THE 47 COUNTIES C1 SCHOOLS' JOINT NATIONAL SBA ASSESSEMENT

KENYA CERTIFICATE OF BASIC EDUCATION

SENIOR SCHOOL ASSESSMENT

TERM 2: MIDTERM ASSESSMENT 2026

GRADE 10 – GENERAL SCIENCE

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 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. During a career guidance session at Nakuru Senior School, learners were discussing how General Science is important in various professions and how scientists make conclusions from observations.

(a) List two careers in the Kenyan job market that require a strong foundation in General Science. (2 marks)

i. _____.

ii. _____.

(b) Define the term Inference as used in scientific investigations. (2 marks)

_____

_____

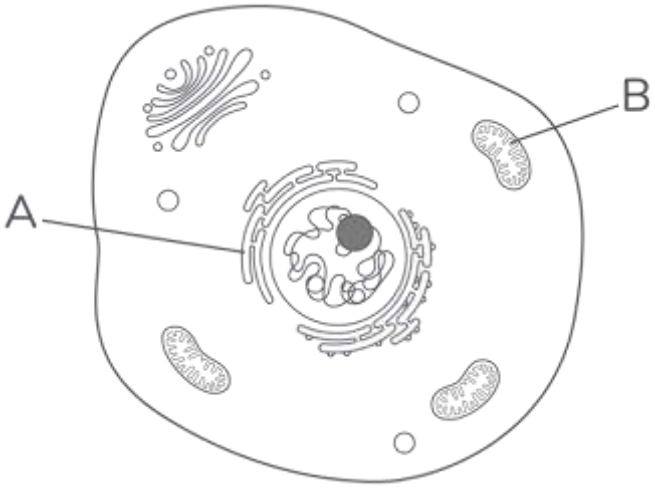
2. Dominic was learning about using microscopes to observe plant and animal cells and reviewing the functions of different cell organelles.

(a) Identify the part of the microscope described below: (2 marks)

(i) The part that regulates the amount of light reaching the specimen: _____.

(ii) The lens closest to the specimen being viewed: _____.

(b) Identify the name of the following component of a cell,



(b) Write the function of the following component of a cell: (2 marks)

(i) Cytoplasm – _____.

(ii) Ribosome – _____.

(c) Circle the correct answer:

An Electron Microscope has a higher magnification than a Light Microscope.

☐ True ☐ False (1 mark)

3. During a science lesson on human nutrition, students were learning how food is digested and absorbed in the body, focusing on the structure and function of the digestive system.

(a) Name the part of the human digestive system where Mechanical Digestion begins. (1 mark)

_____.

(b) Identify the enzyme in the stomach that initiates the digestion of proteins. (1 mark)

_____.

(c) State three adaptations of the ileum for the absorption of digested food. (3 marks)

i. _____.

ii. _____.

iii. _____.

4. In a General Science lesson, students were studying the arrangement of elements in the periodic table and how atomic structure determines chemical properties and bonding.

(a) An element has an atomic number of 17.

(i) Write its electronic configuration: _____. (1 mark)

(ii) State its Valency: _____. (1 mark)

(b) Write the chemical formula for Sodium Carbonate using the valency of Sodium (1) and Carbonate radical (2). (1 mark)

_____

_____

(c) Identify the chemical family of elements found in Group VIII (Noble Gases). (1 mark)

_____

_____

(d) Define the term Anion. (1 mark)

_____

_____

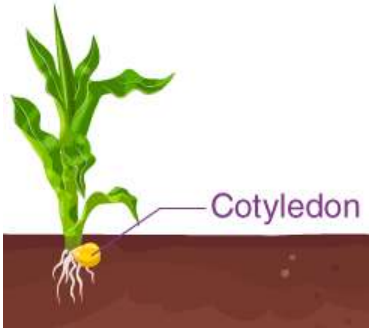
5. A farmer in Kenya plants maize seeds in his shamba and observes how they germinate, grow, and transport food throughout the plant.

(a) State two conditions necessary for seed germination. (2 marks)

i. _____

ii. _____

(b) Underline the correct type of germination shown below. (1 mark)



Epigeal Germination **Hypogeal Germination**

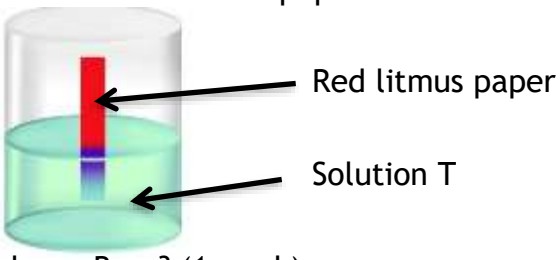
(c) Identify the tissue responsible for the Translocation of manufactured food in plants. (1 mark)

(d) Name the hormone responsible for apical dominance in plants. (1 mark)

_____.

6. In a school laboratory, learners carry out experiments to test different solutions, observe reactions between metals and acids, and study how salts behave under various conditions.

(a) A solution turns red litmus paper blue.



Is it an Acid or a Base? (1 mark)

_____.

(b) Name the salt formed when Magnesium reacts with Dilute Hydrochloric Acid. (1 mark)

_____.

(c) Identify the process where a salt absorbs enough water from the atmosphere to form a solution. (1 mark)

_____.

(d) State two factors that affect the rate of a chemical reaction. (2 marks)

i. _____

ii. _____

7. In a General Science lesson, learners learn how different substances react and practice writing and balancing chemical equations to represent these reactions correctly.

(a) Write the **word equation** for the reaction between Hydrogen gas and Oxygen gas to form Water. (2 marks)

(b) Write the **balanced chemical equation** for the reaction in (a). (2 marks)

_____

_____

(c) Balance the following chemical equation: (1 mark)

___ Fe + ___ O_2 → ___ Fe_2O_3

SECTION B: (50 MARKS)

Answer all questions in the spaces provided below.

8. Data Analysis and Science Process (8 Marks)

Moraa, a student at Garisa Senior School, conducted an experiment to investigate the rate of reaction between marble chips (Calcium Carbonate) and dilute Hydrochloric acid. She recorded the volume of gas produced over time as shown in the table below:

Time (Seconds)	Volume of Gas Produced (cm^3)
0	0
30	15
60	25
90	32
120	35

(a) Name the gas produced in this reaction. (1 mark)

_____

(b) How did Moraa likely collect the gas to measure its volume? (1 mark)

_____.

(d) Draw an Inference regarding why the rate of reaction slows down after 90 seconds. (4 marks)

_____
_____
_____

9. Chief Mutua noticed an increase in flu-like symptoms and skin rashes among children in the village. He invited Dr. Sarah to explain the types of infections. He displayed various images of disease causing organisms as shown below



P



Q



R



S

(a) Identify which of the images above represents a Virus. (1 mark)

_____

(b) State the scientific name of the bacterium that causes Tuberculosis. (1 mark)

_____

(c) Explain why antibiotics are effective against bacteria but not against viruses. (3 marks)

_____
_____
_____

(d) List two economic importance of fungi in the food industry. (2 marks)

i. _____

ii. _____

(e) Describe three methods the village can use to prevent the transmission of water-borne microorganisms. (3 marks)

i. _____

ii. _____

iii. _____

10. Akinyi observed that her potted plant withered when she left it in a windy, hot area for a day.



(a) Identify the structures responsible for the absorption of water from the soil. (1 mark)

_____-

(b) Explain how Wind and Temperature affect the rate of transpiration in Akinyi's plant. (4 marks)

Factor	Effect
Wind	
Temperature	

(c) Kibet, a marathon runner, felt a sharp pain in his muscles (cramp) during a race.

(i) Name the type of respiration that resulted in the cramp. (1 mark)

_____.

(ii) Identify the respiratory substrate being used by Kibet. (1 mark)

_____.

(iii) Calculate the Respiratory Quotient (RQ): (2 marks)

(d) List three differences between aerobic and anaerobic respiration. (3 marks)

	Aerobic respiration	Anaerobic respiration
i		
ii		

11. Teacher Otieno provided a sample of Sodium Chloride (Table Salt) and a Graphite rod (from a pencil) for a class experiment on conductivity.

(a) Using dots and crosses, illustrate the ionic bonding in Sodium Chloride. (4 marks)

(b) Explain why Graphite can conduct electricity while Diamond cannot. (3 marks)

_____
_____
_____

(c) Identify the chemical family of Magnesium and describe its reaction with air. (3 marks)

_____
_____
_____
_____

12. Farmer Kamau bought seeds that failed to germinate even when provided with water, light, and warmth.

(a) Define Seed Dormancy. (2 marks)

_____

(b) Suggest two causes of dormancy. (2 marks)

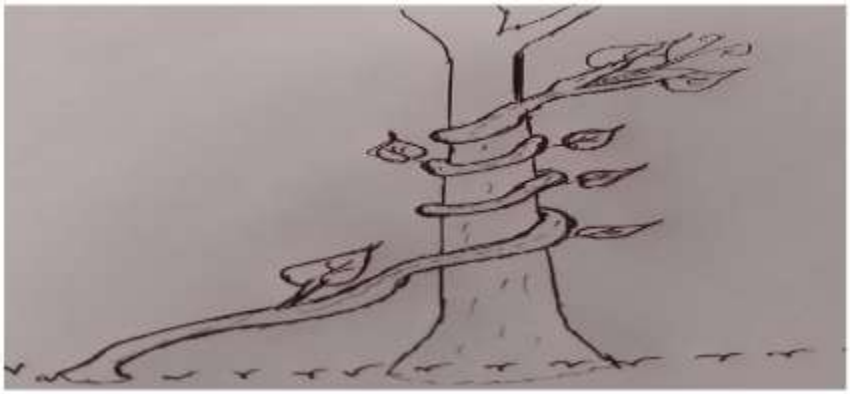
i. _____

ii. _____

(c) Differentiate between Primary Growth and Secondary Growth. (3 marks)

Primary growth	Secondary growth

(d) The diagram below illustrates a response by a certain plant.



(i) Name the type of response (1mark)

(ii) Explain how the response illustrated above occurs (2marks)

i. _____

ii. _____

iii. _____

iv. _____

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GRADE 10 INTER C1 SENIOR SCHOOLS END OF YEAR EXAMINATIONS

KENYA CERTIFICATE OF BASIC EDUCATION

SENIOR SCHOOL ASSESSMENT

TERM 3: ENDTERM ASSESSMENT 2026

GRADE 10 – GENERAL SCIENCE

Time: 2 Hours

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SECTION A (35 MARKS)

Answer ALL questions in this section.

1. a) Define the term General Science**. (1 mark)**

_____

_____

b) Name **three major branches of science** that contribute to General Science. (3 marks)

i. _____

_____

2. A learner wanted to investigate the effect of temperature on the rate at which sugar dissolves in water.

The learner used three beakers containing equal volumes of water at different temperatures.

a) State the **independent variable** in the investigation. _____(1 mark)

b) State the **dependent variable**. _____ (1 mark)

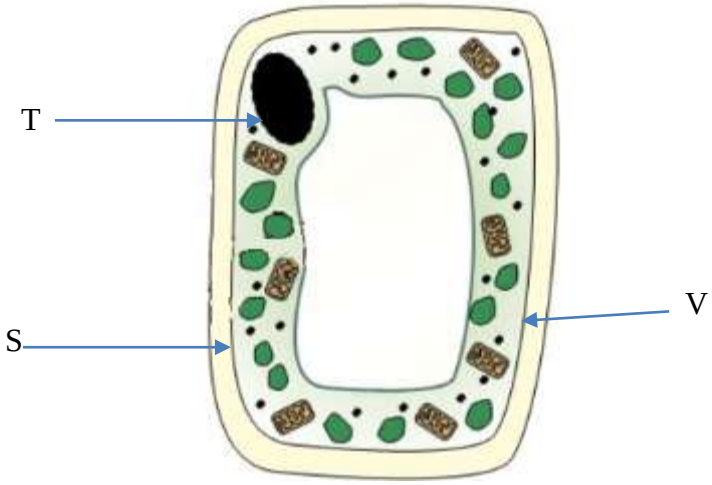
c) Give **two variables that should be kept constant** for the investigation to be fair. (2 marks)

i. _____
ii. _____

d) State one **safety precaution** that should be observed when carrying out the investigation. (1 mark)

_____
_____

3. Study the simplified cell diagram below.



a) Identify structures **S, T and V**. (3 marks)

S: _____

T: _____

V: _____

b) State **one function of structure T**. (1 mark)

_____
_____

c) Is this a plant cell or an animal cell? Give reason for your answer. (1 mark)

4. a) What is meant by balanced diet**? (1 mark)**

_____

_____

b) Name the nutrient mainly responsible for:

i) growth and repair of body tissues; _____ (1 mark)

ii) providing energy for body activities. _____ (1 mark)

c) State **two differences between aerobic and anaerobic respiration**. (2 marks)

	Aerobic respiration	**Anaerobic respiration**
i.		
ii.		

5. Three solutions were tested using universal indicator.

Solution	**Colour obtained**
P	Red
Q	Green
R	Purple

a) Which solution is **neutral**? _____ (1 mark)

b) Which solution is **strongly alkaline**? _____ (1 mark)

c) State the approximate pH range expected for a neutral solution. _____ (1 mark)

d) Give **two common examples of acids found in everyday life**. (2 marks)

i. _____

ii. _____

6. The diagram below shows a uniform bar of lengths 6m.



b) State **two factors that determine the turning effect of a force**. (2 marks)

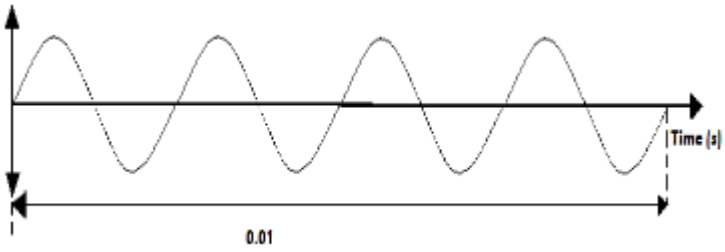
i. _____

ii. _____

SECTION B: 50 MARKS

Answer ALL questions in this section.

7. The diagram below shows a displacement-time graph for a certain wave.



a)

i. How many oscillations are shown above?

ii. Calculate the frequency of the wave

iii. Calculate the periodic time of the wave

b) Distinguish between **transverse waves and longitudinal waves**. (2 marks)

_____

_____

i. _____

ii. _____

8. A healthy green plant was placed in water containing a coloured dye. After several hours, the coloured dye could be observed in the veins of the leaves.

a) Name the plant tissue responsible for transporting water and mineral salts from the roots to the leaves. (1 mark)

_____

b) Explain how water moves from the soil into the roots. (2 marks)

_____

_____

c) State **two factors that can affect the rate of transpiration**. (2 marks)

i. _____

ii. _____

d) Explain the importance of transpiration to a plant. (2 marks)

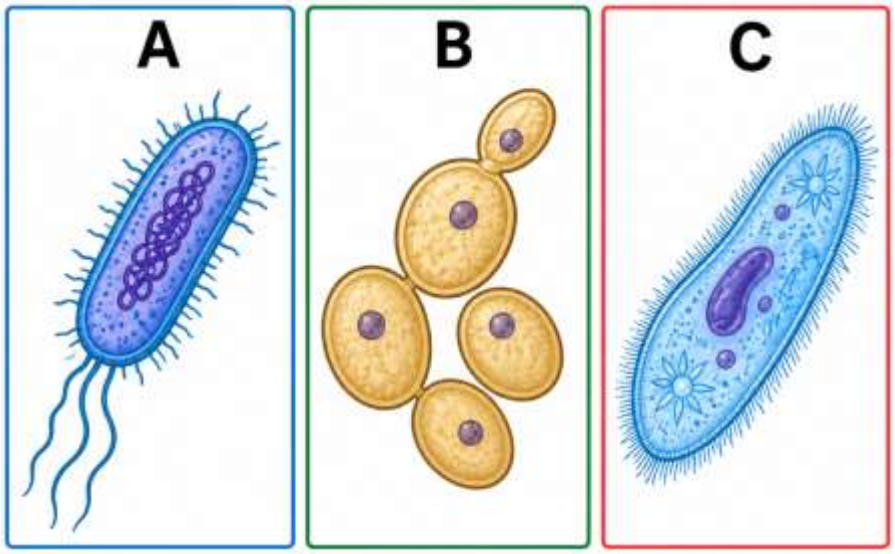
i. _____

ii. _____

e) Name the plant hormone mainly associated with **cell elongation and growth towards light**. (1 mark)

_____

9. The diagram below represents three microorganisms.



a) Identify the three broad groups of microorganisms represented by **A, B and C**. (3 marks)

A:_____

B:_____

C:_____

b) State **two useful roles of microorganisms** in human life. (2 marks)

i. _____

ii. _____

c) Explain **two ways through which harmful microorganisms can be transmitted from one person to another**. (2 marks)

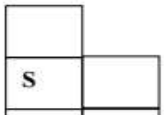
i. _____

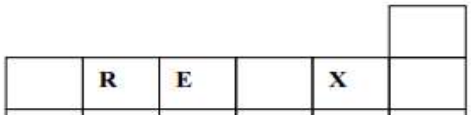
ii. _____

d) State one method of preventing the spread of communicable diseases caused by microorganisms. (1 mark)

_____

10. The grid below represents part of the periodic table. Study it and answer the questions that follow:





_____

i. Which of the metal is most reactive? Explain

_____

_____

ii. What name is given to the family of elements to which elements X and T belong?

_____

iii. Explain why:-

I. Ionic radius of Q is larger than that of M

_____

_____

II. Atomic radius of Q is greater than that of S

_____

_____

iv. Which of the element in the table does not have the ability to form an ionic or covalent bond? Explain

_____

_____

v. Give the formula of the compound formed between R and Z

_____

_____

11. A learner investigated the effect of temperature on the rate of reaction between dilute hydrochloric acid and calcium carbonate.

The learner obtained the following results:

Temperature (°C)	Time taken to collect a fixed volume of gas (s)

40	45
50	30

a) What does the term **rate of reaction** mean? (2 marks)

_____

_____

b) Describe the relationship between temperature and the rate of this reaction. (2 marks)

_____

_____

c) Explain why increasing temperature generally increases the rate of a chemical reaction. (2 marks)

i. _____
ii. _____

d) State **two other factors that can affect the rate of a chemical reaction**. (2 marks)

i. _____
ii. _____

12. A motorbike starts from rest and accelerates uniformly at 4 m/s² **for** 6 seconds**.**

a) What is meant by **acceleration**? (1 mark)

_____

_____

b) State the initial velocity of the motorbike. (1 mark)

c) Calculate its final velocity after 6 seconds: (2 marks)

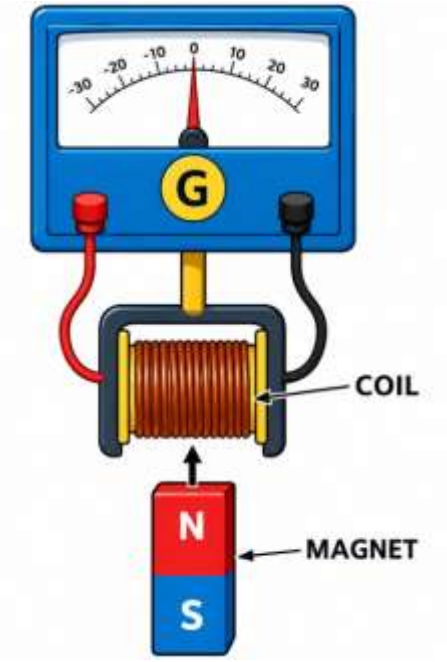
d) Calculate the distance travelled by the motorbike using: (3 marks)

e) State **two examples of situations in everyday life where acceleration occurs**. (2 marks)

i. _____

ii. _____

13. Study the simplified arrangement below.



a) Name the phenomenon in which an electric current is produced when there is relative motion between a magnet and a conductor. (1 mark)

_____

c) State the role of the galvanometer in the experiment. (1 mark)

_____

_____

d) Give **two practical applications of electromagnetic induction**. (2 marks)

i. _____
ii. _____

e) State **two properties of magnetic field lines**. (2 marks)

i. _____
ii. _____

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