

NAME \_\_\_\_\_ INDEX \_\_\_\_\_

SCHOOL \_\_\_\_\_ CLASS \_\_\_\_\_

451/1  
COMPUTER STUDIES  
Paper 1 Theory  
JUNE/ JULY 2025  
2½ hours.

**CATHOLIC DIOCESE OF KAKAMEGA EVALUATION TEST**  
**JULY/AUGUST EXAM 2025**  
*Kenya Certificate of Secondary Education*

**INSTRUCTIONS TO CANDIDATES**

This paper consists of TWO sections, A and B

Answer all question in SECTION A

Answer question 16 (Compulsory) and any other THREE questions in SECTION B

All answers should be written in the spaces provided in the question paper

*For official use only*

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

## SECTION A (40 MARKS)

1. List two types of computers based on functionality

(1mk)

2. Identify each of the following networking components

(3mks)

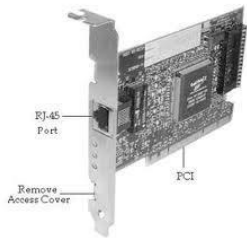


Figure 1



Figure 2

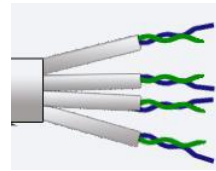


Figure 3

Figure 1 \_\_\_\_\_

Figure 2 \_\_\_\_\_

Figure 3 \_\_\_\_\_

3. State four services offered by the internet

(4mks)

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4. The formula = \$D\$6 \*F7 has been inserted in cell H8. Write the new formulae when copied to cell K5

(2mks)

5. State the effect of pressing the following keyboard buttons in a document

a. Shift+Ctrl+Right arrow key

(1mk)

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b. Shift+Home

(1mk)

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c. Insert key

(1mk)

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d. Shift + F3

(1mk)

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6. Outline the three data processing methods

(3mks)

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7. State the stage of system development life cycle in which each of the following activities take place:

a. Determination of the cost-effectiveness of a system;

(1mk)

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b. Conducting Interviews;

(1mk)

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c. Replacement of an old system with a new one

(1mk)

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8. Outline any four malicious programs that can affect computer files

(4mks)

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9. State the three effects of ICT on employment

(3mks)

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10. Outline any three types of registers as applied in central processing unit

(3mks)

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11.. State the three main activities carried out in creating merged documents

(3mks)

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12. Differentiate between Multimode and single mode fiber optic transmission media

(2mks)

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13. State two limitations of Binary Coded Decimal in data representation

(2mks)

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14. State any two protocols that operate at the following layers of the OSI reference model

(2mks)

a. Application

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b. Transport

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15. Write acronym WIMP in full

(1mk)

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## SECTION B

16. Iteration program control structure is designed to execute the same block of code repeatedly until a certain condition is fulfilled

a) With the aid of flow charts, distinguish between WHILE loop and REPEAT...UNTIL loop

(4mks)

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b) Write a pseudocode for a program to determine the odd numbers between 1 and 100. The program should then calculate the sum of the odd numbers and their average value. Lastly, the program should output the odd number, their sum and the average value

(5mks)

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c) Draw a flowchart for the above pseudocode

(6mks)

17. a. Explain the following Internet and E-mail related terms:

i. ISP

(2mk)

ii. WWW

(2mk)

iii. URL

(2mk)

b. List any two examples of search engines

(2mks)

c. State the necessary requirements required to connect to the internet

(4mks)

d. Below is an email address:

ggitau @moest. edu.ke  
↓ ↓ ↓  
A B C

e. Name the parts labeled

(3mks)

i. A \_\_\_\_\_

ii. B \_\_\_\_\_

iii. C \_\_\_\_\_

18. Computers not only process numbers, letters and special symbols but also complex types of data such as sound and pictures.

a. Explain why computers use binary numbers in data representation (2mks)

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b. Explain the ASCII data and encoding scheme (2mks)

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c. Write  $79_{10}$  in BCD notation (2mks)

d. Explain the term WORD as used in data presentation (2mks)

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e. Using twos' complement subtract  $23_{10}$  from  $46_{10}$  and give your answer in decimal notation (4mks)

f. The binary value 111011011 is in its two's complement. Determine its decimal value (3mks)

19. (a) Describe three types of special ROM.

(6mks)

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(b) Give the full meaning of the following acronyms

(3mks)

i) IRQ \_\_\_\_\_

ii) AI \_\_\_\_\_

iii) NTFS \_\_\_\_\_

c) Explain the following functions of the operating system

(4mks)

i. Communication control and management

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ii. Memory management

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d) State the two types of processors classified according to instruction set.

(2mks)

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20. a) Differentiate between the following

(i) Sequential and indexed-sequential organization methods

(2mks)

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(ii) Interactive and online electronic data processing modes (2mks)

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(b) Explain the following types of data processing files

i) Reference file (2mks)

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ii) Transaction file (2mks)

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(c) Define the following terms as applied in computer files

i) Record (1mk)

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ii) Field (1mk)

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(d) Describe distributed data processing (2mks)

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(e) Outline any three disadvantages of manual data management systems. (3mks)

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