

KENYAPLEX EXAMS

KENYA CERTIFICATE OF BASIC EDUCATION

SENIOR SCHOOL ASSESSMENT

TERM 2: ENDTERM ASSESSMENT 2026

GRADE 10 – COMPUTER STUDIES 007 JULY

Time: 2 Hours

LEARNER'S DETAILS

Name: _____ . School: _____

Assessment Number: _____ . Date: _____

School Code: _____ . Signature: _____

INSTRUCTIONS TO CANDIDATES

1. Write your name in the spaces provided above.
2. Write the name of your school and your stream in the spaces provided.
3. Write your admission number and the date of the assessment in the spaces provided.
4. This paper consists of two sections: A and B.
5. Answer all questions in section A and section B.
6. Answer the questions in English.
7. All answers MUST be written in the spaces provided in the paper.
8. Do NOT remove any page from this question paper.

FOR OFFICIAL USE ONLY (EXAMINER'S USE)

SECTION	SECTION A	SECTION B	% SCORE	EE1	EE2	ME1	ME2	AE1	AE2	BE1	BE2
SCORE RANGE	30 MARKS	50 MARKS		90-100	75-89	58-74	41-57	31-40	21-30	11-20	1-10
	POINTS			8 POINTS	7 POINTS	6 POINTS	5 POINTS	4 POINTS	3 POINTS	2 POINTS	1 POINT
LEARNER'S TOTAL SCORE											

SECTION A (30 MARKS)

Answer ALL questions in this section.

1. **Amani**, a learner at **Mumbi Girls senior School**, is creating a chart to show the principle technologies that defined computer generations. He has collected the following components:



(a) **Identify** the technology labeled above that belongs to the **Second Generation** of computers. (1 Mark)

(b) **Write** the technology used in the respective generation: (3 Marks)

- i. Vacuum Tubes: _____
- ii. Integrated Circuits (ICs): _____
- iii. Very Large Scale Integration (VLSI): _____

2. At **Santa Education Centre**, three learners are describing the **Fetch-Decode-Execute cycle**:

Wekesa: "I am the component that fetches the instruction from the main memory."

Cherono: "I translate the instruction into signals the computer understands."

Njoroge: "I actually carry out the mathematical calculations."

(a) **List** the names of the CPU components described by Wekesa and Njoroge. (2 Marks)

- i. Wekesa: _____
- ii. Njoroge: _____

(b) **State** whether the following is **TRUE** or **FALSE**:

The Von Neumann architecture uses separate storage for instructions and data. [_____] (1 Mark)

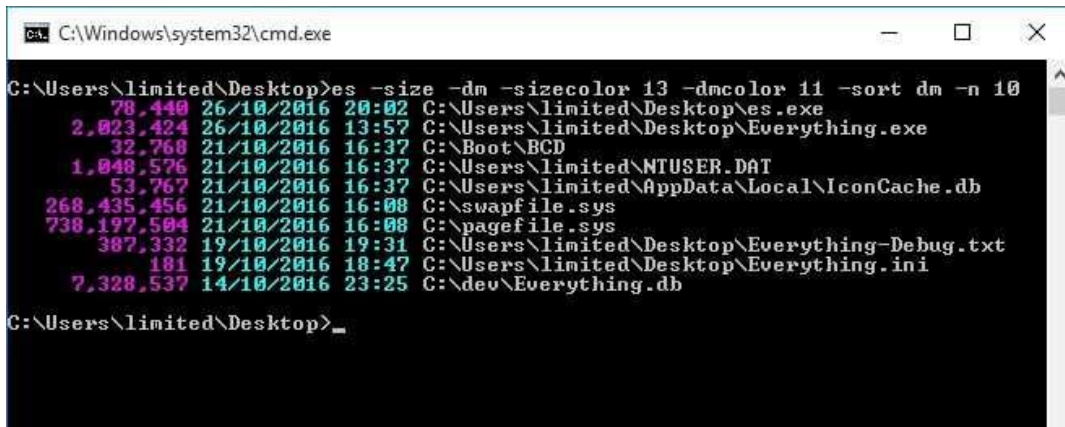
3. **Morara** was standing at a police roadblock in **Narok** and observed an officer using a Walkie-Talkie.

(a) **Identify** the mode of data flow used by the Walkie-Talkie. (1 Mark)

(b) **Distinguish** between the mode identified in (a) and the **Full-Duplex** mode used by a mobile phone. (2 Marks)

4. (a) **Define** the term *Operating System*. (2 Marks)

(b) **Name** the type of User Interface (UI) shown in the image below. (1 Mark)



```
C:\Windows\system32\cmd.exe
C:\Users\limited\Desktop>es -size -dm -sizecolor 13 -dmcolor 11 -sort dm -n 10
 78,448 26/10/2016 20:02 C:\Users\limited\Desktop\es.exe
2,023,424 26/10/2016 13:57 C:\Users\limited\Desktop\Everything.exe
 32,768 21/10/2016 16:37 C:\Boot\BCD
1,048,576 21/10/2016 16:37 C:\Users\limited\NTUSER.DAT
 53,767 21/10/2016 16:37 C:\Users\limited\AppData\Local\IconCache.db
268,435,456 21/10/2016 16:08 C:\swapfile.sys
738,197,504 21/10/2016 16:08 C:\pagefile.sys
 307,332 19/10/2016 19:31 C:\Users\limited\Desktop\Everything-Debug.txt
 181 19/10/2016 18:47 C:\Users\limited\Desktop\Everything.ini
7,328,537 14/10/2016 23:25 C:\dev\Everything.db
C:\Users\limited\Desktop>_
```

5. **Kendi** is writing a Python program at **Kenya High School**. She wrote the following line:

```
total_score = (math_mark + eng_mark) * 0.5
```

(a) **Identify** one **identifier** and one **arithmetic operator** from the code above. (2 Marks)

Identifier: _____

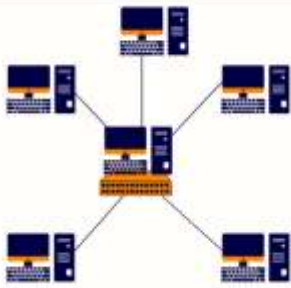
Operator: _____

(b) **Outline** the order of precedence used to evaluate the expression in the brackets first. (2 Marks)

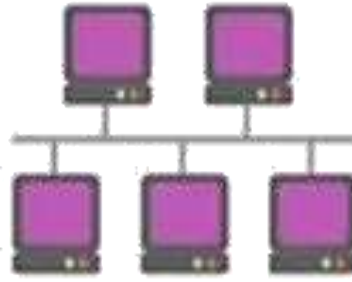
i. _____

ii. _____

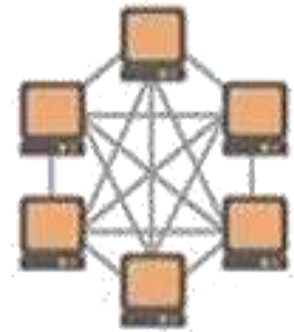
6. Look at the network layouts below found in a computer lab in **Machakos**.



Q



R



S

(a) **Identify** the topology Q. _____ (1 Mark)

(b) **Mention** one disadvantage of the **topology R**. (1 Mark)

7. (a) **List** three types of containers used in Python programming. (3 Marks)

- i. _____
- ii. _____
- iii. _____

(b) **Compare** a **List** and a **Tuple** in terms of mutability. (2 Marks)

List	Tuple

8. **Bakari** is designing an algorithm to check if a student has passed an exam.

(a) **Name** the flowchart symbol used for "Decision" making. (1 Mark)

(b) **Draw** the symbol used to indicate the "Start" or "Stop" of a program. (2 Marks)

SECTION B (50 MARKS)

(Answer ALL questions in this section)

9. **Tambach Senior School** wants to connect two buildings that are 5 kilometers apart to share the internet.

(a) **Select** the most appropriate type of network for this scenario. (1 Mark)

LAN

MAN

WAN

(b) Below is a transmission media best for high-speed transmission over long distances. (1 Mark)



Identify the transmission media shown: _____.

(c) **Explain** three factors that can lead to **transmission impairment** in a network. (6 Marks)

i. _____

ii. _____

iii. _____

(d) **Describe** the function of a **Router** in this network setup. (1 Mark)

(e) Identify three online problems that can be caused by using public Wi-Fi. (3 Marks)

i. _____

ii. _____

iii. _____

10. A graphic designer in **Nairobi** is choosing between two computers. One has an **SSD** and the other an **HDD**.

(a) Write in full. (2 Marks)

i. SSD: _____.

ii. HDD: _____.

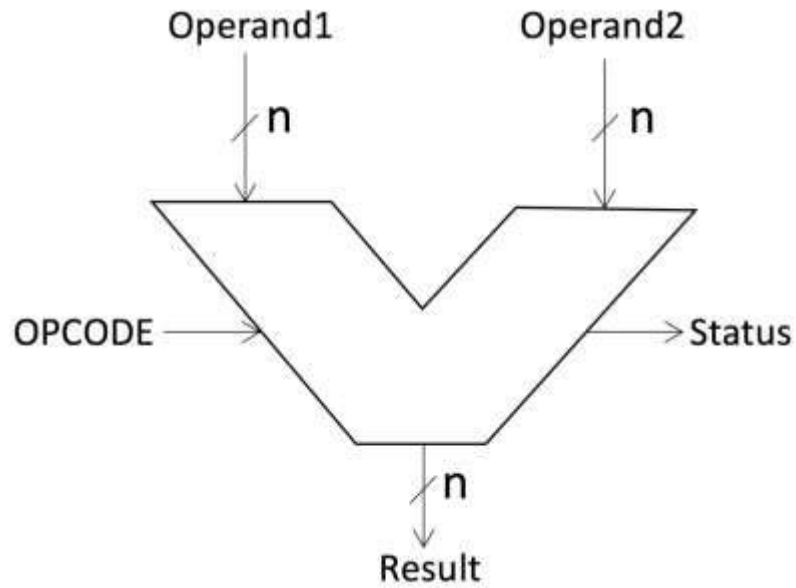
(b) **Distinguish** between primary and secondary storage. (2 Marks)

(c) **Explain** two advantages of using an **SSD** over an **HDD** for a designer. (2 Marks)

i. _____

ii. _____

(d) **Identify** the component of the CPU shown in the block diagram below. (1 Mark)



(e) **Outline** the difference between **RISC** and **CISC** processor architectures. (4 Marks)

(f) **Name** one type of **ROM** technology. (2 Marks)

11. A group of learners in **Thika Senior School** are developing a program to calculate the average age of 10 students.

(a) **Arrange** the following stages of the **Program Development Cycle** in the correct order: (5 Marks)

Coding,

Implementation,

Problem Definition

Program Design

Testing

(b) **Write a pseudocode** that accepts the ages of two students and displays the average. (4 Marks)

(c) **Identify** the error in the following Python snippet:

```
print("Your age is" + age) (where age is an integer). (2 Marks)
```

(d) **Define** what an **Integrated Development Environment (IDE)** is. (2 Marks)

12. **Zahara**, a student in **Mombasa**, has a list of marks:

[45, 82, 33, 60].

She needs to sort them in ascending order.

(a) **Describe** how the **Bubble Sort** technique works to sort this list. (4 Marks)

(b) **Explain** the difference between **Sequential Search** and **Binary Search**. (4 Marks)

(c) **Identify** the data structure shown in the image below. (1 Mark)



(d) **Mention** three characteristics of an effective algorithm. (3 Marks)

- i. _____
- ii. _____
- iii. _____