

15/7/2020  
WEDNESDAY

# CHEMISTRY

STD - 8  
class - 09

## Assignment

- 1) Calculate the molecular mass of glucose ( $C_6H_{12}O_6$ ) and sulphuric acid ( $H_2SO_4$ ).

[Atomic mass C = 12, H = 1, O = 16, S = 32]

Ans) Molecular mass of glucose =

$$\begin{aligned} [C_6H_{12}O_6] &= 12 \times 6 + 1 \times 12 + 16 \times 6 \\ &= 72 + 12 + 96 \\ &= \underline{\underline{180}} \end{aligned}$$

Molecular mass of sulphuric acid =

$$\begin{aligned} [H_2SO_4] &= 1 \times 2 + 1 \times 32 + 4 \times 16 \\ &= 2 + 32 + 64 \\ &= \underline{\underline{98}} \end{aligned}$$

- 2) Calculate the No. of molecules present in 96 g of oxygen.

Ans) Molecular mass of oxygen = 32

$$\therefore \text{No. of GMM} = \frac{96}{32} = 3 \text{ GMM}$$

$$\therefore \text{No. of molecules} = \underline{\underline{3 \times 6.022 \times 10^{23}}}$$

Oxygen molecules

3) Calculate the number of molecules present in each sample? Page No: 43

1. 360 g glucose [molecular mass = 180]

2. 90 g water [molecular mass = 18]

Ans. 1) 360 g glucose

$$\text{No. of GMM} = \frac{360}{180} = 2 \text{ GMM}$$

$$\therefore \text{No. of molecules} = 2 \times 6.022 \times 10^{23} \text{ glucose molecules}$$

2) 90 g water

$$\text{No. of GMM} = \frac{90}{18} = 5 \text{ GMM}$$

$$\therefore \text{No. of molecules} = 5 \times 6.022 \times 10^{23} \text{ H}_2\text{O molecules}$$

4) Calculate the number of GMM and number of molecules in 44 g of  $\text{CO}_2$ .

$$\text{Ans) Molecular mass of } \text{CO}_2 = 12 + 32 = \underline{44}$$

$$\therefore \text{No. of GMM} = \frac{44}{44} = \underline{1 \text{ GMM}}$$

$$\text{No. of molecules} = 1 \times 6.022 \times 10^{23} \text{ CO}_2 \text{ molecules}$$