LAKSHYA (JEE)

Solution

DPP-02

1. If 0.4 g of NaOH is present in 40 mL of solution. What is the molarity and normality of solution. [Molecular mass of NaOH = 40]
(A) 0.25N
(B) 0.025 N
(C) 2.5N
(D) 0.50 N

2. Find out the molarity of 93% (w/W) H_2SO_4 (density = 1.84 g/ml).
(A) 174.6 M
(B) 17.46 M
(C) 1.746M
(D) All of these

3. A 100 cm^3 solution is prepared by dissolving 2g of NaOH in water. Calculate the normality of the solution.
(A) 1N
(B) N/2
(C) 0.5N
(D) Both (B) and (C)

4. Find the percentage by mass and mass fraction of aspirin in the solution prepared by dissolving 3.65 g of aspirin in 25.08 g of water.
(A) 12.7%
(B) 1.27%
(C) 0.127%
(D) 0.0127%

5. A solution was prepared by adding 125 cm^3 of isopropyl alcohol to water until the volume of the solution was 175 cm^3. Find the volume fraction and volume percent of isopropyl alcohol in the solution.
(A) 71.4%
(B) 7.14%
(C) 0.714%
(D) None of these

6. Calculate the mole percentage of CH_3OH and H_2O respectively in 60% (by mass) aqueous solution of CH_3OH.
(A) 45.8, 54.2
(B) 54.2, 45.8
(C) 50, 50
(D) 60, 40

7. The molarity of a solution of sodium chloride (mol wt. = 58.5) in water containing 5.85 g of sodium chloride in 500 mL of solution is:-
(A) 0.25
(B) 2.0
(C) 1.0
(D) 0.2

8. Equal weight of NaCl and KCl are dissolved separately in equal volumes of solutions then molarity of the two solutions will be
(A) Equal
(B) That of NaCl will be less than that of KCl
(C) That of NaCl will be more than that of KCl Solution
(D) That of NaCl will be half of that of KCl solution

9. In a solution of 7.8 g benzene (C_6H_6) and 46.0g toluene ($C_6H_5CH_3$) the mole fraction of benzene is:-
(A) $\frac{1}{6}$
(B) $\frac{1}{5}$
(C) $\frac{1}{2}$
(D) $\frac{1}{3}$

10. An X molal solution of a compound in benzene has mole fraction of solute equal to 0.2. The value of X is:-
(A) 14
(B) 3.2
(C) 1.4
(D) 2

11. A 500 g tooth paste sample has 0.02 g fluoride concentration. What is the concentration of fluorine in terms of ppm level:-

(A) 250
(B) 40
(C) 400
(D) 1000

12. H_2O_2 solution used for hair bleaching is sold as a solution of approximately 5.0 g H_2O_2 per 100 mL of the solution. The molecular mass of H_2O_2 is 34. The molarity of this solution is approximately:-

(A) 0.15 M
(B) 1.5 M
(C) 3.0 M
(D) 3.4 M

ANSWERS

1. (A)
2. (B)
3. (D)
4. (A)
5. (A)
6. (A)
7. (D)
8. (C)
9. (A)
10. (B)
11. (B)
12. (B)

Note - If you have any query/issue

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