

22/7/2020
WEDNESDAY

CHEMISTRY

STD - 8
class - 11

Assignment

- Calculate the mass and number of molecules in 112 L of CO_2 at STP.

Ans)

$$\begin{aligned}\text{Molecular mass of } \text{CO}_2 &= 12 + 16 + 16 \\ &= \underline{\underline{44}}\end{aligned}$$

$$\text{No. of GMM} = \frac{112 \text{ L}}{22.4 \text{ L}} = \underline{\underline{5 \text{ GMM}}}$$

$$\begin{aligned}\therefore \text{Mass} &= 5 \times 44 \\ &= \underline{\underline{220 \text{ g}}}\end{aligned}$$

$$\begin{aligned}\text{No. of molecules} &= 5 N_A \\ &= \underline{\underline{5 \times 6.022 \times 10^{23}}}\end{aligned}$$

NOTES

- 1) The molecular mass of ammonia is 17.
- How much is the GMM of ammonia?
 - Find out the number of moles of molecules present in 170 g of ammonia.?
 - Calculate the number of ammonia molecules present in the above sample of ammonia?

Ans) a) $GMM = 17 \text{ g}$

b) $\frac{170 \text{ g}}{17 \text{ g}} = \underline{\underline{10}}$

c) $10 \times 6.022 \times 10^{23}$

- 2) Find out the number of moles of molecules present in the samples given below.

[GMM - $N_2 = 28 \text{ g}$, $H_2O = 18 \text{ g}$]

a) 56 g N_2 b) 90 g H_2O

Ans) a) $\frac{56 \text{ g}}{28 \text{ g}} = \underline{\underline{2 \text{ moles}}}$

b) $\frac{90 \text{ g}}{18 \text{ g}} = \underline{\underline{5 \text{ moles}}}$