

Yakeen NEET 2.0 2026

DPP SOLUTION

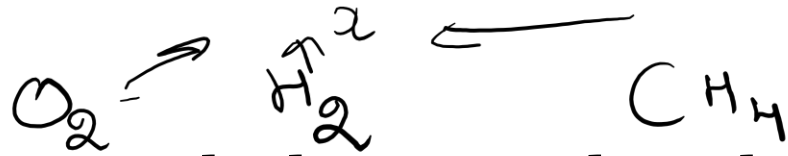
- **Subject – Physical Chemistry**
- **Chapter – Some Basic Concept of Chemistry**

DPP No.- 04



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Question-1



Equal masses of oxygen, hydrogen and methane are taken in identical conditions.

What is the ratio of the volumes of the gases under identical conditions?

↓
NTP

① 16 : 1 : 8

② 1 : 16 : 2

③ 1 : 16 : 8

④ 2 : 16 : 1

$$n_{\text{O}_2} : n_{\text{H}_2} : n_{\text{CH}_4}$$

$$\frac{x \times 22.4}{32} : \frac{x \times 22.4}{2} : \frac{x \times 22.4}{16}$$

$$\frac{1}{32} : \frac{1}{2} : \frac{1}{16}$$

$$\frac{32}{32} : \frac{32}{2} : \frac{32}{16}$$

$$1 : 16 : 2$$

Ans. (2)

Question-2



11.2 L of $O_3(g)$ contains how many numbers of molecules?

- ① N_A molecules
- ~~② $N_A/2$ molecules~~
- ③ $2 N_A$ molecules
- ④ $3 N_A$ molecules

$$\frac{11.2}{22.4} \times N_A = \frac{N_A}{2}$$

Ans. (2)

Question-3



The number of molecules in 89.6 liters of a gas at NTP are

① 6.02×10^{23}

② $2 \times 6.02 \times 10^{23}$

③ $3 \times 6.02 \times 10^{23}$

~~④~~ $4 \times 6.02 \times 10^{23}$

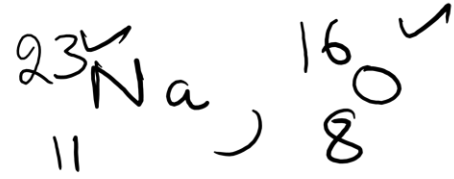
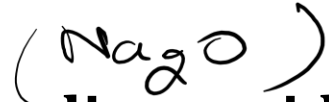
$$\frac{89.6}{22.4} \times 6.02 \times 10^{23}$$

Ans. (4)

Question-4



The number of moles of sodium oxide in 620 g of it is



- ① 1 mole
- ② 10 moles
- ③ 18 moles
- ④ 100 moles

$$\frac{620}{62} = 10$$

$$Na_2O$$
$$2 \times 23 + 1 \times 16 = 62g$$

Ans. (2)

Question-5



The number of mol of N-atom in 18.066×10^{23} nitrogen atoms is

① 1 mol

② 2 mol

③ 3 mol

④ 4 mol

$$\frac{18.066 \times 10^{23}}{6.022 \times 10^{23}} = 3$$

Ans. (3)

Question-6



One mole electron means:

$$1 \text{ mole} = 6.022 \times 10^{23} = N_A$$

- ① N_A electrons ✓
- ② 6.023×10^{23} electrons ✓
- ③ 0.55 mg electrons
- ④ All of these

$$1 \bar{e} \text{ mass} = 9.1 \times 10^{-31} \text{ kg}$$

$$6.022 \times 10^{23} \bar{e} \text{ mass} = 9.1 \times 10^{-31} \times 6.022 \times 10^{23}$$

$$= 54.6 \times 10^{-8} \text{ kg}$$

$$= 54.6 \times 10^{-8} \times 1000$$

$$= 54.6 \times 10^{-5} \text{ g}$$

$$= 54.6 \times 10^{-5} \times 1000 \text{ mg}$$

$$= 54.6 \times 10^{-2} \text{ mg}$$

$$0.546 \text{ mg} = \frac{54.6}{100} \text{ mg}$$

Ans. (4)

Question-7



The number of moles of sodium oxide in 620 g of its is

- ① 1 mole
- ② 10 moles
- ③ 18 moles
- ④ 100 moles

$$n = \frac{620}{62} = 10$$

Ans. (2)

Question-8



1 mol of CH₄ contains

$$1 \times N_A \times 4 = \underline{4N_A}$$

$$\left| \begin{array}{l} \text{mass of CH}_4 = 1 \times 16 \\ = \underline{16 \text{ g}} \end{array} \right.$$



① ~~6.02 × 10²³ atoms of H~~

② 4g atom of Hydrogen

③ 1.81 × 10²³ molecules of CH₄

④ 3.0 g of carbon

$$\begin{aligned} \text{g atoms of H} &= \frac{4}{\text{G.A.M. of H}} \\ &= \frac{4}{1} = 4 \text{ g} \end{aligned}$$

Ans. (2)

Question-9



If we consider that $\frac{1}{6}$, in place of $\frac{1}{12}$, mass of carbon atom is taken to be the relative atomic mass unit, the mass of one mole of the substance will :-

- ① be a function of the molecular mass of the substance
- ② remain unchanged
- ③ increase two fold
- ④ decrease twice

Gr. A. M.
or
Gr. M. M.
or
Gr. F. M.

will not change
on changing definition
of 1 a.m.u.

Ans. (4)

Question-10



If Avogadro number N_A , is changed from $6.022 \times 10^{23} \text{ mol}^{-1}$ to $6.022 \times 10^{20} \text{ mol}^{-1}$, this would change:

- ① The ratio of elements to each other in a compound
- ② The definition of mass in units of grams
- ~~③~~ The mass of one mole of carbon
- ④ The ratio of chemical species to each other in a balanced equation

Ans. (3)

Question-11



~~Statement-I: Weight of 1 molecule of $O_2 = 32u$.~~

~~Statement-II: $\frac{1g \text{ molecule}}{1 \text{ mole}} = 6.023 \times 10^{23} \text{ molecules}$.~~

- ☒ 1 Both Statement-I and Statement-II are correct.
- ☐ 2 Both Statement-I and Statement-II are incorrect.
- ☐ 3 Statement-I is correct and Statement-II is incorrect.
- ☐ 4 Statement-I is incorrect and Statement-II is correct.

Ans. (1)



Thank

You...

