

## CHEMISTRY

## SECTION A

## QUESTION 1

I. Fill in the blanks.

1. Oxygen was discovered by \_\_\_\_\_ in 1774.
2. The Latin name of potassium is \_\_\_\_\_.
3. Sulphur dioxide gas reacts with water to form \_\_\_\_\_.
4. \_\_\_\_\_ is a mixture of oxygen and carbon dioxide used for artificial respiration.
5. The chemical name of marble is \_\_\_\_\_.
6. Liquids have \_\_\_\_\_ free surface. (6)

II. Correct the following statements.

1. 2H represents two molecules of hydrogen.
2. The hydroxide radical is written as  $(OH)^{2-}$ .
3. The shell closest to the nucleus has the maximum amount of energy.
4. Silver shows valency 2 and 4.
5. Calcium burns in oxygen with a golden yellow flame.
6. Oxygen gas turns moist blue litmus red. (6)

III. Give reasons for the following.

1. Nitrogen is used in the preservation of food.
2. Solids have a definite shape and volume.
3. Atoms combine to form molecules.
4. Graphite is used for making electrodes for electrolytic cells.
5. Carbon dioxide gas turns limewater milky. (10)

IV. Differentiate (Two differences).

1. Metal and non-metal.
2. Cation and anion.
3. Rusting and combustion. (6)

V. Answer the following.

1. Draw the structure of chlorine atom whose atomic number is 17 and mass number is 35. (3)
2. Define the following.
  1. Mass number
  2. Electronic configuration
  3. Element
  4. Orbit. (4)

VI. Give one word for the following.

1. The number of atoms present in one molecule of an element.
2. The substance which take part in a chemical reaction.
3. The space between the molecules of matter.
4. The high temperature flame used for cutting and welding of metals.
5. The central core of the atom.

### SECTION B

#### QUESTION 2

1. Write the chemical names of the following compounds.  
1.  $K_2Cr_2O_7$       2. FeS      3.  $AgNO_3$       4. MgO
2. Give a test for oxygen.
3. Why is the amount of oxygen in the air remain the same?
4. What is meant by greenhouse effect? Give two useful applications of greenhouse effect.

#### QUESTION 3

1. Write the chemical formula of the following compounds.  
1. Potassium bicarbonate.    2. Sodium sulphate    3. Ammonium hydroxide  
4. Calcium nitrate.    5. Aluminium chloride.
2. What is acid rain? Write two harmful effects of acid rain?
3. Write two natural processes that causes air pollution.

#### QUESTION 4

1. Write balanced chemical equations for the following word equations.  
1. Sodium + oxygen  $\longrightarrow$  Sodium oxide.  
2. Calcium oxide + water  $\longrightarrow$  Calcium hydroxide.  
3. Potassium nitrate  $\longrightarrow$  Potassium nitrite + Oxygen.  
4. Ferrous chloride + chlorine  $\longrightarrow$  Ferric chloride
2. Write two methods of preventing rusting.

#### QUESTION 5

1. (a). Starting from hydrogen peroxide how is oxygen gas prepared in the laboratory?  
(b). Name the catalyst used and write its role in the above preparation.  
(c). Draw a neat labelled diagram for the method used in the above preparation.  
(d). Write balanced chemical equation for the liberation of oxygen from hydrogen peroxide  
(e). State the method of collection of oxygen gas prepared above.  
(f). Give a reason why oxygen is collected by the above method.  
(g) Why is hydrogen peroxide preferred to any other method?