Tutorial #1

1- Calculate the following:
   a. The weight in grams of 0.45 moles of glucose ($C_6H_{12}O_6$)
   b. The weight in grams of 1×10^{23} molecules of NaCl.
   c. The number of molecules in 2.25 g of glycine.

2- Calculate the normality of the following solutions:
   a. 250 ml of HCl containing 18.25 g of HCl.
   b. 49 g of H_2SO_4 in 250 ml.

3- 12.25 g of phosphoric acid was dissolved in water and the volume made up to 100 ml, calculate:
   a. The normality of the solution.
   b. The molarity of the solution.

4- 20 g of NaCl is dissolved in 200 ml water, what is its W/V%?

5- Calculate the percent V/V% of ethanol in a solution prepared by diluting 30 ml of ethanol to 250ml.

6- Calculate the number of grams of $BaCl_2.H_2O$ that you would need to prepare 100 ml of a 0.2 M solution.

7- Calculate the molarity of a 10 W/V % $MgCl_2$ solution.

8- How would you prepare 0.2 L of 0.3 $MgCl_2$ W/V% solution.

9- A solution was prepared by dissolving 8 g of solid ammonium sulfate (MWt = 132.14) in 39.52 ml of water. Express the concentration in terms of: **g/l , M , N , W/V% , mg% , osmolatiy**.

10- A solution contains 15 g of CaCl2 in a total volume of 100 ml. Express the concentration of this solution in terms of: **g/l , M , W/V% , mg% , osmolatiy.**