

JEE MAIN ANSWER KEY & SOLUTIONS

SUBJECT :- CHEMISTRY

CLASS :- 11th

PAPER CODE :- CWT-1

CHAPTER :- MOLE CONCEPT

ANSWER KEY

1.	(B)	2.	(B)	3.	(A)	4.	(A)	5.	(C)	6.	(B)	7.	(C)
8.	(A)	9.	(C)	10.	(A)	11.	(C)	12.	(B)	13.	(C)	14.	(D)
15.	(C)	16.	(B)	17.	(C)	18.	(C)	19.	(D)	20.	(D)	21.	3
22.	2	23.	10	24.	5	25.	50	26.	64	27.	20	28.	6
29.	1	30.	40										

SOLUTIONS

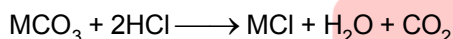
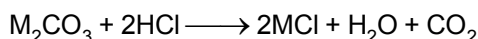
1. (B)

Sol. Mass dependent unit does not change on change of temperature

- (i) ppm
- (ii) %w/w
- (iii) % labelling

2. (B)

Sol. Reactions of both carbonates are



$$n_{CO_2} = \frac{12.315}{24.63} = 0.5 \text{ moles}$$

From options Li Be Mg

$$\text{Mass of 0.5 mole of } \begin{cases} Li_2CO_3 = \frac{74}{2} = 37 \\ BeCO_3 = \frac{68}{2} = 34 \\ MgCO_3 = \frac{84}{2} = 42 \end{cases}$$

$$\text{Mass of Mixture} = 40 \text{ gm}$$

$$\begin{cases} \therefore Li_2CO_3 = 37 \text{ gm} \\ \text{unreacted part (impurity)} = 3 \text{ gm} \end{cases}]$$

3. (A)

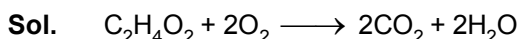
Sol. mole % of $NO_2 = \frac{34-30}{46-30} = \frac{4}{16} \times 100 = 25\%$

Ans.]

4. (A)

Sol. $10 \times 20 = 200$
 $4 \times 480 = 1920$
 $\Rightarrow 2120 \text{ gm Ans.]}$

5. (C)



moles should be in 1 : 2 ratio

$$60x + 32(2x) = 620$$

$$124x = 620$$

$$x = 5$$

moles of CO_2 produced = 10 mol

$$W_{CO_2} = 440 \text{ gm}]$$

6. (B)



$$2 \times 2 = 4 \quad 4 \times 1 = 4 \quad 4 \quad 2$$

Remaining L.R.

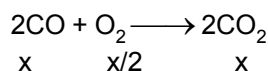
$$4 - 2 = 2$$

Total ions in solution $\Rightarrow 4 + 2 + 4 + 2 = 12$
 (from Ag_2SO_4 & Na_2SO_4)

$$\text{Sum of molar conc.} = \frac{12}{6} = 2 \text{ M Ans.]}$$

7. (C)

Sol. Let the volume (x) CO , (y) CO_2 & (z) N_2



$$\therefore \Delta V = x \left(1 + \frac{1}{2} - 1 \right) = 40$$

$$\frac{x}{2} = 40 \Rightarrow x = 80 \text{ ml}$$

$$\therefore V_{CO_2} = y \quad \therefore (V_{CO_2})_T = 80 + y$$

$$\therefore V_{N_2} = 120 - y$$

$$\Rightarrow 80 + y = 200 \times \frac{50}{100}$$

$$y = 20$$

$$\therefore V_{N_2} = 100 \text{ ml}$$

$$\therefore V_{CO} : V_{CO_2} : V_{N_2} :: 80 : 20 : 100$$

$$\therefore 4 : 1 : 5]$$

