END TERM 3 2026
GRADE 10
COMPUTER STUDIES
SUMMATIVE ASSESSMENT
TIME: 2 HOURS 30 MINUTES | TOTAL: 100 MARKS

Name	_____
Assessment Number	_____
Class / Stream	_____
Date	_____

INSTRUCTIONS TO CANDIDATES

- Write your name and assessment details in the spaces provided.
- Answer ALL questions.
- Read each question carefully before answering.
- Show all working where calculations are required.
- Label diagrams clearly where required.
- Use appropriate units where applicable.
- Write answers in the spaces provided.
- Use clear and legible handwriting.
- Check that all pages and questions are present.

EXAMINER'S USE ONLY

Section	Question Numbers	Maximum Score	Candidate's Score
A	1–10	20	
B	11–15	40	
C	16–19	40	

SECTION A — FOUNDATIONAL STRUCTURED QUESTIONS

Answer ALL questions in this section. (20 marks)

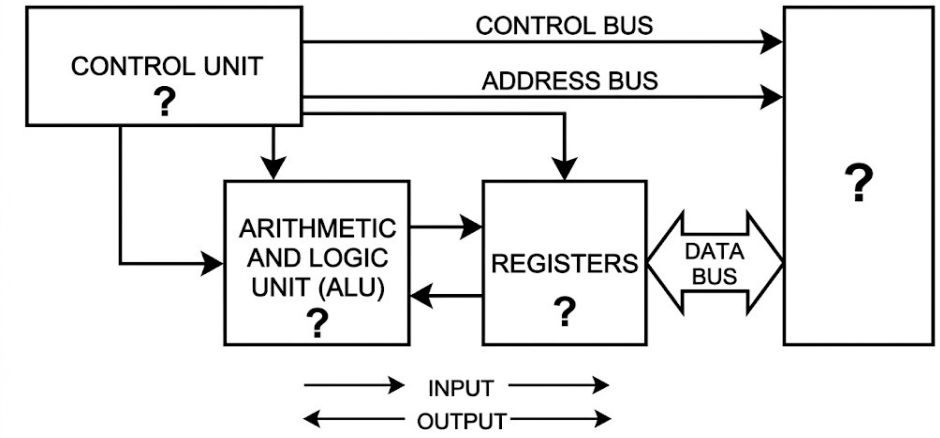
1. State two technological developments that distinguished an early generation of computers from a later generation. **(2 marks)**

_____

_____

2. Name two functional units shown in the diagram below and state one role of each. **(2 marks)**

SIMPLIFIED CPU FUNCTIONAL DIAGRAM



3. Give one example of an input device and one example of an output device. State one criterion used when selecting an input or output device. **(2 marks)**

4. Distinguish between primary storage and secondary storage, giving one example of each. **(2 marks)**

5. State two factors that may be considered when selecting a CPU for a computer. **(2 marks)**

6. State two functions performed by an operating system. **(2 marks)**

7. State two safety precautions that should be observed when setting up a computer. **(2 marks)**

8. Differentiate between analogue data and digital data in data communication. **(2 marks)**

9. Name two components/elements required to form a computer network. **(2 marks)**

10. State two rules that should be observed when choosing identifiers in a programming language. **(2 marks)**

SECTION B — APPLICATION, DATA, DIAGRAMS AND PROBLEM SOLVING

Answer ALL questions in this section. (40 marks)

11. A school has acquired computers of different generations.

(a) Explain two major technological changes that occurred as computers evolved, and relate each change to improved computer performance or capability. **(4 marks)**

(b) Explain the fetch-decode-execute cycle and state the role of the Control Unit in the cycle. **(4 marks)**

12. A learner wants to purchase devices and storage media for a computer laboratory.

(a) Explain two factors that should guide the selection of input/output devices for the laboratory. **(4 marks)**

(b) Recommend one suitable primary storage technology and two suitable secondary storage media, giving one reason for each choice. **(4 marks)**

13. A school is preparing computers for a new laboratory.

(a) Explain two functions of an operating system that would be important in the laboratory. **(2 marks)**

(b) Describe two structural elements of a CPU and state the role of each. **(4 marks)**

(c) State two precautions to observe when connecting cables and ports during computer setup. **(2 marks)**

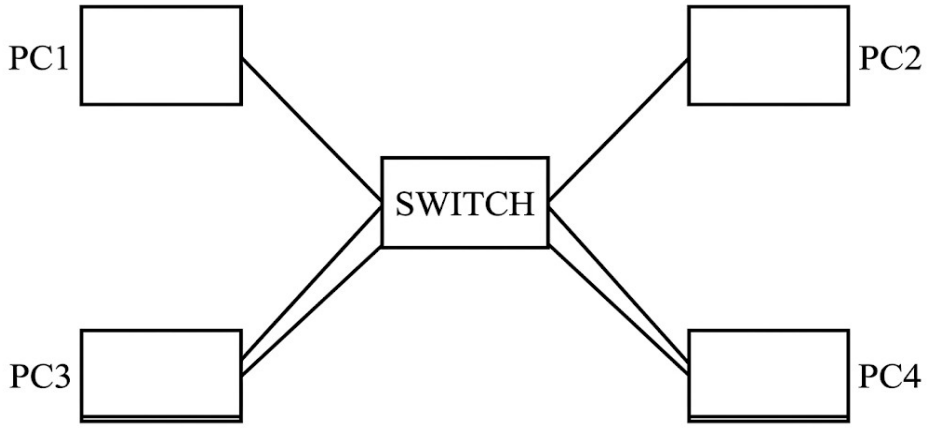
14. A computer network is being installed between two offices.

(a) Explain the following data-communication concepts: sender, message, medium and receiver. **(4 marks)**

(b) Distinguish between simplex and full-duplex communication. **(2 marks)**

(c) State two types of transmission media used in computer networks. **(2 marks)**

15. A school wants a network that connects several computers to a central switch. Use the diagram below.



(a) Identify the network topology shown. **(2 marks)**

(b) State two advantages of the topology shown. **(4 marks)**

(c) Name two devices/components, other than the computers, that may be used when establishing a computer network. **(2 marks)**

SECTION C — EXTENDED STRUCTURED APPLICATION

Answer ALL questions in this section. (40 marks)

16. A learner is developing a simple program to determine whether a traffic-light instruction should allow a vehicle to proceed.

(a) Explain the stages of the program development process from problem definition to maintenance. **(4 marks)**

(b) Write a pseudocode algorithm that accepts a traffic-light colour and displays an appropriate instruction for RED, YELLOW or GREEN. **(4 marks)**

(c) State one reason why algorithms are important in problem solving. **(2 marks)**

17. A programming learner writes a program that accepts two numbers and performs an operation selected by the user.

(a) Differentiate between an identifier, a variable and a constant. **(3 marks)**

(b) Explain three categories of programming operators and give one example of each. **(3 marks)**

(c) Write a suitable programming statement/pseudocode instruction that accepts two numbers, adds them and displays the result. **(2 marks)**

(d) Explain how a selection control structure can be used to choose an operation based on the user's choice. **(2 marks)**

18. A school records the names of learners using a program.

(a) Distinguish between a list/array and a dictionary as data structures. **(4 marks)**

(b) Write a short pseudocode example showing how a collection of three learner names can be stored and accessed. **(3 marks)**

(c) State three reasons why data structures are important in programming. **(3 marks)**

19. A teacher wants to avoid repeating the same calculation in several parts of a program.

(a) Explain what a function is and state two benefits of using functions in programming. **(4 marks)**

(b) Distinguish between a parameter and an argument. **(2 marks)**

(c) Write pseudocode for a user-defined function named calculate_area that accepts length and width and returns the area of a rectangle. Show how the function is called. **(4 marks)**