

ii. Router _____

iii. Name two types of fiber optic cables (1 mark)

19. Recently many companies have shown interest in use of artificial intelligence in their day to day operations.

a. What is artificial intelligence (1 mark)

b. Name three areas of application of Artificial Intelligence (3 marks)

c. With improvement in price and performance of computer and communication equipment, it is possible for people in various business organizations to work from home. Such working from a PC as a remote terminal is called telecommuting.

i. State two advantages and two disadvantages of telecommuting (4 marks)

ii. identify two negative impact of use of ICT on the natural environment (2 mark)

Apart from manufacturing identify two other areas where automation is applicable (2 marks)

d. Give a reason for each of the following disk management techniques (3 marks)

a. Disk partitioning

b. Disk compression

c. Disk defragmentation

20. a. A data entry clerk at SUKELLEMO Inc noted that when entering data she makes the following errors. Identify each of them (2 marks)

i. Typing 2132 instead of 2312 _____

ii. Typing 1soo instead of 1500 _____

b. At SUKELLEMO Airlines passengers book flights such that if a client at station A books a plane seat the transaction is immediately shown at station A and B. This prevents double booking of the same seat.

i. Identify the data processing method described above (1 mark)

ii. Justify your answer (1 mark)

iii. State two advantages of this data processing mode (2 marks)

c. Name three data validation checks used in data processing (3 marks)

c. Identify the following tab stop symbols indicated on the diagram (2 marks)



a. _____

b. _____

d. Differentiate between the following terms as used in word processing (2 marks)

i. Footnotes and footer

ii. Superscript and subscript

- e. The following formula, $=\$D10 * E10$ was entered in cell F10 of spreadsheet. Enter the formula as it would appear when copied to cell M7. (2 marks)

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