# Gaining Apex Coaching Centre

(Where Toppers make…… Toppers)

**DPP**
DAILY PRACTICE PROBLEMS **( By – Dapinder Sir )**

**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) $6 \times 10^{23}$ b) $2 \times 10^{23}$ c) $1.5 \times 10^{23}$ d) $1 \times 10^{23}$

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) $2.68 \times 10^{21}$ b) $6.42 \times 10^{22}$ c) $2.68 \times 10^{22}$ d) $2.68 \times 10^{23}$

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) $7.2\times 10^{21}$ b) $7.2\times 10^{19}$ c) $3.6\times 10^{21}$ d) $9.5\times 10^{19}$

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) $9.0 \times 10^{-23} cm^3$