

SECTION I

1. Fill in the blanks;

1. Temporary hardness is caused by ____ and ____ of calcium and magnesium.
2. Addition of hydrogen is a _____ reaction.
3. _____ is used in making shoe polish and printer's ink (3)

2. Write equations for the following:

1. Burning of magnesium in presence of carbon dioxide.
2. Mixing silver nitrate solution and dil.HCl.
3. Decomposition of mercuric oxide (3)

3. Define the following;

1. Oxidation
2. Allotropy.
3. Mass number
4. Carbonization
5. Adsorption (5)

4. Name the following:

1. The mixture of carbon monoxide and hydrogen.
2. The maximum number of electrons that can be accommodated in M shell
3. The product of incomplete combustion.
4. The solid form of CO₂.
5. Two organic and two inorganic compounds of carbon. (5)

5. Name the type of following reactions;

1. $\text{NH}_4\text{Cl} \longrightarrow \text{NH}_3 + \text{HCl}$
2. $\text{FeCl}_3 + 3 \text{NaOH} \longrightarrow \text{Fe}(\text{OH})_3 + 3\text{NaCl}$
3. $2\text{H}_2 + \text{CO} \longrightarrow \text{CH}_3\text{OH}$
4. $\text{Zn} + \text{CuSO}_4 \longrightarrow \text{ZnSO}_4 + \text{Cu}$ (4)

6. What happens when:

1. An atom donates electrons.
2. An atom has 8 electrons in its outermost shell.
3. Zinc oxide is added to nitric acid .
4. Sodium metal is dropped in cold water
5. Carbon monoxide is added to ferric oxide

(5)

7. Differentiate between;(2 points)

1. Wood charcoal and sugar charcoal
2. cation and anion
3. Displacement reaction and decomposition reaction
4. Liquid carbondioxide fire extinguisher and Foam- type fire extinguisher
5. Lignite and Anthracite

(5)

8. Correct the following statements:

1. Soot is a charcoal.
2. Kajal is prepared from coke.
3. The central part of an atom is called neutron.
4. Chadwick discovered protons.
5. Diamond has a density of 2.39gm/cm^3

(5)

SECTION II

QUESTION I

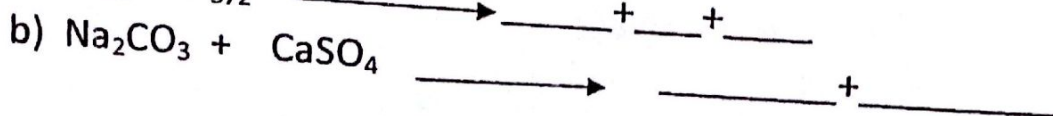
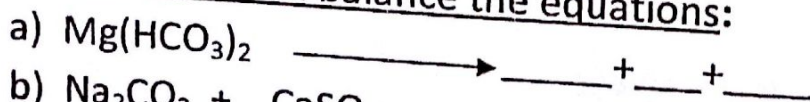
1. Name any two water borne diseases.
2. Write any two steps to prevent water pollution.
3. Write any two disadvantages of hard water.
4. Complete and balance the equations:

(2)

(2)

(2)

(4)



QUESTION II

1. What are the substances used in the soda -acid fire extinguisher? (1)
2. Give the chemical name of the following. (1)
 - a. Marble chips
 - b. sand
 - c. Lime stone
 - d. Baking soda
3. Explain with a neat labelled diagram how CO_2 is prepared in the laboratory. (5)
4. Give reasons (3)
 - a) CO_2 is an excellent fire extinguisher.
 - b) CO is a silent killer.
 - c) CO_2 turns lime water milky.
5. What is a baking powder? (2)
6. Complete and balance the equations (3)
 - a) $\text{NaHCO}_3 + \text{Al}_2(\text{SO}_4)_3 \longrightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
 - b) $\text{Fe}_2\text{O}_3 + \text{CO} \longrightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$

QUESTION III

1. How are synthetic diamonds are prepared? (2)
2. Explain why graphite is soft and slippery and a good conductor of electricity? (3)

3. Fill in the blanks;

- a. 1 Carat = _____mg
- b. Carbon reduces ZnO to _____.
- c. A solid fossil fuel is _____
- d. A solid composed of atoms arranged in an orderly pattern is called _____
- e. _____ charcoal is used in gas masks respirators to absorb
poisonous gases. (5)

QUESTION IV

- 1. How will you prepare hydrogen gas from water? (1)
- 2. Write balanced equations for the following.
 - a) The reaction of hydrogen with sodium.
 - b) The reaction of hydrogen with nitrogen.
 - c) The action of magnesium on steam.
 - d) The reaction of hydrogen with lead monoxide. (4)

QUESTION V

1. Write the formula of the following compounds.

- a. Zinc nitride
- b. Ferrous chloride
- c. Calcium phosphate
- d. sodium acetate
- e. Silicon carbide (5)