

THE ELITES JET



451/1

COMPUTER STUDIES

Paper 1

(Theory)

PRE-MOCK

March 2025 – Time: 2½ hours

Name Adm No..... Class.....

School Signature.....

INSTRUCTIONS

1. Write your name and admission number in the spaces provided above
3. The paper contains two sections: Section A and B.
3. Answer all questions in section A
4. Answer question **16** and any other **THREE** questions from section B
5. All answers should be written on the question paper in the spaces provided below each question.

FOR EXAMINER'S USE ONLY

SECTION	QUESTIONS	SCORE
A	1 – 15	
B	16	
	17	
	18	
	19	
	20	
Total		

SECTION A (40 MARKS)*Answer all the questions in this section in the spaces provided.*

1. (a) Write the acronym BIOS in full (1 mark)

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- (b) What is the purpose of BIOS in a computer system? (1 mark)

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2. State the actions that should be taken in case of fire outbreak in the computer laboratory.

(2 marks)

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3. Name and explain the three parts of a task bar. (3 marks)

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4. The electronic commerce (e – commerce) has enabled people to do business through the internet. This is enough to serve time, spend less and reduce movements. What could be the major obstacles to this trade? (2 marks)

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5. State any **two** functions of a UPS. (2 marks)

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6. (a) State **one** advantage of using TWOS complement over ONES complement. (1 mark)

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- (b) Distinguish between bound and unbound controls as used in database. (2 marks)

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7. Distinguish between insert and type over modes of typing in word processing. (2 marks)

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8. a) How does an operating system manage computer memory (2 marks)

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- b) List **four** factors to be considered when purchasing an operating system. (2 marks)

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9. A student in a school wanted to print a document but the printer could not print yet the online light was on and the printer paper was correctly placed. Name any other **two** possible reasons why the printing failed. (2 marks)

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10. Write an algorithm to compute the area of a circle. (3 marks)

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11. In most cases, files in a computer system have their extensions in order to identify their purpose.

State the purpose of the following file type extensions.

(a) .EXE (1 mark)

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(b) .BAT (1 mark)

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(c) .SYS (1 mark)

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12. (a) Define the term firmware (1 mark)

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(b) Explain the purpose of geographical positioning system (GPS) as used in air traffic control system. (1 mark)

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(c) Explain how data is represented on optical media. (3 marks)

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13. Define the term desktop publishing (2 marks)

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14. Name the **two** types of desktop publishing soft wares (2 marks)

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15. Explain the following terms used in operating systems.

(a) Disk partitioning

(1 mark)

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(b) Disk formatting

(1 mark)

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(c) Disk defragmentation.

(1 mark)

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SECTION B (60 MARKS)

Answer question 16 and any other three questions from this section

16. (a) Define the term “Dry running” as used in program development.

(2 marks)

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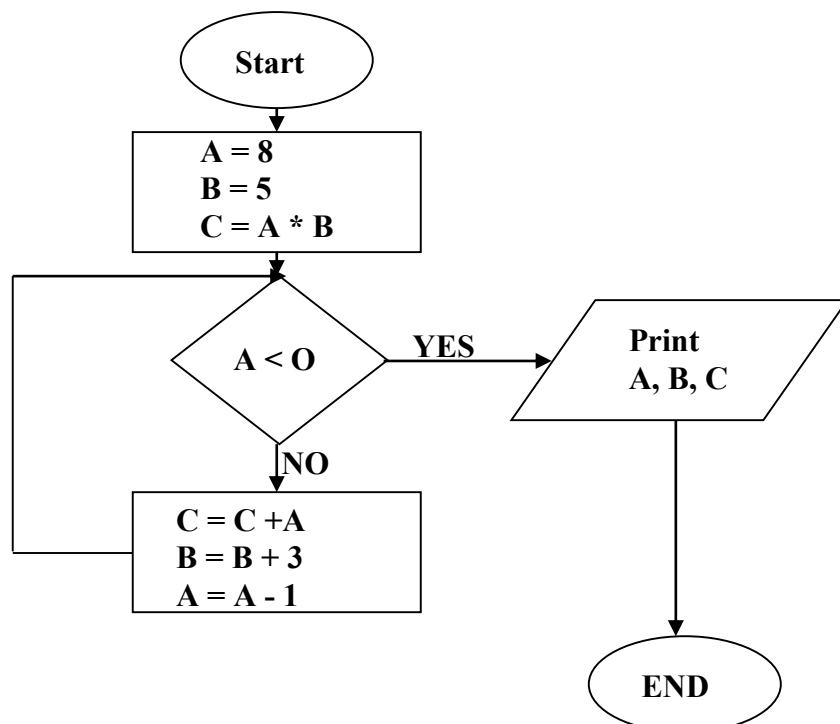
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(b) Write the printed values of A, B and C in the flowchart below.

(3 marks)



(c) Develop a pseudocode for the flowchart in (b) above.

(5 marks)

(d) Give **two** examples of language translators used in programming.

(2 marks)

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(e) Name the stage of program development cycle where:

(i) A user guide would be written.

(1 mark)

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(ii) System charts would be drawn.

(1 mark)

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(iii) Staff training is done.

(1 mark)

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17. The information below is maintained by the sales lady at the school canteen. Study it and answer the questions that follow.

	A	B	C
1	Item	units (kg)	value (ksh)
2	oranges	12	2000
3	mangoes	13	1000
4	tomatoes	12	1400
5	cabbages	15	2500

(a) Describe the basic data types used in this spreadsheet (4 marks)

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(b) Provide a single formula that would be used to

(i) Count the number of items whole units are equal; to 15 (2 marks)

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(ii) Sum the values of items whole units are equal to 12 (2 marks)

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(c) (i) List and describe four areas of application of spreadsheets (4 marks)

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- (ii) Explain data range legend and axis as used in spreadsheet charts (3 marks)

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18. a) Explain how an operating system controls I/O devices. (2 marks)

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- b) Maintaining security is one of the functions the operating system. Explain how the operating system maintains security (2 marks)

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- c) Distinguish between the following pairs of terms

- i) Indexed sequential and direct file organizations (2 marks)

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- ii) State any two factors to consider when selecting a data processing mode (2 marks)

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- d) i) Using appropriate examples, differentiate between distributed and Centralized processing modes (3 marks)

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- e) i) With reference to an operating system, differentiate between Formatting and partitioning. (2 marks)

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- ii) List any **TWO** types of user interface. (1 mark)

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- iii) Explain how each type of the user interface in e (ii) above operates (2 marks)

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19. (a) What is the hexadecimal equivalent of 767_8 (3 marks)

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- (b) Use one's compliment convert the decimal number to its binary equivalent: -5_{10} (2 marks)

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- (c) State two reasons for using binary in digital technology (2 marks)

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(d) Describe each of the following computer terminologies as used in data representation (3 marks)

(i) Word

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(ii) Bit

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(iii) Nibble

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(e) Using place value method, Convert 7.125_{10} to binary (2 marks)

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(f) Using one's complement, calculate $5_{10} - 9_{10}$. Use six bit in your calculation. (3 marks)

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20. State the role of the following data communication devices:

i) Repeater (1 mark)

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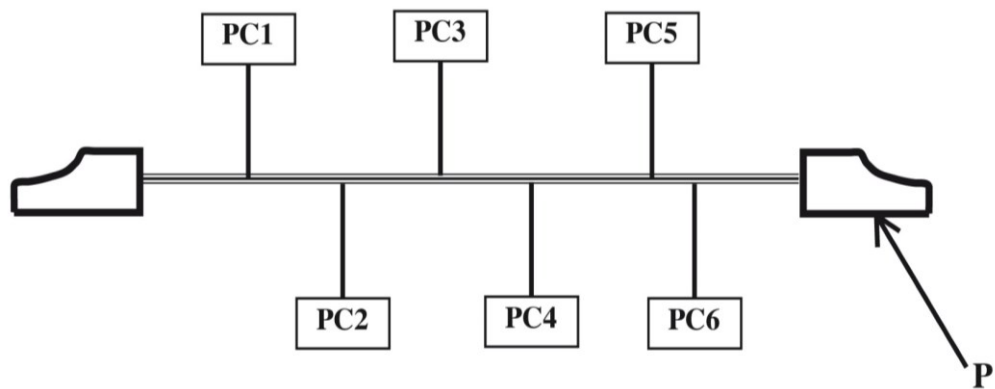
ii) Hub (1 mark)

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b) The figure below shows a network based on bus topology.



i)

Identify the component labelled **P**

(1 mark)

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ii) State the function of the component labelled **P**

(1 marks)

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c) A signal picks up unwanted random energy, explain three such transmission impairments.

(6 marks)

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(d) Explain the following terms:

(i) Data encryption

(1 mark)

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(ii) Program patch

(1 mark)

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(e) A computer network is created when two or more computers are wired together to share information and resources. Briefly explain three other motivations for computer networks.

(3 marks)

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