



# MOROGORO MUNICIPALITY

## KITANCHLA JOINT EXAMINATION

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**PRE MOCK 2 FORM TWO- JULY, 2025**



### CHEMISTRY

**032**

**TIME: 2:30HRS**

#### Instructions

1. This paper consists of section **A**, **B** and **C** with a total of **(10)** questions
2. Answer all questions in the spaces provided.
3. Section A and C carry **15** marks each and section B carries **70** marks.
4. Write your examination number on every page of your answer sheets.
5. The following atomic masses may be used: H = 1, C = 12, O = 16,

#### SECTION A (15 Marks)

Answer all questions in this section

1. For each of the items (i) –(x) choose the correct answer from among the given alternatives and write its letter on the answer sheet provided.

- (i) One of the isotope of a certain element has a mass number X and a number of protons Y. What is the number of neutrons in the nucleus of the element?  
A.  $Y+X$   
B.  $Y-X$   
C.  $X-Y$   
D.  $X+Y$   
E. Y
- (ii) A kind of the bond formed when each participating element contributes electron in order to form a compound is referred to as:-  
A. Compound bond  
B. Electrovalent bond  
C. Ionic bond  
D. Covalent bond  
E. Oxidation state
- (iii) When table salt is mixed in water it forms homogeneous mixture. The result mixture is: -  
A. Suspension  
B. Solution

- C. Residue
  - D. Solvent
  - E. Solute
- (iv) The form two students were doing scientific experiment involve heating chemicals on flame, they observed that the flame was very hot, noisy and blue in colour. The best conclusion was:-
- A. The flame was luminous
  - B. Air hole was completely closed
  - C. The flame had four zones
  - D. Air hole was half closed
  - E. Air hole was completely opened
- (v) Which of the following is the percentage composition of Oxygen in water molecule?
- A. 18.0%
  - B. 11.1%
  - C. 0.111%
  - D. 9%
  - E. 1.8%
- (vi) The best example of solid-primary fuel is:-
- A. Charcoal
  - B. Coal
  - C. Coal gas
  - D. Coke
  - E. Petroleum
- (vii) ) An element A with the valance of 2 reacts with another element C with the valence of 1. What is the probable chemical formula between atoms of element A and element C?
- A.  $A_2C_3$
  - B.  $A_2C$
  - C.  $AC_2$
  - D.  $A_2C$
  - E. AC
- (viii) The laboratory apparatus which is used to measure specific volume of liquid is:-
- A. Measuring cylinder
  - B. Beaker
  - C. Conical flask
  - D. Burette
  - E. Pipette
- (ix) Which of the following is the third step in the scientific investigation?
- A. Conclusion
  - B. Experimentation
  - C. Data analysis
  - D. Problem identification
  - E. Data collection
- (x) Element X has electronic configuration of 2:7; Therefore it's valence is:-
- A. 1

- B. 2
- C. 7
- D. 9
- E. VII

|   |    |     |    |   |    |     |      |    |   |
|---|----|-----|----|---|----|-----|------|----|---|
| i | ii | iii | iv | v | vi | vii | viii | ix | x |
|   |    |     |    |   |    |     |      |    |   |

2. Match the description in List A with corresponding in list B by writing the letter of the correct response beside the Item number in the answer booklets provided.

| LIST A |                   | LIST B                                                                    |
|--------|-------------------|---------------------------------------------------------------------------|
| (i)    | Galvanization     | A. Absorb moisture in some fragile instruments such as cameras.           |
| (ii)   | Sacrificial anode | B. Coating iron or steel with zinc.                                       |
| (iii)  | Tin plating       | C. Coating iron with tin.                                                 |
| (iv)   | Silica gel        | D. Preventing infections in fresh cuts, burns and scrapes.                |
| (v)    | Painting          | E. Coating metal with a special pigment.                                  |
|        |                   | F. Coating metal with oil.                                                |
|        |                   | G. A more reactive metal than iron is attached to the protected material. |
|        |                   | H. The use of plastic materials.                                          |
|        |                   | I. Coating iron with another iron.                                        |

|   |    |     |    |   |
|---|----|-----|----|---|
| i | ii | iii | iv | v |
|   |    |     |    |   |

### SECTION B (70 Marks)

#### Answer all questions

3. (a) If you are given a work to build a laboratory in a certain school there are some features to consider. Briefly explain the characteristics you are going to consider.  
( Four points)

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

- (b) How does the application of Chemistry contribute to a clean environment?

.....  
 .....

(c) Give two places where the knowledge of Chemistry can be applied.

(i) .....

(ii) .....

4. Give the reason(s) for the following statements: -

(a) Why are certain elements in the Periodic Table referred to as metalloids?

.....

.....

(b) Fuels are also known as the chemical fuels.

.....

.....

(c) An atom is considered as an electrically neutral.

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.....

(d) Atomic size increases as you descend down the group.

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(e) Air is the mixture of different gases.

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5. (a) Give one example in each of the following: -

(i) Alkali Earth Metal; .....

(ii) Noble gases; .....

(iii) Transition elements;

.....

(b) Give the chemical compositions of the following type of fire extinguishers: -

(i) Dry Chemical (DC);

.....

.....

(ii) Foam;

.....

.....

.....

.....

6. Give the names or formula of the chemicals that would be used in the laboratory to make each of the following gases. Write the word equations and state two uses of each gas.

(a) Oxygen

(i) Name(s) or formula of the chemicals:

.....

(ii) Word equation:

.....

.....

(iii) Uses:

- .....
- .....

(b) Hydrogen

(i) Name(s) or formula of the chemicals:

.....

(ii) Word equation:

.....

.....

(iii) Uses:

- .....
- .....

7. (a) With examples, explain the importance of matter in your daily life (four points).

(i)

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.....

(ii)

.....

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(iii)

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.....

(iv)

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.....

(b) The main factor that distinguishes a physical change from a chemical change is whether or not the change results into formation of a new substances. Categorise following changes: -

- (i) The juice in a bottle freezes; .....
- (ii) Butter melts on warm toast; .....
- (iii) Wood is burnt; .....
- (iv) Water evaporates from the surface of the ocean;  
.....

8. (a) What do you understand by the term “Biogas”?

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(b) Briefly explain how biogas is produced by using domestic waste.

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9. (a) What would happen if there were no experiments in the medical field?

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(b) What is the name of the following compounds.

- (i)  $\text{FeCl}_3$  .....
- (ii)  $\text{MgO}$  .....
- (iii)  $\text{MnO}_2$  .....
- (iv)  $\text{N}_2\text{O}_4$  .....

(c) Write and draw the electronic configuration of the following: -

(i)  $\text{Al}^{3+}$

(ii) S

**SECTION C (15 Marks)**

Answer question **ten (10)**

10. (a) A Chemistry teacher asked you to define the following terms, how can you respond?

(i) Electrovalency

.....  
.....

(ii) Covalency

.....  
.....

(b) A compound has an empirical formula CH. If it has a relative molecular mass of 78.11, what is its molecular formula?

(b) Calculate the oxidation number of each of the following underlined element:

(i) ClO<sub>3</sub><sup>-</sup>

(ii) PO<sub>4</sub><sup>3-</sup>

(c) Write the chemical formula when the following pairs of ions are combined.

(i) Na<sup>+</sup> and S<sup>2-</sup> .....

(ii) NH<sub>4</sub><sup>+</sup> and SO<sub>4</sub><sup>2-</sup> .....

(c) Explain why cations are slightly smaller than their neutral atoms, whereas anions are slightly larger than their neutral atoms?

[illegible]