DPP
DAILY PRACTICE PROBLEMS

CLASS : XIth **SUBJECT : CHEMISTRY**
DATE : **DPP No. : 2**

Topic :- SOME BASIC CONCEPTS OF CHEMISTRY

1. The mass of nitrogen per gram hydrogen in the compound hydrazine is exactly one and half times the mass of nitrogen in the compound ammonia. The fact illustrates the
   a) Law of conservation of mass
   b) Multiple valency of nitrogen
   c) Law of multiple proportions
   d) Law of definite proportions

2. Strength of the solution is given by:
   a) $S = N \times E$
   b) $S = \frac{\text{wt. of solute}}{\text{volume of solution in litre}}$
   c) $S = M \times \text{mol. wt.}$
   d) All of the above

3. 0.5 mole of H_2SO_4 is mixed with 0.2 mole of $Ca(OH)_2$. The maximum number of mole of $CaSO_4$ formed is:
   a) 0.2 b) 0.5 c) 0.4 d) 1.5

4. On dissolving 1 mole each of the following acids in 1 litre water, the acid which do not give a solution of 1 N strength is:
   a) HCl b) $HClO_4$ c) HNO_3 d) H_3PO_4

5. The empirical formula of a compound is CH. Its molecular weight is 78. The molecular formula of the compound will be:
   a) C_2H_2 b) C_3H_3 c) C_2H_4 d) C_2H_6

6. Of two oxides of iron, the first contained 22% and the second contained 30% of oxygen by weight. The ratio of weights of iron in the two oxides that combine with the same weight of oxygen, is
   a) 3 : 2 b) 2 : 1 c) 1 : 2 d) 1 : 1

7. The total number of protons in 10 g of calcium carbonate is ($N_0 = 6.023 \times 10^{23}$)
   a) 3.01×10^{24} b) 4.06×10^{24} c) 2.01×10^{24} d) 3.02×10^{24}

8. In the following reaction,
   $MnO_2 + 4HCL \longrightarrow MnCl_2 + 2H_2O + Cl_2$
   2 mol MnO_2 reacts with 4 mol of HCl to form 11.2 L Cl_2 at STP. Thus, per cent yield of Cl_2 is
   a) 25% b) 50% c) 100% d) 75%

9. The normality of 1% (wt./vol.) H_2SO_4 is nearly:
   a) 0.02 b) 0.2 c) 0.1 d) 1

10. The mass of 1 mole of electrons is
a) 9.1×10^{-28} g b) 1.008 mg c) 0.55 mg d) 9.1×10^{-27}g

11. 74.4 g of a metallic chloride contains 35.5 g of chlorine. The equivalent weight of the metal is:
a) 19.5 b) 35.5 c) 39.0 d) 78.0

12. Equivalent weight of an acid
a) Depends on the reaction involved
b) Depends upon the number of oxygen atoms present
c) Is always constant
d) None of the above

13. Which of the following is not a mixture?
a) Gasoline b) Distilled alcohol c) LPG d) lodized table salt

14. The equivalent weight of a divalent metal is 31.82. The weight of single atom is:
a) $32.77 \times 6.02 \times 10^{23}$ b) $63.64 \times 6.02 \times 10^{23}$ c) 63.64 d) $63.64/6.02 \times 10^{23}$

15. Number of mole of 1 m^3gas at NTP are:
a) 44.6 b) 40.6 c) 42.6 d) 48.6

16. The per cent loss in weight after heating a pure sample of potassium chlorate (mol. wt. = 122.5) will be:
a) 12.25 b) 24.50 c) 39.18 d) 49.0

17. The number of milli equivalent contained in 0.5 litre of 0.2 N solution is:
a) 0.1 b) 100 c) 0.01 d) 1.0

18. Out of 1.0 g dioxygen, 1.0 g (atomic) oxygen and 1.0 g ozone, the maximum number of molecules are contained in
a) 1.0 g of atomic oxygen b) 1.0 g of ozone
c) 1.0 g of oxygen gas d) All contain same number of atoms

19. A sample of AlF_3 contains 3.0×10^{24} F ions. The number of formula units of this sample are
a) 9.0×10^{24} b) 3.0×10^{24} c) 0.75×10^{24} d) 1.0×10^{24}

20. One mole of CO_2 contains
a) 3 g atoms of CO_2 b) 18.1×10^{23} molecules of CO_2
c) 6.02×10^{23} atoms of O d) 6.02×10^{23} atoms of C