DPP
DAILY PRACTICE PROBLEMS

CLASS : XIth **SUBJECT : CHEMISTRY**
DATE : **DPP No. : 4**

Topic :- SOME BASIC CONCEPTS OF CHEMISTRY

1. A partially dried clay mineral contains 8% water. The original sample contained 12% water and 45% silica. The % of silica in the partially dried sample is nearly:
   a) 50% b) 49% c) 55% d) 47%

2. Number of g-atoms of an element in one atom are:
   a) 6.023×10^{23} b) 1.66×10^{-24} c) 2×10^{23} d) None of these

3. Concentration of HCl is 10 N. 100 mL of 1 N HCl can be obtained by diluting:
   a) 10 mL of conc. HCl to 100 mL
   b) 20 mL of conc. HCl to 100 mL
   c) 100 mL of conc. HCl to 200 mL
   d) 100 mL of conc. HCl to 100 mL

4. The number of formula units of calcium fluoride, CaF_2 present in 146.4 g of CaF_2 (the molar mass of CaF_2 is 78.08 g/mol) is
   a) 1.129×10^{24} CaF_2 b) 1.146×10^{24} CaF_2 c) 7.808×10^{24} CaF_2 d) 1.877×10^{24} CaF_2

5. What is the weight of oxygen that is required for the complete combustion of 2.8 kg of ethylene?
   a) 9.6 kg b) 96.0 kg c) 6.4 kg d) 2.8 kg

6. The number of sodium atoms in 2 moles of sodium ferrocyanide is
   a) 12×10^{23} b) 26×10^{23} c) 34×10^{23} d) 48×10^{23}

7. Stoichiometric ratio of sodium dihydrogen orthophosphate and sodium hydrogen orthophosphate required for synthesis of $Na_5P_3O_{11}$ is
   a) 1.5 : 3 b) 3 : 1.5 c) 1 : 1 d) 2 : 3

8. 4.4 g of CO_2 and 2.24 litre of H_2 at STP are mixed in a container. The total number of molecules present in the container will be:
   a) 6.022×10^{23} b) 1.2044×10^{23} c) 2 mole d) 6.023×10^{24}

9. Calculate the number of moles left after removing 10^{21} molecules from 200 mg ofCO_2.
   a) 0.00454 b) 0.00166 c) 2.88×10^{-3} d) None of these

10. Which has maximum number of atoms?
    a) 24 g of C (12) b) 56 g of Fe (56) c) 27 g of Al (27) d) 108 g of Ag (108)

11. A sample of copper sulphate pentahydrate contains 8.64 g of oxygen. How many gram of Cu is present in this sample?
    (Atomic mass of Cu = 63.6, S = 32.06, O = 16)
    a) 0.952 g b) 3.816 g c) 3.782 g d) 8.64 g

12. To neutralise completely 20 ML of 0.1 M aqueous solution of phosphorous acid (H_3PO_3), the volume of 0.1 M aqueous KOH solution required is :
    a) 60 mL b) 20 mL c) 40 mL d) 10 mL

13. 2 g of O_2 at O^0C and 760 mm of Hg pressure has volume
    a) 1.4 L b) 2.8 L c) 11.2 L d) 22.4 L

14. An organic compound contains 20.0% C, 6.66% H, 47.33% N and the rest was oxygen. Its molar mass is 60 g mol^{-1} the molecular formula of the compound is
    a) CH_4N_2O b) $C_2H_4NO_2$ c) CH_3N_2O d) $CH_4N_2O_2$

15. One mole of solute (NaCl) is dissolved in 1 litre water. The molarity of solution is:
    a) $> 1\ M$ b) $< 1\ M$ c) $= 1\ M$ d) $= 2\ M$

16. 100 mL of 0.1 N hypo decolourised iodine by the addition of x gram of crystalline copper sulphate to excess of KI. The value of 'x' is
    (molecular wt. of $CuSO_4,5H_2O$ is 250)
    a) 5.0 g b) 1.25 g c) 2.5 g d) 4 g

17. Which of the following contains greatest number of oxygen atoms?
    a) 1 g of O b) 1 g of O_2
    c) 1 g of O_3 d) All have the same number of atoms

18. The normality of 4% (wt./vol.) NaOH is:
    a) 0.1 b) 1.0 c) 0.05 d) 0.01

19. The mass of potassium dichromate crystals required to oxidise 750 cm^3 of 0.6 M Mohr's salt solution is (Given, molar mass : Potassium dichromate = 294, Mohr's salt = 392)
    a) 0.49 g b) 0.45 g c) 22.05 g d) 2.2 g

20. If 0.5 mole of $BaCl_2$ is mixed with 0.2 mole of Na_3PO_4 the maximum number of mole of $Ba_3(PO_4)_2$ that can be formed is:
    a) 0.7 b) 0.5 c) 0.30 d) 0.1