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

O_2 → H_2 ← CH_4

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 : 2

$n_{O_2} : n_{H_2} : n_{CH_4}$

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

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

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

$1 : 16 : 2$

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

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

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

1 $\bar{e}$ mass = 9.1×10^{-31} kg

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

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

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

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

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

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

0.546 mg $= \frac{54.6}{100}$ 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 CH_4 contains

1. 6.02×10^{23} atoms of H
2. 4g atom of Hydrogen
3. 1.81×10^{23} molecules of CH_4
4. 3.0 g of carbon

$^{12}_{6}C$ $^{1}_{1}H$

$1 \times N_A \times 4 = 4N_A$

mass of $CH_4 = 1 \times 16$
$= 16\,g$

g atoms of $H = \frac{H}{GAM \cdot of\ H}$

$= \frac{4}{1} = 4g$

Ans. (2)

Question-9

If we consider that 1/6, in place of 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 or Changing definition of 1 a.m.u.

Ans. (4)

Question-10

If Avogadro number N_A, is changed from 6.022×10^{23} mol^{-1} to 6.022×10^{20} 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: 1g molecule = 6.023×10^{23} molecules.

1 mole

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...