**ST THOMAS SCHOOL INDIRAPURAM**

**CHEMISTRY WORKSHEET CHAPTER1: SOME BASIC CONCEPTS IN CHEMISTRY CLASS 11**

**Q.1 Calculate the number of grams of $SO_2$ which can be pre prepared by treatment of 100g of $Na_2O_3$ with HCl according to the reaction $Na_2SO_3$ +HCl ------- > 2NaCl + $H_2O$+ $SO_2$ ( Ans 50.56g)**

**Q.2 A sample of CaO whose mass was 12g was treated with 46 g of water to prepare $ca(OH)_2$ . 1) Which compound is the limiting reagent ? 2) Calculate the yield of $Ca(OH)_2$ in grams(Ans 148g)**

**Q.3 Calculate the mass of $CCl_4$ which can be produced by the reaction of 10 g of C with 100g of $Cl_2$. Determine the mass of excess reagent left unreacted. ( Ans= 1.5g)**

**Q.4 Commercially available HBr solution contains 48% HBr by mass . What is the molarity of this solution ? The density of solution is 1.50g/$cm^3$ ( Ans= 8.89M)**

**Q.5 100ml of 0.1M Nacl solution is mixed with 100ml of 0.2M $AgNO_3$ solution. Find out the mass of Ag Cl precipitate formed. Which reagent is limiting reagent? (NaCl is LR)**

**Q.6An aqueous solution of NaCl is 10% (w/w) having density 1.071g/$cm^3$ . What is molarity and molality of the solution .Also calculate mole fraction of each component in the solution. M=1.82 m=1.89**

**Q.7 Calculate the molarity of pure water if its density at room temperature is 0.997g/$cm^3$ .**

**Q.8 3 moles of $N_2$ combines with 5 moles of $H_2$ to form $NH_3$ by Haber's process. 1) Which is limiting reagent? Calculate the grams of reactant left in container.3) How many moles of $NH_3$ are produced ? ( ANS 1) Hydrogen 2) 37.52g of Nitrogen 3) 3.33 mole.)**

**Q.9 If 20g of $CaCO_3$ is treated with 20g of HCl , how many grams of $CO_2$ can be generated according to the reaction $CaCO_3$ (s) + 2HCl (aq) --→$CaCl_2$ (aq) + $H_2O$ (l)+ $CO_2$ (aq)**

**Q.10 For the reaction 4 Fe + $3O_2$ --→ $2Fe_2O_3$ , 4.80g of $O_2$ is used to burn 0.150 mol of Fe. What mass of $Fe_2O_3$ will be produced ? What mass of Fe will be left over at the end of the reaction ? What mass of $O_2$ will be left over at the end of the reaction ? Ans Fe2O3= 12.0g)**