KENYA CERTIFICATE OF BASIC EDUCATION

SENIOR SCHOOL ASSESSMENT

TERM 2: ENDTERM ASSESSMENT 2026

GRADE 10 – ELECTRICITY TECHNOLOGY 006 JUNE

Time: 2 Hours

LEARNER'S DETAILS

Name: _____. **School:** _____.

Assessment Number: _____. **Date:** _____.

School Code: _____. **Signature:** _____.

INSTRUCTIONS TO CANDIDATES

1. Write your full name in the space provided above.
2. Indicate your school and stream clearly.
3. Fill in your admission number and the date.
4. The paper is divided into **Section A and Section B**.
5. Attempt **all questions** in both sections.
6. Respond to all questions in **English**.
7. Write all answers in the spaces provided in the question paper.
8. Do not tear or remove any page from this paper.

FOR OFFICIAL USE ONLY

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. Below are four learners from **Alliance Senior School** in Kiambu discussing the importance of electricity in Kenya.

Amani: "Electricity is vital for lighting our homes at night."

Baraka: "It powers the machines in our tea processing factories in Kericho."

Chari: "It is essential for charging electric buses used for transport in Nairobi."

Dola: "It is used in hospitals to run life-saving equipment."

(a) From the descriptions above, **list** four sectors of the Kenyan economy where electricity is applied. (4 Marks)

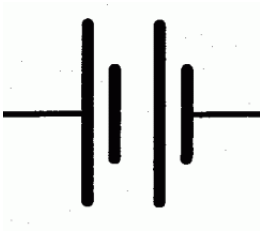
i. _____.
ii. _____.
iii. _____.
iv. _____.

(b) **Identify** the career opportunity shown in the image above. (1 Mark)



_____

2. Study the diagram below showing components of an electrical circuit.



P



Q



R

(a) **Name** the components labeled: (3 Marks)
P) _____

Q) _____

R) _____

(b) Below is electrical equipment



State the function of the equipment shown above. (1 Mark)

_____

_____

3. (a) **Identify** the collective name of the items below worn by the technician . (1 Mark)



_____

(b) **Explain** one safety regulation a learner must follow when working with live wires. (2 Marks)

_____

_____

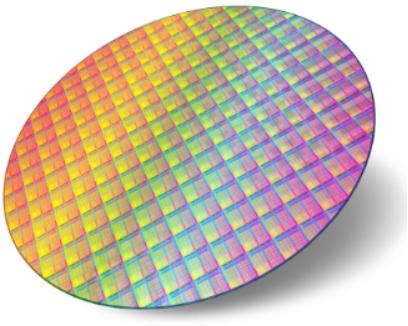
4. A learner at **Ekerubo Senior School** is comparing materials. Study the table and images below.



[Copper Wire]



[Glass Rod]



[Silicon Wafer]

(a) **Match** the image to the correct category: (3 Marks)

i. Conductor: _____

ii. Insulator: _____

iii. Semiconductor: _____

(b) **Distinguish** between a conductor and an insulator based on the flow of electrons. (2 Marks)

_____

_____

_____

5. (a) **Identify** the parts of the magnet where the magnetic force is strongest. (1 Mark)

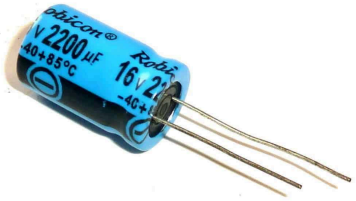
_____.

(b) **Outline** two ways of caring for magnets in a school laboratory. (2 Marks)

i. _____.

ii. _____.

6. Study the image of the electronic component below used in a radio at **Kisumu**.



(a) **Name** the component shown. (1 Mark)

_____

(b) **State** whether the following statement is **True** or **False**:

The device shown above stores energy in a magnetic field._____ (1 Mark)

7. (a) **Identify** which one is a **Primary Cell** and which is a **Secondary Cell**. (2 Marks)

i)



ii)



_____ _____

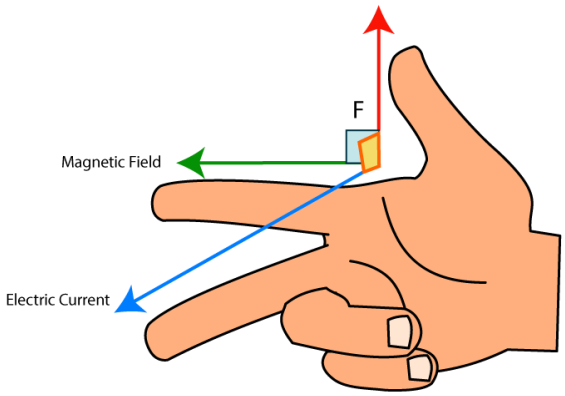
(b) **Mention** one safe method of disposing of used batteries in the environment. (1 Mark)

_____

_____

8. During a Physics lesson, a teacher demonstrates the interaction between a current-carrying conductor and a magnetic field as illustrated

(a) **Identify** the rule being demonstrated in the illustration. (1 Mark)



_____

(b) **Define** the term "Electromagnetism." (2 Marks)

_____

_____

SECTION B (50 MARKS)

*Answer **ALL** questions in this section.*

9. A technician at a construction site in **Mombasa** needs to interpret a drawing to install a junction box.

(a) The figure below shows a block drawn in isometric projection.

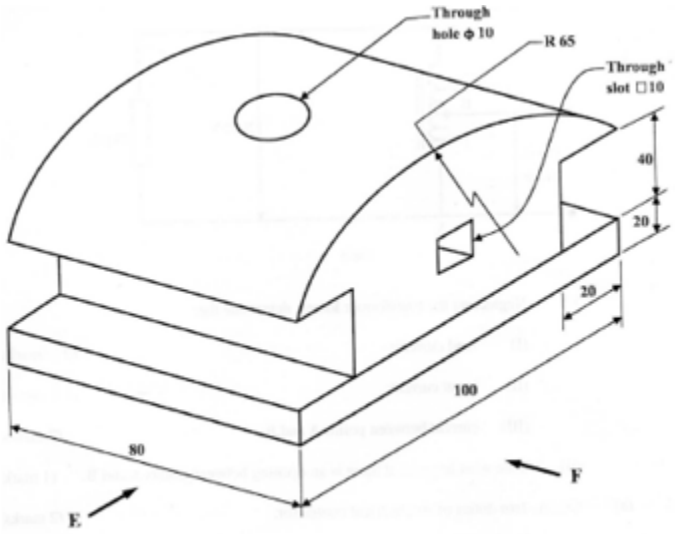


Figure 4

Using first angle projection, draw the following views full size: (6 marks)

i. Front elevation in the direction of arrow F;
ii. End elevation in the direction of arrow E;
iii. Plan.

(b) **Describe** two differences between Isometric and Oblique drawings. (2 Marks)

i. _____
ii. _____

(c) Using the provided space, **sketch** the symbol for a fixed resistor and a variable resistor. (3 Marks)

(d) **Compare** a 2D sketch and a 3D pictorial drawing in terms of information provided. (2 Marks)

_____
_____
_____
_____

10. A learner at **Sameta Senior School** is conducting an experiment on Ohm's Law.

(a) **Calculate** the current flowing through the circuit. (Show your working). (2 Marks)

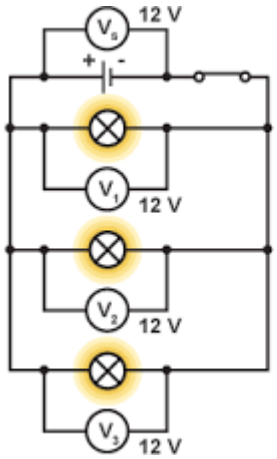
(b) **Explain** the relationship between Voltage and Current if the Resistance is kept constant. (2 Marks)

_____

_____

_____

(c) i) **Identify** the type of network connection shown. (1 Mark)



_____

ii) **List** two properties of this type of connection. (2 Marks)

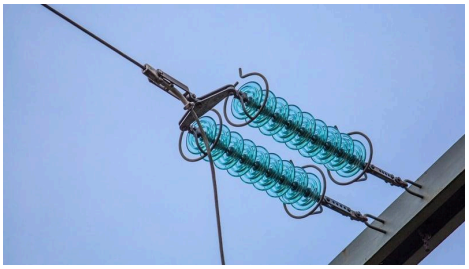
i. _____

ii. _____

11. Kenya is expanding its power grid from **Olkaria** to other regions.



J



K



L



M

(a) **Name** the components of the transmission network shown above. (4 Marks)

J: _____

K: _____

L: _____

M: _____

(b) **Describe** the function of a Step-up Transformer in the grid. (3 Marks)

i. _____

ii. _____

(c) **Explain** why electricity is transmitted at very high voltages. (3 Marks)

i. _____

ii. _____

iii. _____

12. (a) **Identify** the electronic device formed by the junction below. (1 Mark)



_____

(b) **Describe** the "Doping" process in semiconductors. (3 Marks)

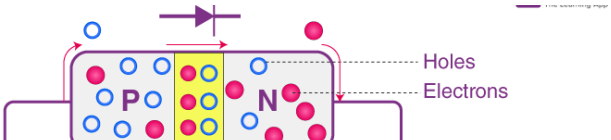
i. _____

ii. _____

iii. _____

iv. _____

(c) i) **Identify** the biasing method shown. (1 Mark)



_____

ii) **Explain** what happens to the depletion layer in this state. (3 Marks)

_____
_____
_____

(d) **State** two applications of diodes in day-to-day life. (2 Marks)

i. _____

ii. _____

13. (a) **Identify** three pieces of equipment found at the consumer intake point. (3 Marks)

i. _____

ii. _____

iii. _____

(b) **Explain** the importance of the **Earth Electrode** in a domestic installation. (3 Marks)

i. _____

ii. _____

iii. _____

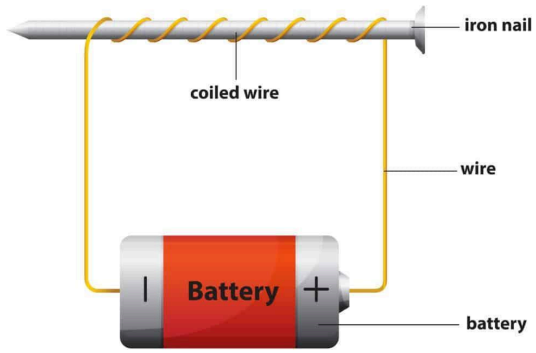
(c) Three learners at **Pema Senior School** are describing a transistor:

i. **Moraa:** "It has three terminals: Emitter, Base, and Collector."
ii. **Achieng:** "It can be used as a switch in a circuit."
iii. **Wanjiku:** "It can amplify weak signals."

List the three functions/features of a transistor mentioned by the learners. (3 Marks)

Learner	**Function of the transistor he or she mentioned**

14. (a) **Name** the device shown in the illustration. (1 Mark)



_____

(b) **Outline** how the strength of the magnetic field in the coil can be increased. (2 Marks)

i. _____

ii. _____

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