

**THE UNITED REPUBLIC OF TANZANIA
PRESIDENTS OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**



**MWANZA REGION
REGIONAL FORM TWO MOCK ASSESSMENT**

032

CHEMISTRY

Time: 2:30 Hours

Year: 2025

INSTRUCTIONS

1. This paper consists of sections A, B and C with a total of ten (10) questions
2. Answer all questions in the space provided
3. Section A carries **fifteen (15)** marks, section B **seventy (70)** marks and section C carries **fifteen (15)** marks
4. Write in blue or black ink. Draw in pencil
5. Write your examination number on the top right corner of every page of this question paper.
6. The following atomic masses may be used: H = 1, C = 12, O = 16, Na = 23, S = 32, Ca = 40

For Examiners' Use Only		
Question Number	Score	Examiner's Initial
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
Total		
Checker's Initial		

This paper consists of 8 printed pages

SECTION A: (15 MARKS)

Answer **all** questions in this section.

1. For each of the items (i) – (x) choose the correct answer from the given alternatives and write its letter in the box provided.
- (i) Which statement is the most correct about Chemistry laboratory?
- A. Is a special room where students learn Chemistry.
 - B. Is a special room designed for conducting chemical tests. ()
 - C. Is a special room designed for keeping apparatuses.
 - D. Is a special room where data analysis is carried out.
- (ii) Which among the following is the best set of important physical properties of any substance?
- A. Melting point, density, boiling point and solubility.
 - B. Density, heat of reaction and latent heat. ()
 - C. Solubility, crystallization and evaporation
 - D. Distillation, evaporation and filtration.
- (iii) Which one of the following represents a complete water cycle?
- A. Evaporation, condensation, precipitation, transpiration.
 - B. Evaporation, solidification, freezing melting. ()
 - C. Evaporation, condensation, transpiration, freezing.
 - D. Evaporation, precipitation, melting, solidification.
- (iv) In his first experiment, Maxi dissolved sulphuric acid in water and heat was evolved. In his second experiment, he dissolved sugar in water and no heat was evolved or absorbed. He concluded that:
- A. His first experiment was a physical change
 - B. Both of his experiments were physical changes ()
 - C. His second experiment was a chemical change
 - D. His first experiment was a chemical change
- (v) The boiling point of pure water at sea level is 100°C and that of ethanol is 78°C . Which method can be used to separate this mixture?
- A. Filtration
 - B. Fractional distillation ()
 - C. Layer separation
 - D. Sublimation
- (vi) Form two students observed that, certain materials were packed tightly and closed in a box. The box was labeled with the skull and crossed bones. Which safety precaution should be observed when handling the materials?
- A. Never use a material near an open flame
 - B. Never smell a material without instructions ()
 - C. Never taste or eat a material
 - D. Never carry a material with bare hands.
- (vii) If element T of group I combine with element X of group VI, what will be the formula of the resulting combination?
- A. T_2X
 - B. XT_6 ()
 - C. TX_2
 - D. X_6T

2. Match the radicals in **List A** with their charges in **List B** by writing the letter of the correct response beside the item number in the table provided.

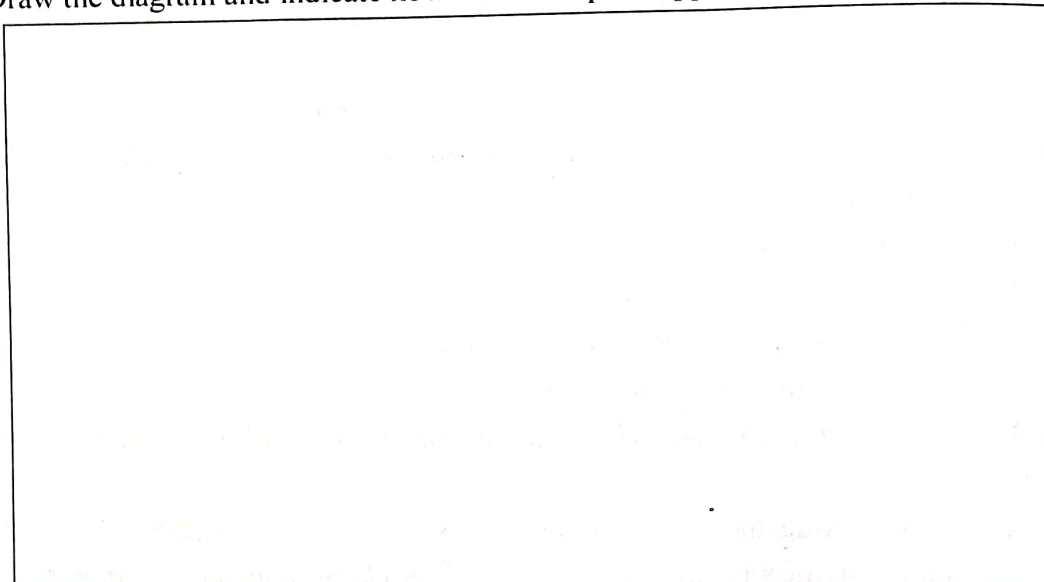
Answers

SECTION B: (70 MARKS)

Answer **all** questions in this section.

- Page 3 of 8

- (d) Draw the diagram and indicate how the two liquids appear in the named apparatus in (c)



4. (a) Briefly describe the process in the urban water treatment.

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- (b) What is the difference between an **electrovalent** and a **covalent** compound?

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- (c) Calculate the oxidation state of Cr in $\text{Cr}_2\text{O}_7^{2-}(\text{aq})$.

5. (a) Briefly explain the following observation:

- (i) Petrol is not recommended to be used as fuel in school laboratories.

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- (ii) Warning signs are important on chemical containers.

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(iii) A good fuel should have a moderate velocity of combustion.

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(b) How can rusting be prevented from the following materials?

(i) Car bodies:

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(ii) Camera:

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(iii) Bicycle chains:

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(iv) Roofing sheets:

.....

6. Consider the following table about the elements:

Element	Atomic number
R	3
S	15
T	9
Q	20
P	11
V	7

(a) Draw a modern periodic table and locate the given elements using their arbitrary symbols.

(b) Identify the elements with the same properties. Which factor have you used?

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(c) State **four (4)** differences between the elements represented by letters **Q** and **V**.

- (i)
- (ii)
- (iii)
- (iv)

7. (a) What factors determine the choice of a specific separation method for a given mixture? Give **two (2)** points.

- (i)
- (ii)

(b) Briefly explain the following process that can be used to separate each of the following mixtures:

- (i) Iodine and sand:
- (ii) A mixture of petrol and diesel:
- (iii) Oil from seeds:
- (iv) Sulphur powder and iron fillings:

8. When dilute hydrochloric acid reacts with zinc granules, the granules dissolve slowly to produce a colourless gas **A** and a solution **C**.

(a) Name gas **A** and a solution **C**.

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(b) Write a word and formula equation for the reaction.

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- (c) How can gas A be tested?
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- (d) Give **three (3)** physical properties of gas A.
- (i)
-
- (ii)
-
- (iii)
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- (e) Identify **three (3)** uses of gas A.
- (i)
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- (ii)
-
- (iii)
-

9. (a) A Bunsen burner can produce both a luminous and a non-luminous flame.

- (i) How are the flames produced?
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- (ii) Give **three (3)** differences between the flames.
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(b) Magnesium has three stable isotopes: ^{24}Mg , ^{25}Mg and ^{26}Mg .

- (i) If there is 79% of ^{24}Mg and equal amount of the other two remaining isotopes, calculate the percentage of the remaining isotopes.
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- (ii) Calculate the relative atomic mass of magnesium.

SECTION C: (15 MARKS)

Answer question **ten (10)**

10. Accidents are likely to occur in the Chemistry laboratory when the users are not observing some safety measures which have been put. With the light of this statement, describe **five (5)** causes of accidents in the laboratory.

[illegible]