DPP
DAILY PRACTICE PROBLEMS

CLASS : XIth **SUBJECT : CHEMISTRY**
DATE : **DPP No. : 1**

Topic :- SOME BASIC CONCEPTS OF CHEMISTRY

1. Cyclohexanol is dehydrated to cyclohexene on heating with conc H_2SO_4. The cyclohexene obtained from 100 g cyclohexanol will be
(If yield of reaction is 75%)
a) 61.5 g b) 75.0 g c) 20.0 g d) 41.0 g

2. A compound was found to contain nitrogen and oxygen in the ratio, nitrogen 28 g and 80 g of oxygen. The formula of the compound is:
a) NO b) N_2O_3 c) N_2O_5 d) N_2O_4

3. Versene, a chelating agent having chemical formula $C_2H_4N_2(C_2H_2O_2Na)_4$. If each mole of this compound could bind 1 mole of $Ca^{2}+$, then the rating of pure versene expressed as mg of $CaCO_3$ bound per g of chelating agent is:
a) 100 mg b) 163 mg c) 200 mg d) 263 mg

4. Which of the following is correct?
a) Meq. $= N \times V_{\text{in mL}} = \frac{\text{wt.}}{\text{Eq. wt.}} \times 1000$
b) Eq. $= N \times V_{\text{in mL}} = \frac{\text{wt.}}{\text{Eq. wt.}}$
c) Equal equivalent or milli equivalent of reactants react to give same eq. or Meq. of products
d) All of the above

5. 1.0 g of pure calcium carbonate was found to require 50 mL of dilute HCl for complete reactions. The strength of the HCl solution is given by:
a) 4 N b) 2 N c) 0.4 N d) 0.2 N

6. The number of atoms in 4.25 g of NH_3 is approximately
a) 6×10^{23} b) 2×10^{23} c) 1.5×10^{23} d) 1×10^{23}

7. MnO_4^- ions are reduced in acidic condition to Mn^{2+} ions whereas they are reduced in neutral condition to MnO_2. The oxidation of 25 mL of a solution X containing Fe^{2+} ions required in acidic condition 20 mL of a solution Y containing MnO_4^- ions. What volume of solution Y would be required to oxidise 25 mL of a solution X containing Fe^{2+} ions in neutral condition?
a) 11.4 mL b) 12.0mL c) 33.3 mL d) 35.0 mL

8. Number of atoms of He in 100 u of He (atomic weight of He is 4) are
   a) 25 b) 100 c) 50 d) $100 \times 6 \times 10^{-23}$

9. Total number of atoms present in 1.0 cm^3 of solid glucose (density 0.8 g/ cm^3) at 25°C are:
   a) 2.68×10^{21} b) 6.42×10^{22} c) 2.68×10^{22} d) 2.68×10^{23}

10. For preparing $M/10$ solution of H_2SO_4 in one litre we need H_2SO_4:
    a) 9.8 g b) 49.0 g c) 4.8 g d) 0.09 g

11. Given, that the abundances of isotopes $_{54}Fe$, $_{56}Fe$ and $_{57}Fe$ are 5%,90% and 5%, respectively, the atomic mass of Fe is
    a) 55.85 b) 55.95 c) 55.75 d) 56.05

12. The concentration of solution containing 0.5 mole H_3PO_4 dissolved in 500 g water:
    a) 1 m b) 1 M c) 1 N d) 0.5 M

13. Which of the following is correct?
    a) Mole = molarity $\times V_{\text{in L}} = \frac{\text{wt.}}{\text{mol. wt.}}$
    b) Milli mole = molarity $\times V_{\text{in mL}} = \frac{\text{wt.}}{\text{mol. wt.}} \times 1000$
    c) Mole and milli mole of reactants react according to stoichiometric ratio of balanced chemical equation
    d) All of the above

14. 100 g of $CaCO_3$ is treated with 1 L of 1 N HCI. What would be the weight of CO_2 liberated after the completion of the reaction?
    a) 55 g b) 11 g c) 22 g d) 33 g

15. If an iodized salt contains 1% KI and a person takes 2 g of the salt every day, the iodide ions going into his body every day would be approximately
    a) 7.2×10^{21} b) 7.2×10^{19} c) 3.6×10^{21} d) 9.5×10^{19}

16. The mass of 11.2 L of ammonia gas at STP is
    a) 8.5 g b) 85 g c) 17 g d) 1.7 g

17. 0.52 g of dibasic acid required 100 mL of 0.1 N NaOH for complete neutralization. The equivalent weight of acid is:
    a) 26 b) 52 c) 104 d) 156

18. 100 tons of Fe_2O_3 containing 20% impurities will give iron by reduction with H_2 equal to
    a) 112 tons b) 80 tons c) 160 tons d) 56 tons

19. 25 mL of a solution of barium hydroxide on titration with 0.1 *M* solution of HCl gave a titre value of 35 mL. The molarity of $Ba(OH)_2$ is:

a) 0.28 b) 0.35 c) 0.07 d) 0.14

20. Volume occupied by one molecule of water (density = 1 g cm^{-3}) is:

a) $6.023 \times 10^{-23} cm^3$ b) $3.0 \times 10^{-23} cm^3$ c) $5.5 \times 10^{-23} cm^3$ d) $9.0 \times 10^{-23} cm^3$