

**NEET CHEMISTRY**

*Topic: Mole Concept*

- Q.1 Mass of 1 atom of Hydrogen is -
- (A)  $1.66 \times 10^{-24}$  g      (B)  $10^{-22}$  g  
(C)  $10^{-23}$  g      (D)  $10^{-25}$  g
- Q.2 Which of the following contains the largest number of atoms -
- (A) 11g of  $\text{CO}_2$       (B) 4g of  $\text{H}_2$   
(C) 5g of  $\text{NH}_3$       (D) 8g of  $\text{SO}_2$
- Q.3 How many atoms are contained in a mole of  $\text{Ca(OH)}_2$  :
- (A)  $30 \times 6.02 \times 10^{23}$  atoms/mol  
(B)  $6 \times 6.02 \times 10^{23}$  atoms/mol  
(C)  $6.02 \times 10^{23}$  atoms/mol  
(D)  $5 \times 6.02 \times 10^{23}$  atoms/mol
- Q.4 What is correct for 10 g of  $\text{CaCO}_3$  -
- (A) It contains 1g-atom of carbon  
(B) It contains 0.3 g-atoms of oxygen  
(C) It contains 12 g of calcium  
(D) None of these
- Q.5 The total number of electrons present in 18 mL water (density 1 g/mL) is -
- (A)  $6.023 \times 10^{23}$       (B)  $6.023 \times 10^{24}$   
(C)  $6.023 \times 10^{25}$       (D)  $6.023 \times 10^{21}$

Q.6 Number of oxygen atoms in 8 gms of ozone is -

(A)  $6.02 \times 10^{23}$       (B)  $\frac{6.02 \times 10^{23}}{2}$

(C)  $\frac{6.02 \times 10^{23}}{3}$       (D)  $\frac{6.02 \times 10^{23}}{6}$

Q.7 No. of oxalic acid molecules in 100 ml of 0.02 N oxalic acid is -

(A)  $6.023 \times 10^{20}$       (B)  $6.023 \times 10^{21}$

(C)  $6.023 \times 10^{22}$       (D)  $6.023 \times 10^{23}$

Q.8 Total number of atoms present in 64 gm of  $\text{SO}_2$  is -

(A)  $2 \times 6.02 \times 10^{23}$       (B)  $6.02 \times 10^{23}$

(C)  $4 \times 6.02 \times 10^{23}$       (D)  $3 \times 6.02 \times 10^{23}$

Q.9 The number of oxygen atoms present in 14.6 g of magnesium bicarbonate  $[\text{Mg}(\text{HCO}_3)_2]$  is

(A)  $6N_A$       (B)  $0.6N_A$

(C)  $N_A$       (D)  $0.5 N_A$

Q.10 One mole of  $\text{P}_4$  molecules contains -

(A) 1 molecule

(B) 4 molecules

(C)  $1/4 \times 6.022 \times 10^{23}$  atoms

(D)  $24.088 \times 10^{23}$  atoms

Q.11 The total number of protons, electrons and neutrons in 12gm of  ${}_6\text{C}^{12}$  is -

(A)  $1.084 \times 10^{25}$       (B)  $6.022 \times 10^{23}$

(C)  $6.022 \times 10^{22}$       (D) 18

Q.12 The number of sodium atoms in 2 moles of sodium ferrocyanide  $\text{Na}_4[\text{Fe}(\text{CN})_6]$ , is-

(A) 2

(B)  $6.023 \times 10^{23}$

(C)  $8 \times 6.02 \times 10^{23}$

(D)  $4 \times 6.02 \times 10^{23}$

**Q.13** Out of 1.0 g dioxygen, 1.0 g (atomic) oxygen and 1.0 g of ozone, the maximum number of oxygen atoms are contained in -

(A) 1.0 g of atomic oxygen.

(B) 1.0 g of ozone.

(C) 1.0 g of oxygen gas.

(D) All contain same number of atoms

**Q.14** Number of  $\text{Ca}^{+2}$  and  $\text{Cl}^-$  ion in 111 g of anhydrous  $\text{CaCl}_2$  are -

(A)  $N_A, 2N_A$

(B)  $2N_A, N_A$

(C)  $N_A, N_A$

(D) None

**Q.15** 2 moles of  $\text{H}_2$  at NTP occupy a volume of

(A) 11.2 litre

(B) 44.8 litre

(C) 2 litre

(D) 22.4 litre

**Q.16** 4.0 g of caustic soda (mol mass 40) contains same number of sodium ions as are present in-

(A) 10.6 g of  $\text{Na}_2\text{CO}_3$  (mol. mass 106)

(B) 58.5 g of  $\text{NaCl}$  (Formula mass 58.5)

(C) 100 ml of 0.5 M  $\text{Na}_2\text{SO}_4$

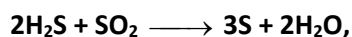
(Formula mass 142)

(D) 1mol of  $\text{NaNO}_3$  (mol. mass 85)

**Q.17** 0.01 mole of iodoform ( $\text{CHI}_3$ ) reacts with  $\text{Ag}$  to produce a gas whose volume at NTP is -

- (A) 224 ml                      (B) 112 ml  
(C) 336 ml                      (D) None of these

Q.18 If 1.6 gms of  $\text{SO}_2$   $1.5 \times 10^{22}$  molecules of  $\text{H}_2\text{S}$  are mixed and allowed to remain in contact in a closed vessel until the reaction



proceeds to completion. Which of the following statement is true ?

- (A) Only 'S' and 'H<sub>2</sub>O' remain in the reaction vessel  
(B) 'H<sub>2</sub>S' will remain in excess  
(C) 'SO<sub>2</sub>' will remain in excess  
(D) None of these

Q.19 1.0 gm of a metal combines with 8.89 gms of Bromine. Equivalent weight of metal is nearly : (at. wt. of Br = 80)

- (A) 8      (B) 9      (C) 10      (D) 7

Q.20 2.8 gm of iron displaces 3.2 gm of copper from a solution of copper sulphate solution. If the equivalent mass of iron is 28, then equivalent mass of copper will be -

- (A) 16      (B) 32      (C) 48      (D) 64

Q.21 2.76 gm of silver carbonate on being strongly heated yields a residue weighing -

- (A) 2.16 gm                      (B) 2.48 gm  
(C) 2.32 gm                      (D) 2.64 gm

Q.22 A hydrocarbon contains 80% of carbon, then the hydrocarbon is -

- (A)  $\text{CH}_4$       (B)  $\text{C}_2\text{H}_4$       (C)  $\text{C}_2\text{H}_6$       (D)  $\text{C}_2\text{H}_2$

Q.23 A giant molecule contains 0.25% of a metal whose atomic weight is 59. Its molecule contains one atom of that metal. Its minimum molecular weight is -

- (A) 5900                      (B) 23600  
(C) 11800                    (D)  $\frac{100 \times 59}{0.4}$

Q.24  $\text{CaCO}_3$  is 90% pure. Volume of  $\text{CO}_2$  collected STP when 10 gms of  $\text{CaCO}_3$  is decomposed is -

- (A) 2.016 litres              (B) 1.008 litres  
(C) 10.08 litres              (D) 20.16 litres

Q.25 The formula of a metal oxide is  $\text{Z}_2\text{O}_3$ . If 6 mg. of hydrogen is required for complete reduction of 0.1596 gm metal oxide, then the atomic weight of metal is -

- (A) 227.9                      (B) 159.6  
(C) 79.8                        (D) 55.8

Q.26 Percentage of Se in peroxidase anhydrous enzyme is 0.5% by weight (at. wt. = 78.4) then min. mol. wt. of peroxidase anhydrous enzymes is -

- (A)  $1.568 \times 10^4$   
(B)  $1.568 \times 10^3$   
(C) 15.68  
(D)  $2.136 \times 10^4$

Q.27 The mass of carbon anode consumed (giving only carbondioxide) in the production of 270 Kg of aluminium metal from bauxite by the Hall process is -

- (A) 180 Kg                      (B) 270 Kg  
(C) 240 Kg                      (D) 90 Kg

Q.28 How many moles of lead (II) chloride will be formed from a reaction between 6.5 g of  $\text{PbO}$  and 3.2 g of  $\text{HCl}$  ? (Atomic wt. of  $\text{Pb} = 207$ ) -

- (A) 0.011                      (B) 0.029  
(C) 0.044                      (D) 0.333

- Q.29 The empirical formula of an organic compound is  $\text{CH}_2$ . One mole of this compound has a mass 42 gm. Its molecular formula is - (A)  $\text{CH}_2$  (B)  $\text{C}_3\text{H}_6$   
 (C)  $\text{C}_2\text{H}_2$  (D)  $\text{C}_3\text{H}_8$
- Q.30 The mass of 70% pure  $\text{H}_2\text{SO}_4$  required for neutralisation of 1 mol of  $\text{NaOH}$  -  
 (A) 49 gm (B) 98 gm  
 (C) 70 gm (D) 34.3 gm

## ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	A	B	D	B	B	B	A	D	B	D
Que.	11	12	13	14	15	16	17	18	19	20
Ans.	A	C	D	A	B	C	B	C	B	B
Que.	21	22	23	24	25	26	27	28	29	30
Ans.	A	C	B	A	D	A	D	B	B	C