Std.: 9 (English) **Science 1**

Chapter: 4

Q.1 **Name the following** **6**

1 Metals with variable valency:

Ans Iron, Copper, Mercury, Tin, Lead

2 Bivalent acidic radicals.

Ans SO_4^{2-}, CO_3^{2-}, S^{2-}

3 Trivalent basic radicals.

Ans Al^{3+}, Fe^{3+}, Cr^{3+}

4 Composite radicals.

Ans MnO_4^-, NH_4^+, SO_4^{2-}, PO_4^{3-}

5 Basic radicals.

Ans Na^+, K^+, Ca^{2+}, Mg^{2+}

6 Positive radicals

Ans Na^+, K^+, Ca^{2+}, Mg^{2+}, Cu^{2+}

Q.2 **Solve Numerical problems** **8**

1 Write the names of the following compounds and deduce their molecular masses. (Na - 23, S - 32, O - 16, K - 39, C - 12, Mg - 24, Al - 27, Cl - 35.5)

i. CO_2
ii. $MgCl_2$

Ans i. CO_2 – Carbon dioxide

Molecular mass – $12 + (2 \times 16) = 12 + 32 = 44$ g

ii. $MgCl_2$ – Magnesium chloride

Molecular mass – $24 + (2 \times 35.5) = 24 + 71 = 95$ g

2 Write the names of the following compound and deduce their molecular masses. (Na - 23, S - 32, O - 16, K - 39, C - 12, Mg - 24, Al - 27)

i. Na_2SO_4
ii. K_2CO_3

Ans i. Na_2SO_4 – Sodium sulphate

Molecular mass = $(2 \times 23) + 32 + (16 \times 4) = 46 + 32 + 64 = 142$ g

ii. K_2CO_3 – Potassium carbonate

Molecular mass – $(2 \times 39) + 12 + (16 \times 3) = 78 + 12 + 48 = 138$g

3 Write the names of the following compound and deduce their molecular masses. (Na - 23, S - 32, O - 16, K - 39, C - 12, Mg - 24, Al - 27)

i. $NaHCO_3$
ii. 32 g oxygen:

Ans i. $NaHCO_3$ – Sodium bicarbonate

Molecular mass – 23 + 1 + 12 + (3 × 16) = 24 + 12 + 48 = 84 g

ii. Molecular mass of oxygen is 2 × 16 = 32 g

So 32 g oxygen contains 6.022 × 10^{23} molecules

Q.3	**Chemical reaction with equation:**	**10**
Q.4	**Answer the following.**	**4**
Q.5	**Give scientific reasons**	**2**
Q.6	**Explain with the help of examples**	**3**
Q.7	**Solve Numerical problems**	**6**
Q.8	**Extra data (Not to be Use)**	**35**
Q.9	**Answer the following in detail**	**5**

Prism
Colours of your Dreams