DPP
DAILY PRACTICE PROBLEMS

CLASS : XIth **SUBJECT : CHEMISTRY**
DATE : **DPP No. : 8**

Topic :- SOME BASIC CONCEPTS OF CHEMISTRY

1. If we consider that $\frac{1}{6}$, in place of $\frac{1}{12}$, mass of carbon atom is taken to be the relative atomic mass unit, the mass of one mole of a substance will

   a) Be a function of the molecular mass or the substance
   b) Remain unchanged
   c) Increase two fold
   d) Decrease twice

2. A compound contains 54.55% carbon, 9.09 % hydrogen, 36.36% oxygen. The empirical formula of this compound is
   a) C_3H_5O b) $C_4H_8O_2$ c) $C_2H_4O_2$ d) C_2H_4O

3. The total number of protons, electrons and neutrons in 12 g of $^{12}_{6}C$ is:
   a) 1.084×10^{25} b) 6.022×10^{23} c) 6.022×10^{22} d) 18

4. The volume of 0.25 *M* H_3PO_4 required to neutralise 25 mL of 0.03 *M* $Ca(OH)_2$is:
   a) 1.32 mL b) 13.2 mL c) 26.4 mL d) 2.0 mL

5. 100 mL of PH_3 when decomposed produces phosphorus and hydrogen. The change in volume is:
   a) 50 mL increase b) 500 mL decrease c) 900 mL decrease d) None of these

6. Density of a 2.05 *M* solution of acetic acid in water is 1.02g/mL. The molality of the solution is:
   a) 1.14 mol kg^{-1} b) 3.28 mol kg^{-1} c) 2.28 mol kg^{-1} d) 0.44 mol kg^{-1}

7. What weight of sodium hydroxide is required to neutralize 100 mL of 0.1 *N* HCl?
   a) 4.0 g b) 0.04 g c) 0.4 g d) 2.0 g

8. The amount of anhydrous Na_2CO_3 present in 250 mL of 0.25 *M* solution is :
   a) 6.625 g b) 6.0 g c) 66.25 g d) 6.225 g

9. Mole fraction of *A* in water is 0.2. The molality of *A* in water is:
   a) 13.8 b) 13.6 c) 14.0 d) 16.0

10. How many g of KCl would have to be dissolved in 60 g H_2O to give 20% by weight of solution?
    a) 15 g b) 1.5 g c) 11.5 g d) 31.5 g

11. What volume of oxygen gas (O_2) measured at 0°C and 1 atm, is needed to burn completely 1L of propane gas (C_3H_8) measured under the same conditions?
    a) 6 L b) 5 L c) 10 L d) 7 L

12. The weight of 11.2 litre of any gas at STP represents its:
    a) Gram molecular weight
    b) Gram equivalent weight
    c) Gram atomic weight
    d) Vapour density

13. The normality of 10% (weight/volume) acetic acid is:
    a) 1 N b) 10 N c) 1.7 N d) 0.83 N

14. The stoichiometry of the following reaction is
    $K_2S_2O_8(aq) + 2KI(aq) \rightarrow 2K_2SO_4(aq) + I_2(aq)$
    a) 2 : 2 b) 1 : 1 c) 1 : 2 d) 2 : 1

15. 2 mole of ethyl alcohol are present with 6 mole of water. The mole fraction of alcohol is:
    a) 0.5 b) 0.75 c) 0.15 d) 0.25

16. What is the $[OH^-]$ in the final solution prepared by mixing 20.0 mL of 0.050 M HCl with 30.0 mL of 0.10 M $Ba(OH)_2$?
    a) 0.12 M b) 0.10 M c) 0.40 M d) 0.0050 M

17. The pair of compounds which cannot exist in solution is:
    a) $NaHCO_3$ and NaOH b) Na_2CO_3 and $NaHCO_3$ c) Na_2CO_3 and NaOH d) $NaHCO_3$ and NaCl

18. An oxide of metal has 20% oxygen, the eq. wt. of oxide is:
    a) 32 b) 40 c) 48 d) 52

19. What weight of silver chloride will be precipitated when a solution containing 4.77 g of $NaCl$ is added to a solution of 5.77 g of $AgNO_3$?(Na = 23,Cl = 35.5,Ag = 108,N = 14 and O = 16)
    a) 4.37 g b) 4.87 g c) 5.97 g d) 3.87 g

20. Number of molecules in 100 mL of each of O_2, NH_3 and CO_2 at STP are in the order
    a) $CO_2 < O_2 < NH_3$ b) $NH_3 < O_2 < CO_2$
    c) $NH_3 = CO_2 < O_2$ d) All have same number of molecules