INSTRUCTIONS TO CANDIDATES:

- Answer ALL the questions in section A.
- Answer question 16(compulsory) and any other THREE questions from section B.

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This paper consists of 10 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 the questions in this section

1. State **four** different parts that make up a computer. (2 Marks)

2. a) What is meant by the term spyware? (1 Mark)

   b) State **two** ways of acquiring software.

3. Briefly explain the emerging trends in micro computer technology in relation to size. (1 Mark)

4. a) Distinguish between impact and non impact printers. (2 Marks)

   b) MICR and OMR

5. Describe the following terms
   a) Webpage (1 Mark)
   b) Blog (1 Mark)
c) Hyperlinks

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d) Web portal

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6. List four stages of data collection. (2 Marks)

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7. Explain the role of the following ICT specialist
   a) Computer technician. (2 Marks)

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   b) Information systems manager. (2 Marks)

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8. a) Give four advantages of DTP over a word processor. (2 Marks)

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   b) Differentiate between the following

     i) Kerning and tracking (2 Marks)

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     ii) Margins and column guides (2 Marks)

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9. Distinguish between defragmentation of a disk and partitioning of a disk with reference to operating systems (2 Marks)

Partitioning
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Defragmentation
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10. Headache, back and neck pain may result from use of computers. State how each of them can be minimized (2 Marks)

Headache
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Back and neck pain
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11. Explain the meaning of the following terms as used in computer programming. (2 Marks)

i) Syntax
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ii) Semantics
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12. a) State two methods or tools that an analyst may use in a system design task. (2 Marks)
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b) Give two reasons why documentation must be done at each phase in system development cycle. (2 Marks)
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13. Explain the functions of the following network devices. (2 Marks)

Router
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14. Differentiate between baseband and broadband signal as used in networking (2 Marks)
   a) Baseband signal
   b) Broadband signal

15. Define the term simulation (1 Mark)
16. Kazungu house-ware suppliers pays 10% commission on sales that are above Kshs.20,000 and 4% on any sales that are less than this target. If the sales salesman sells in cash, he gets an extra 5% commission on total sales, else no commission if on credit. (7 Marks)

a) Write a Pseudo – code for a program that would:
   i. Prompt a user for sales, terms of sale, and name of salesman/lady.
   ii. Calculate the commission and total amount.
   iii. Display the commission and total amount for a particular salesman.
b) Draw a flow chart for the above Pseudo – code
17. a) What is the hexadecimal equivalent of $747_8$? (3 Marks)

b) Use one's compliment to solve the following sum: $-6_{10}$ (2 Marks)

c) State two reasons for using binary system in digital technology. (2 Marks)

d) Explain the term attenuation as used in networking. (2 Marks)

e) Explain the following terms as used in fibre optic cables. (4 Marks)
   i) Single mode
   ii) Multi-mode

f) Convert $7.125_{10}$ to its binary equivalent. (2 Marks)

18 i) Name four data types used in spreadsheets. (2 Marks)

ii) Outline five advantages of an electronic spreadsheet over the traditional ledger. (5 Marks)
iii) What is a chart wizard in spreadsheets? (1 Mark)

iv) Name and explain the use of the following commands found in the spell check dialog box in reference to word processing (6 Marks)

a) Change

b) Ignore once

c) Add

v) What is a template in word processing? (1 Mark)

19 i) Describe three ways in which computers have positively impacted on education. (3 Marks)

ii) The traffic lights serve as output devices for a computerized traffic system. Name the appropriate input device for this system. (1 Mark)

iii) State three advantages of computer based simulation. (6 Marks)
iv) Differentiate between a software engineer and a computer engineer. (2 Marks)

v) Name three duties that are carried out by a web administrator. (3 Marks)

20. i) List and briefly describe three components of a database system. (3 Marks)

ii) Define the following terms as used in a database
   a) Attribute (1 Mark)
   b) Database model (1 Mark)
   c) Macro (1 Mark)

iii) Explain three types of database models. (6 Marks)

iv) State three objectives of normalization. (3 Marks)