



Chapter 1 Some Basic Concept of Chemistry

Assignment 1

Class 11

PRERNA EDUCATION

DPP

DAILY PRACTICE PROBLEMS

CLASS : XIth

DATE :

SUBJECT : CHEMISTRY

DPP No. : 1

Topic :- SOME BASIC CONCEPTS OF CHEMISTRY

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

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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) 12.0 mL 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 ${}_{54}\text{Fe}$, ${}_{56}\text{Fe}$ and ${}_{57}\text{Fe}$ 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) $\text{Mole} = \text{molarity} \times V_{\text{in L}} = \frac{\text{wt.}}{\text{mol. wt.}}$
- b) $\text{Milli mole} = \text{molarity} \times V_{\text{in mL}} = \frac{\text{wt.}}{\text{mol. wt.}} \times 1000$
- c) Mole and milli mole of reactants react according to stoichiometric ratio of balanced chemical

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equation

d) All of the above

14. 100 g of CaCO_3 is treated with 1 L of 1 N HCl. 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 $\text{Ba}(\text{OH})_2$ 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) $6.023 \times 10^{-23} \text{ cm}^3$ b) $3.0 \times 10^{-23} \text{ cm}^3$ c) $5.5 \times 10^{-23} \text{ cm}^3$ d) $9.0 \times 10^{-23} \text{ cm}^3$