INSTRUCTION TO CANDIDATES

- Write your name and index number 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

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This paper consists of 8 printed pages. Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing.
SECTION A (40 MARKS)

Answer All The Questions In This Section

1. State the computer generation where the following technology was used to develop them. (2mks)
   (i.) Very large integrated circuits
   ........................................................................................................................................
   (ii.) Thermionic valves (Vacuum tubes)
   ........................................................................................................................................
   (iii.) Transistors
   ........................................................................................................................................
   (iv.) Integrated Circuits
   ........................................................................................................................................

2. Explain the trends in micro-computers technology in relation to physical size. (3mks)
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................

3. Classify the following keyboard characters (3mks)
   (a.) A,B,C…………… Z
   ........................................................................................................................................
   (b.) O, 1,2,3,4………..9
   ........................................................................................................................................
   (c.) F1 ……………….. F12
   ........................................................................................................................................
   (d.) Home, End, PageUp, Arrow keys
   ........................................................................................................................................
   (e.) Ctrl, Shift, Alt
   ........................................................................................................................................
   (f.) Del, Insert
   ........................................................................................................................................

4. Describe three functions performed by the processor (3mks)
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................

5. Explain four computer laboratory measures that are meant to protect the users (4mks)
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
6. Explain two application areas of artificial intelligence (2mks)

7. Explain four paragraph formatting features (4mks)

8. List four signs of a computer system invaded by a virus (2mks)

9. Explain three functions of an operating system (3mks)

10. Describe four disk management tools (2mks)

11. Differentiate between the following terms as used in word processing (3mks)
   (a.) DropCap and Case
   (b.) Superscript and subscript
   (c.) Indent and tab
12. Differentiate between computer aided learning (CAL) and computer aided instructions (CAI) as applied in educational systems (2mks)

13. Explain the following errors as displayed in a spreadsheet cell (2mks)
   (a.) #######
   (b) ## NAME!
   (c.) ## NUM!
   (d.)##DIV/0!

14 Differentiate between the following (4mks)
   (a.) System software and application software
   (b.) In house developed and off-the-shelf

15. List two types of special purpose memories (lmk)
SECTION B (60 MARKS)

QUESTION 16 IS COMPULSORY

16. Madelene Cooperative Society pays 4% interest on shares exceeding kshs. 20,000 and 2% on shares that don’t meet the target. However no interest is paid on deposits in the members bank A/C (15mks)

Required
(a.) prompt the user for shares and deposit of a particular member
(b.) Calculate the interest and total savings
(c.) display the interest and total savings on the screen for a particular member
17. (a.) Explain the following terms in reference to the network (4mks)
(i.) Multiplexing and Demultiplexing
(ii.) Simplex and half duplex transmission

(b.) Explain three types of physical network topologies (6mks)

(c.) Describe three duties of chief programmer (3mks)

(d.) List any four ICT related degree programmes offered at the Universities (2mks)

18. (a.) Distinguish the following in reference to programming principles (4mks)
(i) Compiler and an interpreter
(ii) Source code and object code

(b.) Perform the following number conversions

(i) $12_{10}$ to Hexadecimal

(ii) $20.2_{16}$ to decimal

(iii) Subtracting $27 - 5$ using two’s complement

(c.) Describe **four** examples of Third Generation Languages (3GLS)

19. (a.) What is feasibility study in reference to system development

(b.) State **two** application areas of simulation

(c.) Describe the **three** types of system changeover that may be applied during system implementation
(d.) Explain any three circumstances that necessitate the development of a new information system (6mks)

20. (a.) Explain three components of expert systems. (6mks)

(b.) Highlight two types of job opportunities available in the field of computer hardware (2mks)

(c.) List any three internet service providers in Kenya (3mks)

(d.) Describe any four internet services (4mks)