

# **CHEMISTRY HOMEWORK**

## **Std -XI**

**A) Revise the chapter taught.**

**B) Do NCERT back exercise.**

**C) Do assignment given on the website.**

**D) Prepare a seminar with PowerPoint presentation (only 5 slides) on the topic "How to fight against COVID 19?".**

## Practice Assignment-1

### SOME BASIC CONCEPTS OF CHEMISTRY

- Q1. Calculate number of moles in 1.6g of S (Atomic mass of S=32u) [0.05]
- Q2. Calculate number of atoms present in 18g of glucose( $C_6H_{12}O_6$ ) [6.02X10<sup>23</sup>]
- Q3. Calculate the mass of 1 molecule of  $N_2$ . (Given : Atomic mass of N=14u) [4.65X10<sup>-23</sup>]
- Q4. How many moles of gold are present in 49.25g of gold rod? (atomic mass of gold=197u) [0.25]
- Q5. What is the number of molecules of  $CO_2$  which contain 8g of  $O_2$ ? [1.505 x10<sup>23</sup> molecules]
- Q6. A compound contains 42.3913% K, 15.2173% Fe, 19.5652% C and 22.8260%N. The molecular mass of the compound is 368u. Find the molecular formula of the compound. (Given At mass of K=39u, Fe=56u, C=12u, N=14u) [K<sub>4</sub>Fe(CN)<sub>6</sub>]
- Q7. How many moles of Nitrogen are needed to produce 8.2 moles of Ammonia by reaction with Hydrogen? [4.1mol]
- Q8. Zinc and HCl react according to the following reaction:  $Zn + HCl \rightarrow ZnCl_2 + H_2$   
If 0.8 mol of Zn is added to HCl containing 0.62 mol of HCl, how many moles of hydrogen are produced? What is the limiting reagent? [LR- HCl, 0.31 moles of  $H_2$ ]
- Q9. Calculate molarity of a solution containing 13.8g of potassium carbonate (molar mass =138g/mol) dissolved in 500ml of solution. [0.2M]
- Q10. Calculate the molarity and molality of 93%  $H_2SO_4$  (weight/ volume). The density of the solution is 1.84 g/cc. [9.5 M, 10.44 m]

- \*1. A solution is prepared by adding 2 g of a substance A to 18 g of water. Calculate the mass percent of the solute. (N.C.E.R.T.) [Ans. 10%]
- \*2. Calculate the molarity of NaOH in the solution prepared by dissolving its 4 g in enough water to form 250 mL of the solution. (N.C.E.R.T.) [Ans. 0.4 M]
- \*3. What will be the molality of a 0.05 M NaCl solution. (N.C.E.R.T.) [Ans. 0.05 m]
4. How many moles and how many grams of sodium chloride (NaCl) are present in 250 cm<sup>3</sup> of a 0.500 M NaCl solution ? [Ans. 0.125 mole, 7.312 g]

3. 50.0 kg of N<sub>2</sub> (g) and 10.0 kg of H<sub>2</sub> (g) are mixed to produce NH<sub>3</sub> (g). Calculate the NH<sub>3</sub> (g) formed. Identify the limiting reagent in the production of NH<sub>3</sub> in this situation.

(N.C.E.R.T.)  
[Ans. H<sub>2</sub> is the limiting reagent.  
NH<sub>3</sub> formed = 56.1 kg]