INDIAN SCHOOL NIZWA - WORKSHEET

CHEMISTRY

CH:1 SOME BASIC CONCEPTS OF CHEMISTRY Class: XI

1. State the following.
   a) Law of conservation of mass
   b) Law of constant proportion
   c) Law of multiple proportions
   d) Gay Lussac's law
   e) Avogadro's law
2. Define the following.
   a) Molarity
   b) Molality
   c) Mole fraction
   d) Normality
   e) Parts per million (ppm)
3. Calculate the mass of graphite that must be burnt to produce 13.2 g of CO_2.
4. What is limiting reagent?
5. Calculate the mass percentage of sodium, carbon and oxygen in sodiumbicarbonate, $NaHCO_3$.
6. An organic compound on analysis gave the following data. C = 54.24% H = 9.05 % and the rest is oxygen. Its molar mass is 88 u. Find its empirical & molecular formula.
7. In the manufacturing of HNO_3 according to the reaction,
   $3NO_2 + H_2O \rightarrow 2HNO_3 + NO$ how many moles of NO_2 produces 7.33 moles of HNO_3.
8. What mass of zinc chloride is obtained by reaction of 2g of Zn with 1g HCl according to the reaction $Zn + 2HCl \longrightarrow ZnCl_2 + H_2$. Identify the limiting reagent.
9. How much volume of 18M sulphuric acid should be diluted to get 5L of 8M sulphuric acid?
10. Calculate the molarity of a solution obtained by dissolving 5.6 g KOH in 1500 ml water.
11. Calculate the mole fraction of ethane in water when 6 g ethane is dissolved in 125 g water.