

CHEMISTRY

1. Name the following:

- a. A monovalent electropositive ion which is not a metal.
- b. A simultaneous reversible decomposition reaction brought about by heat.
- c. A solution in which the amount of solute present is relatively large for a given mass of solvent.
- d. A homogeneous solid of definite geometrical shape.
- e. The number of atoms present in a molecule of the element.

(5)

2. Complete the following statements by using proper words:

- 1. The reaction between N_2 and H_2 when subjected to -----
produce Ammonia.
- 2. When Cl_2 is bubbled through a solution of KI , it turns brown due to
the liberation of -----.
- 3. Respiration and ----- are some common exothermic reactions.
- 4. ----- ribbon burns with a dazzling light and form its oxide.
- 5. Solubility of ----- salt decrease with rise in temperature.

(5)

3. Write balanced equations for the following:

- a. Decomposition of copper carbonate.
- b. Heating hydrated copper sulphate.
- c. Photosynthesis.

(3)

4. Elements J, K, L have atomic numbers 4, 16, 20 respectively. Which one

- (a) form anion
- (b) has four shells

(1)

(c) form cation

(d) write the formula of the compound formed between J and K. Which bond is present in it?

5. What are nucleons? Draw the atomic structure of Carbon atom.

[Z of C=6, A=12]

6. Differentiate between precipitation and neutralisation by giving suitable reactions. (3)

7. Correct the following statements. (4)

(a) H_2 and Cl_2 react in the dark.

(b) Carbon and Sulphur both solids on heating produce CS_2 which is a gas.

(c) Trivial name of Ammonia is dihydrogen oxide.

(d) RAM of Nitrogen is 12. (4)

8. Select the correct answer from A, B, C and D.

A. Glauber's salt

B. Magnesium Chloride

C. Potassium Nitrate

D. Silica Gel

(1) A salt which has no water of crystallisation.

(2) The salt which has anomalous solubility.

(3) A hygroscopic substance.

(4) A deliquescent substance. (4)

9. Give the formula of the following compounds;

1. Potassium plumbite

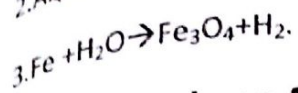
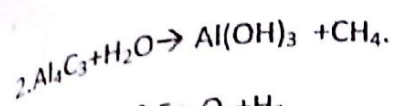
2. Sodium bisulphate

3. Aluminium nitride.

4. Ammonium sulphate. (4)

10. Balance the following equations:

1. $AgNO_3 \rightarrow Ag + NO_2 + O_2$.



11. Match column A with column B;

(3)

Column A

1. Soap
2. Marine organisms
3. Positive catalyst
4. Solid solution
5. Covalent molecule

Column B

- MnO₂
- Alloy
- NH₃
- Sodium stearate.
- Calcium carbonate

(5)

QUESTION 2

1. What are Isotopes? What do you know about their physical and chemical properties? What is the use of ${}_{27}\text{Co}^{60}$? (4)
2. How are electrovalent compounds formed? Explain this by using a suitable example? (2)
3. What are polar and non polar covalent compounds? Give examples for both compounds? (2)
4. Draw the electron dot structure for the formation of a) Ammonia (NH₃)
b) CaO. [Z of N=7, H=1, Ca=20, O=8] (2)

QUESTION 3

1. What are drying or desiccating agents? Give two examples? (2)
2. Give reasons;
 - a. Hard water is used in the preparation of wines.
 - b. Detergents are used in place of soap in domestic and laundry work. (2)
3. Define the following terms:

b.Solubility.

c.Efflorescence.

4.What is the importance of dissolved air in water? (3)

5.Write equation for the dehydration of sugar (2)

QUESTION 4

1.What do you observe in the following reactions when (1)

a.Dilute HCl is added to CaCO_3 .

b.Zinc carbonate is heated.

c.Ammonium dichromate is heated.

2.Why does the blue colour of copper sulphate solution fade when zinc is added (3)
into it? Name the type of reaction involved?

3.Write the conditions required for the following reactions: (2)

a.Oxalic acid and sodium carbonate.

b.Mercuric chloride and potassium iodide.

4.Write any two uses of neutralisation? (2)

5.Write equation for the reaction between barium chloride solution and (2)
dilute sulphuric acid.

QUESTION 5

1.What is a chemical formula? Write its significance? (1)

2.What is variable valency? Write the formula of (2)
a) sodium chlorite,
b) sodium hypochlorite.

3.Find the molecular mass of Sodium carbonate? Also find the percentage (2)
of oxygen in it? [Na=23, C=12, O=16]

4.Write the Empirical formula of the following compounds; (2)

(a) C_6H_6

(b) $\text{H}_2\text{C}_2\text{O}_4$

5.What are polyatomic ions? Give two examples? (2)
