

..... SECONDARY SCHOOL
FORM THREE CHEMISTRY WEEKLY TEST

FEBRUARY 2025

INSTRUCTIONS

- i. This paper consists of section A and B**
- ii. Answer all questions in both sections**

SECTION A 15 Marks: Answer all questions

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

- i. Which of the following is a strong acid? (a) ethanoic acid (CH_3COOH) (b) carbonic acid (H_2CO_3) (c) sulphuric acid (H_2SO_4) (d) Citric acid ($\text{C}_6\text{H}_8\text{O}_7$).
- ii. Which of the following is a common example of a base? (a) hydrochloric acid (HCl) (b) sodium hydroxide (NaOH) (c) nitric acid (HNO_3) (d) sulphuric acid (H_2SO_4).
- iii. In a chemical equation, what does the symbol “ \rightarrow ” represent? (a) reactants (b) products (c) reversible reaction (d) yields or produces.
- iv. What is the salt formed when hydrochloric acid reacts with zinc oxide? (a) zinc hydroxide (b) zinc chloride (c) zinc oxide (d) hydrogen chloride.
- v. Which of the following is a property of acids? (a) turns red litmus paper blue (b) feels slippery to the touch (c) has a PH greater than 7 (d) turns a blue litmus paper red
- vi. What coefficient should be placed before O_2 to balance the following equation:
 $\text{CH}_4 + ?\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$
(a) 1 (b) 2 (c) 3 (d) 4
- vii. Spectator ions are: (a) ions that participate in the reaction and change their oxidation state. (b) ions that are present in the solution but do not participate in the reaction. (c) ions that are formed as products in the reaction. (d) ions that catalyze the reaction.
- viii. In the reaction: $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$, which are the reactants? (a) Mg and O_2 (b) MgO (c) Mg and MgO (d) O_2 and MgO
- ix. For the reaction $2\text{H}_2\text{O}_2 (\text{aq}) \rightarrow 2\text{H}_2\text{O}(\text{l}) + \text{O}_2(\text{g})$, which of the following correctly identifies the product(s)? (a) H_2O_2 (b) H_2O and O_2 (c) H_2O only (d) O_2 only
- x. What is the best chemical test of the gas evolved when magnesium ribbon which is a metal is reacted with hydrochloric acid in a test tube? (a) a glowing splint relights (b) a burning splint produces a “pop” sound (c) limewater turns milky (d) magnesium ribbon explode

2. Match the chemical equations in **List A** with the correct name of the types of chemical reactions in **List B**.

List A	List B
(i) $\text{Mg(s)} + \text{CuSO}_4(\text{aq}) \rightarrow \text{MgSO}_4(\text{aq}) + \text{Cu(s)}$	(a) Decomposition reaction
(ii) $2\text{NaCl}(\text{aq}) + \text{Pb}(\text{NO}_3)_2(\text{aq}) \rightarrow \text{PbCl}_2(\text{s}) + 2\text{NaNO}_3(\text{aq})$	(b) Redox reaction
(iii) $\text{CuO(s)} + \text{H}_2(\text{g}) \rightarrow \text{Cu(s)} + \text{H}_2\text{O(l)}$	(c) Synthesis or combination reaction
(iv) $\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \rightarrow 2\text{NH}_3(\text{g})$	(d) Precipitation reaction
(v) $\text{CaCO}_3(\text{s}) \rightarrow \text{CaO(s)} + \text{CO}_2(\text{g})$	(e) Displacement reaction

SECTION B 85 Marks: Answer all questions

3. (a) Name the following chemical compounds

- i. CuSO_4
- ii. PbCl_2
- iii. NaOH
- iv. H_2SO_4
- v. AlCl_3

(b) Give the correct chemical formula of the following chemical compounds:

- i. Hydrochloric acid
- ii. Nitric acid
- iii. Calcium chloride.
- iv. Ammonium chloride

4. (a) Which ions are responsible for:

- i. Acidic properties of the substance
- ii. Basic/alkaline properties of the substance.

(b) Define the terms:

- i. Acid
- ii. Base
- iii. Basicity of an acid

(c) Differentiate between

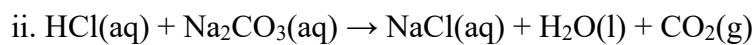
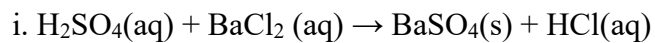
- i. Strong acid and weak acid
- ii. Base and alkali

5. (a) Balance the following chemical equations:

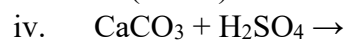
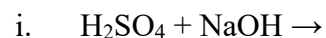
- i. $\text{P}_4 + \text{O}_2 \rightarrow \text{P}_2\text{O}_5$
- ii. $\text{Zn} + \text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$
- iii. $\text{KClO}_3 \rightarrow \text{KCl} + \text{O}_2$
- iv. $\text{Pb}(\text{NO}_3)_2 \rightarrow \text{PbO} + \text{NO}_2 + \text{O}_2$
- v. $\text{Fe} + \text{Cl}_2 \rightarrow \text{FeCl}_3$

- vi. $\text{NaOH} + \text{HNO}_3 \rightarrow \text{NaNO}_3 + \text{H}_2\text{O}$
vii. $\text{K} + \text{H}_2\text{O} \rightarrow \text{KOH} + \text{H}_2$

(b) Showing the steps clearly write the net ionic equations for each of the following reactions:



6. Complete and balance the following equations:



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To the marker;

This is a weekly test for Form Three Class 2025 aimed at measuring their progress on two topics namely Chemical equations and Acids, Bases and Salts

Qn. No.	Distributions of Marks
1.	1 @ = 10
2	1@ = 05
3	(a) 3 @ = 15 (b) 3 @ = 12
4	(a) 3 @ = 06 (b) 2 @ = 06 (c) 3 @ = 06
5	(a) 2 @ = 14 (b) 5@ = 10
6	4 @ = 16

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