

	Molarity	Molality	Density g/ml	GMM
Solution 1	a	-	x	P
Solution 2	-	b	y	Q
Solution 3	-	-	1.006	R

Q.1 What is molality of solution 1 :

- (A) $\frac{1000a}{1000x - ap}$ (B) $\frac{1000x}{1000a - p}$
 (C) $\frac{a}{1000x - ap}$ (D) None of these

Q.2 What is the molarity of solution 2 :

- (A) $\frac{b \times y}{1000 + bQ}$ (B) $\frac{b \times 1000 \times y}{1000 + bQ}$
 (C) $\frac{1000 + bQ}{1000by}$ (D) None of these

Q.3 Which of following statements is/are true-

- (A) For solution 3 molarity and molality are almost the same.
 (B) 1 molar aqueous solution is concentrated than 1 molal aqueous solution.
 (C) Mole fraction and molality of solution are independent of temperature.
 (D) If same mass of an impure solute is dissolved instead of pure solid molarity of solution does not change.

THESE QUESTION ARE NOT BASED ANY PASSAGE :

Q.4 6.023×10^{22} molecules of solute 'A', $\frac{q}{10}$ g of solid 'B' (GMM = q), 0.1 mol of 'C' are added to 18g of water to form a solution. What is the mole fraction of 'B' in solution ?

- (A) $\frac{10}{13}$ (B) $\frac{1}{13}$ (C) $\frac{2}{21}$ (D) None

Q.5 What is the % purity of NaOH sample whose x g requires M molar HCl in V litres for complete neutralization-

- (A) $\frac{MVx}{4 \times 10^3} \%$ (B) $\frac{M}{x} \times 100\%$
 (C) $\frac{M \times V \times 4 \times 10^3}{x} \%$ (D) None of these

Q.6 What is molarity of a solution prepared by x g solid have GMM of Z dissolved in water to form v ml solution. The solid is y% pure-

- (A) $\frac{x}{y} \times \frac{z}{v} \times 100$ (B) $\frac{x \times y \times 10}{z \times v}$
 (C) $\frac{x \times y}{z \times 100 \times v}$ (D) None of these

Q.7 $aA + bB \longrightarrow cC + dD$

If x mols of A is completely reacted with B. What are the moles of C & D formed-

- $n_c \quad n_d \qquad n_c \quad n_d$
 (A) $\frac{cx}{a} \quad \frac{da}{x}$ (B) $\frac{ax}{c} \quad \frac{da}{x}$
 (C) $\frac{cx}{a} \quad \frac{dx}{a}$ (D) None of these

Q.8 $pP + qQ \longrightarrow rR \longrightarrow sS$

If a moles of P are completely reacted in above reaction sequence. What is the number of moles of S formed if both reactions takes place with 50% yield-

- (A) $\frac{Sa}{p}$ (B) $\frac{Sa}{rp}$ (C) $\frac{Sa}{4p}$ (D) None

Q.9 $2Al + 3H_2SO_4 \longrightarrow Al_2(SO_4)_3 + 3H_2 \uparrow$

An aluminium sample of y% purity is reacted with excess of sulphuric acid. What is volume of H_2 gas produced at STP if x g of Al is used-

- (A) $\frac{33.6xy}{2700}$ (B) $\frac{3xy}{2700}$
 (C) $\frac{33.6xy}{27}$ (D) None of these

Q.10 If x g of solid 'A' having GMM of $\frac{x}{2}$ is added

to 6.023×10^{23} molecules of 'A' then a solution of 0.5 litre volume is prepared. What is the molarity of solution-

- (A) 3M (B) 6M
 (C) 1.5 M (D) None

CHEMISTRY IIT JEE (CLASS TEST - 3) ANSWER KEY

Name : Roll No. :

	A	B	C	D		A	B	C	D		A	B	C	D
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					