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

**Max Time : 1 hr** **Class : 11th Chemistry Max Marks : 30**

**Unit Test**

1. Calculate the number of molecules present in 22 g of CO2 ? [ 2 ]
2. Calculate the mass of Na2CO3 Which will have the same number of molecules are contained in 12.3 g of MgSO4.7 H2O [ 2 ]
3. Calculate the volume occupied by 1022 molecules of a gas at 300 K and 760 mm pressure. [ 2 ]
4. Define Molarity and Molality with units. [ 3 ]
5. Write properties of Anode rays and origin of anode rays. [ 3 ]
6. Explain electromagnetic wave theory? [ 3 ]
7. A salt containing water of crystallization gave the following percentage composition: [ 3 ]

Mg = 9.76, S = 13.01, O = 26.01 and H2O = 51.22 . Calculate the simplest formula?

1. Calcium carbonate reacts with aqueous HCL according to the reaction : [ 3 ]

CaCO3 (s) + 2 HCL (aq) → CaCl2 (aq) + CO2 (g) + H2O (l)

What mass of CaCO3 is required to react completely with 25 mL of 0.75 M HCL?

1. 50 kg of N2 (g) and 10 kg of H2 (g) are mixed to produce NH3 (g). Calculate the NH3 (g) formed. Identify the limiting reagent in the production if NH3 in this situation. [ 3 ]
2. One litre of oxygen at STP is made to react with three litres of carbon monoxide at STP. Calculate the mass of each substance found after the reaction. Which one is the limiting reagent? [ 3 ]
3. 500 cm3 of 0.25 M Na2SO4 solution added to an aqueous solution of 15 g of BaCl2 resulted in formation of a white precipitate of BaSO4 . How many moles and how many grams of BaSO4 are formed? [ 3 ]