**Q1: Calculate needed mls of HCl (Mwt= 36.46 g/mol , Density = 1.19g/ml purity 37%) to prepare 100ml of 0.5M?**

**A1:**

* for preparing 0.5M HCl acid 36.46\*0.5= 18.23 g/l
* to prepare 100 ml of above solution (18.23\*100ml)/1000ml =1.823g/100ml
* to convert g to ml 1.823/1,19=1.532ml
* 1.532 ml is the needed amount of highly pure HCl ,since the available HCL has 37% purity the needed ml = 1.532/0.37=**4.14ml**

**Q2: prepare 500ml of 1M sodium acetate (MWT=82.3)?**

**A2:**

* **For 1M SODIUM ACETATE 82.3 g/l**
* **For 500ml of above solution (82.3\*500)/1000ml=41.25g/500ml**

**Q3:prepare 100ml of 0.00125M iodine solution from an iodine stock solution where its concentration is 0.05M?**

**A3:**

**C \* V=C҃ \* V҃**

**0.05 \* V= 0.00125 \* 100**

**V= 2.5 ml of stock into 100ml v.flask and complete the volume with dis. water**