

KENYAPLEX EXAMS

KENYA CERTIFICATE OF BASIC EDUCATION

SENIOR SCHOOL ASSESSMENT

TERM 2: ENDTERM ASSESSMENT 2026

GRADE 10 – CHEMISTRY 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

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)

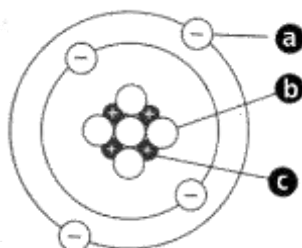
Answer ALL questions in this section.

1. In Oltanki Senior School laboratory, learners observed a certain atomic models. Three of the learners described it as follows

Peter: "The center contains protons."

Achieng: "Electrons move around it."

Kamau: "It is Rutherford's model."



(a) Name the part labelled [+]. (1 mark)

_____.

(b) Identify the particle labelled e^- . (1 mark)

_____.

(c) State ONE feature of Rutherford's atomic model. (1 mark)

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

(e) State ONE use of isotopes. (1 mark)

2. A Grade 10 learners from Chewoyet senior school tested the PH of five substances A, B, C, D and E using the universal indicator. He recorded the results in the table below.

Substance	PH
A	10
B	14
C	1
D	7
E	4

a) Which of the substances is likely to be: (4mks)

i) Sodium hydroxide: _____.

ii) Pure water: _____.

ii) Tomato juice: _____.

iv) hydrochloric acid: _____.

(b) State ONE product of acid + metal reaction. (1 mark)

(c) Distinguish strong and weak acids. (2 marks)

3. The grid given below represents part of the periodic table. Study it and answer the questions that follow. The letters are not the actual symbols of the elements.

					A
B			G	H	E
	J	I	L		C
D				M	
Y					

i. What name is given to the family of elements to which **A** and **C** belong? : _____ (1 mrk)

ii. Write the chemical formula of the sulphate of element **D**. : _____ (1 mrk)

iii. Which letter represents the most reactive (2mrks)

a. Metal: : _____

b. Non-metal : _____

iv. Select one element that belongs to period 4. : _____ (1mrk)

v. Explain why the Ionic radius of element **E** is bigger than the atomic radius. (2mrks)

vi. The electron configuration of a divalent anion of element **N** is 2.8.8. Indicate the position of element **N** on the periodic table drawn above. (1mrk)

vii. How do the atomic radii of **I** and **C** compare. Explain. (2mrks)

viii. Explain the trend in the 1st ionization energies of the elements **J**, **I** and **L**. (1mrk)

4. At **Malava Girls Senior School**, learners modeled bonding types.

a. Draw a diagram to show bonding in an ammonium ion. (N = 7, H = 1) (2 marks)

b. Identify the bond in NaCl. _____ (1 mark)

c. Name ONE property of ionic compounds. (1 mark)

d. Distinguish ionic and covalent bonds. (2 marks)

e. State ONE use of metallic bonding materials. (1 mark)

SECTION B: (50 MARKS)

5. A student in **Starehe Boys' Centre** prepared a salt using acid and base. They conducted the following reaction



(a) Name the salt formed. (1 mark)

(b) State the type of reaction. (1 mark)

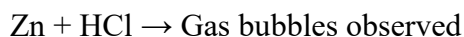
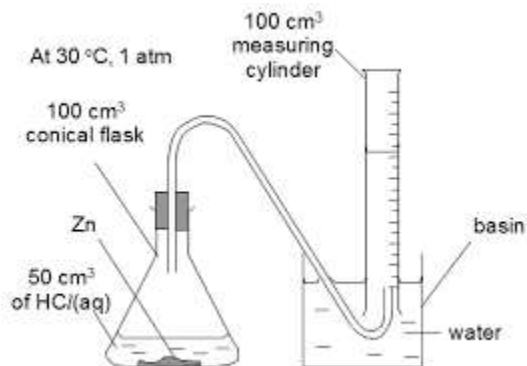
(c) Identify TWO types of salts. (2 marks)

i. _____

ii. _____

(d) State ONE use of salts. (1 mark)

6. At Kakamega Senior School, learners tested hydrochloric acid with metals.



(a) Identify the gas produced. _____ (1 mark)

(b) Describe TWO properties of acids. (2 marks)

- i. _____
- ii. _____

(c) Write TWO reactions of acids with:

i. metal oxides (2 marks)

ii. carbonates (2 marks)

(d) State ONE use of acids in industry. (1 mark)

7. (a) The table shows the results of adding three metals, P, Q, and R, to dilute hydrochloric acid and to water.

metal	dilute hydrochloric acid	water
P	hydrogen produced	hydrogen produced
Q	no reaction	no reaction
R	hydrogen produced	no reaction

What is the order of reactivity of the metals? (1 mark)

(b) Study the information provided:-

Element	Atomic radius (nm)	Ionic radius (nm)	Melting point of oxide ($^{\circ}\text{C}$)
W	0.381	0.418	-117
Y	0.733	0.669	849
Z	0.544	0.489	1399

Explain why the melting point of the oxide of W is lower than that of the oxide of Z (2 marks)

8. A learner in **Mary Hill Senior School** prepared copper sulfate crystals.

(a) Describe THREE methods of preparing salts. (3 marks)

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

(b) Explain behavior of salts in air. (2 marks)

- i. _____
- ii. _____

(c) State TWO uses of salts. (2 marks)

- i. _____
- ii. _____

9. The table below gives information about ions of **P** and **Y**

Ion	P^-	Y^{2-}
Electron arrangement	2.8	2.8.8
Number of Neutrons	12	16

a. Write the electron configuration for the atom of **Y** (1mk)

b. How many protons are there in the nucleus of (2mks)

(i) **P** _____

(ii) **Y** _____

c. Write the formula of the compound formed when **P** and **Y** reacts (2mks)

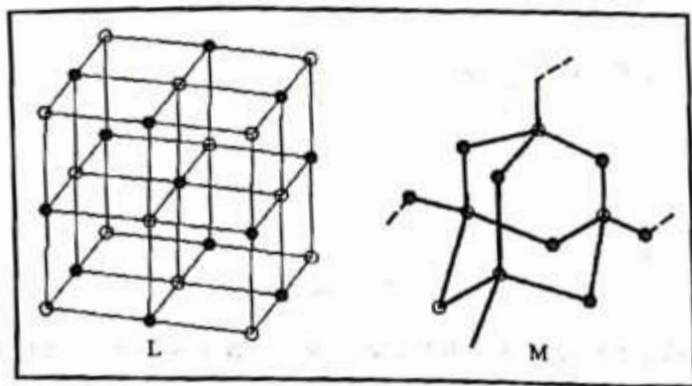
(d) State TWO uses of sodium. (2 marks)

i. _____

ii. _____

(e) Identify ONE safety precaution when handling alkali metals. (2 marks)

10. Study the structures of substances L and M shown below



Complete **the table given** by giving the names that describe the type of structure and bonding in each substance. (2 marks)

Substances	L	M
Structure		
Bonding		

11. The atomic numbers of nitrogen and fluorine are 7 and 9 respectively.

a. Draw electron dot (•) and cross (x) diagrams to illustrate bonding in the molecules of:

i. nitrogen; (1 mark)

ii. fluorine (1 mark)

b. With reference to the diagrams in (a), state why fluorine is more reactive than nitrogen. (1 mark)

12. At **Maranda Senior School**, learners studied chlorine isotopes.

Cl-35 = 75%

Cl-37 = 25%

(a) Define relative atomic mass. (2 marks)

(b) Calculate relative atomic mass of chlorine. (2 marks)

13. A factory in **Nairobi Industrial Area** produces fertilizers and detergents.

(a) Explain **THREE** uses of chemistry in daily life. (3 marks)

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

(b) State TWO environmental effects of chemical misuse. (2 marks)

- i. _____
- ii. _____

(c) Suggest TWO safety measures in chemical handling. (2 marks)

- i. _____
- ii. _____

14. Ethanol is a liquid at room temperature but does not conduct electricity. Explain.(2 marks)
