

**DAILY PRACTICE PROBLEM
OF
PHYSICAL CHEMISTRY
FOR NEET**

**BY
JITENDRA HIRWANI**

MOLE CONCEPT

ETOOSINDIA

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DPP-1

1. A sample of ammonium phosphate $(\text{NH}_4)_3\text{PO}_4$ contains 3.18 moles of hydrogen atoms. The number of moles of oxygen atoms in the sample is
 (1) 0.265 (2) 0.795 (3) 1.06 (4) 4.00
Ans. (3)
2. The total number of electrons in 1.6 g of CH_4 is to that in 1.8 g of H_2O
 (1) Double (2) Same (3) Triple (4) One fourth
Ans. (2)
3. Which has maximum molecules?
 (1) 7 g N_2O (2) 20 g H_2 (3) 16 g NO_2 (4) 16 g SO_2
Ans. (2)
4. The maximum number of molecules is present in
 (1) 15 L of H_2 gas at STP (2) 5 L of N_2 gas at STP
 (3) 0.5 g of H_2 gas (4) 10 g of O_2 gas
Ans. (1)
5. The number of atoms in 0.1 mol of a tetraatomic gas is ($N_A = 6.02 \times 10^{23} \text{ mol}^{-1}$)
 (1) 2.4×10^{22} (2) 6.026×10^{22} (3) 2.4×10^{23} (4) 3.600×10^{23}
Ans. (3)
6. 5.6 litre of oxygen at NTP is equivalent to –
 (1) 1 mole (2) $\frac{1}{2}$ mole (3) $\frac{1}{4}$ mole (4) $\frac{1}{8}$ mole
Ans. (3)
7. A gas is found to have the formula $(\text{CO})_x$. Its VD is 70 the value of x must be:-
 (1) 7 (2) 4 (3) 5 (4) 6
Ans. (3)
8. Number of neutrons present in 1.7 gms of ammonia is -
 (1) N_A (2) $N_A/10 \times 4$ (3) $(N_A/10) \times 7$ (4) $N_A \times 10 \times 7$
Ans. (3)
9. The number of atoms present in 0.5g atom of nitrogen is same as the atoms in –
 (1) 12g of C (2) 32g of S (3) 8g of oxygen (4) 24g of Mg
Ans. (3)
10. The weight of one atom of Uranium is 238 amu. Its actual weight is gm.
 (1) 1.43×10^{26} (2) 3.94×10^{-22} (3) 6.99×10^{-23} (4) None of these
Ans. (2)

DPP-2

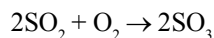
1. Two metallic oxides contain 27.6% and 30% oxygen respectively. If the formula of the first oxide is X_3O_4 , that of the second will be
 (1) XO (2) XO_2 (3) X_2O_5 (4) X_2O_3
Ans. (4)
2. Calculate the molality of solution containing 3 g glucose dissolved in 30 g of water. (molar mass of glucose = 180)
 (1) 0.50 m (2) 0.56 m (3) 0.091 m (4) 0.05 m
Ans. (2)
3. How many grams of NaOH should be added to water to prepare 250 ml solution of 2 M NaOH ?
 (1) 9.6×10^3 (2) 2.4×10^3 (3) 20 (4) 24
Ans. (3)
4. Haemoglobin contains 0.334% of iron by weight. The molecular weight of haemoglobin is approximately 67200. The number of iron atoms (Atomic weight of Fe is 56) present in one molecule of haemoglobin is
 (1) 4 (2) 6 (3) 3 (4) 2
Ans. (1)
5. The number of atoms of Cr and O are 4.8×10^{10} and 9.6×10^{10} respectively. Its empirical formula is –
 (1) Cr_2O_3 (2) CrO_2 (3) Cr_2O_4 (4) None
Ans. (2)
6. The density of air is $0.001293 \text{ g ml}^{-1}$. It's vapour density is –
 (1) 143 (2) 14.3 (3) 1.43 (4) 0.143
Ans. (2)
7. Cortisone is a molecular substance containing 21 atoms of carbon per molecule. The mass percentage of carbon in cortisone is 69.98%. Its molar mass is :
 (1) 176.5 (2) 252.2 (3) 287.6 (4) 360.1
Ans. (4)
8. 12 g of alkaline earth metal gives 14.8 g of its nitride. Atomic weight of metal is -
 (1) 12 (2) 20 (3) 40 (4) 14.8
Ans. (3)
9. The density of a solution prepared by dissolving 120 g of urea (mol. mass = 60 u) in 1000 g of water is 1.15 g/mL. The molarity of this solution is :-
 (1) 2.05 M (2) 0.50 M (3) 1.78 M (4) 1.02 M
Ans. (1)

DPP-3

1. 4 g of hydrogen reacts with 20 g of oxygen to form water. The mass of water formed is
(1) 24 g (2) 36 g (3) 22.5 g (4) 40 g

Ans. (3)

2. In the reaction,

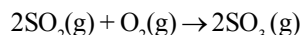
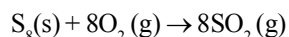


when 1 mole of SO_2 and 1 mole of O_2 are made to react to completion

- (1) All the oxygen will be consumed (2) 1.0 mole of SO_3 will be produced
(3) 0.5 mole of SO_2 is remained (4) All of these

Ans. (2)

3. Consider the following reaction sequence :



How many grams of SO_3 are produced from 1 mole S_8 ?

- (1) 1280 g (2) 960 g (3) 640 g (4) 320 g

Ans. (3)

4. One litre of CO_2 is passed over hot coke. The volume becomes 1.4 litre. The composition of products is—

- (1) 0.6 litre CO (2) 0.8 litre CO_2
(3) 0.6 litre CO_2 and 0.8 litre CO (4) None

Ans. (3)

5. The number of litres of air required to burn 8 litres of C_2H_2 is approximately—

- (1) 40 (2) 60 (3) 80 (4) 100

Ans. (4)

6. 4 gms. of hydrogen are ignited with 4 gms of oxygen. The weight of water formed is -

- (1) 0.5 gm (2) 3.5 gm (3) 4.5 gm (4) 2.5 gm

Ans. (3)

7. For the reaction $2\text{P} + \text{Q} \rightarrow \text{R}$, 8 mol of P and excess of Q will produce :

- (1) 8 mol of R (2) 5 mol of R (3) 4 mol of R (4) 13 mol of R

Ans. (3)

8. In a certain operation 358 g of TiCl_4 is reacted with 96 g of Mg. Calculate % yield of Ti if 32 g of Ti is actually obtained

[At. wt. Ti = 48, Mg = 24] [Hint : $\frac{358}{190} = 1.88$]

- (1) 35.38 % (2) 66.6 % (3) 100 % (4) 60 %

Ans. (1)

9. What weights of P_4O_6 and P_4O_{10} will be produced by the combustion of 31 g of P_4 in 32 g of oxygen leaving no P_4 and O_2 .

- (1) 2.75g, 219.5g (2) 27.5g, 35.5g (3) 55g, 71g (4) 17.5g, 190.5g

Ans. (2)

10. How many mole of $\text{Zn}(\text{FeS}_2)$ can be made from 2 mole zinc, 3 mole iron and 5 mole sulphur.

- (1) 2 mole (2) 3 mole (3) 4 mole (4) 5 mole

Ans. (1)

DPP-4

1. If the weight of metal chloride is x gram containing y gram of metal, the equivalent weight of metal will be

(1) $E = \frac{x}{y} \times 35.5$ (2) $E = \frac{8(y-x)}{x}$ (3) $E = \frac{y}{(x-y)} \times 35.5$ (4) $E = \frac{8(x-y)}{y}$

Ans. (3)

2. 0.5 gm of a base was completely neutralised by 100 ml. of 0.2 N acid. Equivalent weight of the base is -

(1) 50 (2) 100 (3) 25 (4) 125

Ans. (3)

3. 1.0 gm of a metal combines with 8.89 gms of Bromine. Equivalent weight of metal is nearly : (at. wt. of Br = 80)

(1) 8 (2) 9 (3) 10 (4) 7

Ans. (2)

4. 0.84 gms. of metal hydride contains 0.04 gms of hydrogen. The equivalent wt. of metal is

(1) 80 (2) 40 (3) 20 (4) 60

Ans. (3)

5. The weights of two elements which combine with one another are in the ratio of their :-

(1) At. wt. (2) Mol. wt. (3) Eq. wt. (4) None

Ans. (3)

6. The oxide of a metal has 32% oxygen. Its equivalent weight would be:-

(1) 34 (2) 32 (3) 17 (4) 16

Ans. (3)

7. Specific heat of a solid element is 0.1 Cal/gm °C and its equivalent weight is 31.8. Its exact atomic weight is -

(1) 31.8 (2) 63.6 (3) 318 (4) 95.4

Ans. (2)

8. Relative density of a volatile substance with respect to CH₄ is 4 (CH₄ = 1). Its molecular weight would be -

(1) 8 (2) 32 (3) 64 (4) 128

Ans. (3)

9. 5 litre of gas at STP weighs 6.25 gms. What is its gram molecular weight ?

(1) 1.25 (2) 14 (3) 28 (4) 56

Ans. (3)

10. Equivalent weight of bivalent metal is 32.7. Molecular weight of its chloride is :-

(1) 68.2 (2) 103.7 (3) 136.4 (4) 166.3

Ans. (3)

11. Under the same conditions, two gases have the same number of molecules. They must

(1) be noble gases (2) have equal volumes
(3) have a volume of 22.4 dm³ each (4) have an equal number of atoms

Ans. (2)

12. 3g of a hydrocarbon on combustion in excess of oxygen produces 8.8 g of CO₂ and 5.4 g of H₂O. The data illustrates the law of :

(1) conservation of mass (2) multiple proportions
(3) constant proportions (4) none of these

Ans. (1)