**I.P.S.Sr.Sec.School**

**Max Time : 1 hr** **Class : 11th Chemistry Max Marks : 20**

**Monthly Test**

1. Define solution. [ 1 ]
2. 16.26 mg of a sample of an element X contains 1.66 x 1020 atoms. What is the atomic mass of the element, X? [ 2 ]
3. Calculate the mass of Na2CO3 which will have the same number of molecules as contained in 12.3g of MgSO4. 7H2O? [ 2 ]
4. Define : Molarity and Molality. [ 2 ]
5. Calculate the Molality of a solution of ethanol in water in which the mole fraction of ethanol is 0.040. [ 2 ]
6. Hydrochloric acid is sold commercially as 12 M solution. How many moles and how many grams of HCl are in 300 mL of 12 M solution? [ 2 ]
7. The mass of 350 cm3 of a diatomic gas at 273 K at 2 atmospheres pressure is one gram. Calculate the mass of one atom of the gas. [ 3 ]
8. A crystalline salt when heated becomes anhydrous and loses 51.2% of its weight. The anhydrous salt on analysis gave the following percentage composition: Mg = 20% ; S = 26.66% & O = 53.33%

Calculate the molecular formula of the anhydrous salt and the crystalline salt. Molecular mass of the anhydrous salt is 120. [ 3 ]

1. One litre of N/2 HCl solution is heated in a beaker. It was observed that when the volume of the solution was reduced to 600 mL, 3.25 g of HCl is lost. Calculate the normality of the new solution. [ 3 ]

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**Max Time : 1 hr** **Class : 10th Science Max Marks : 20**

**Monthly Test**