EXPERIMENT NO:-9   DETERMINATION OF ACIDITY

APPARATUS REQUIRED:

1. Burette 2. Measuring cylinder 3. Beaker 4. Dropper 5. Stirrer

REAGENTS REQUIRED:

1. Sodium hydroxide titrant (0.02 N);   2. Phenolphthalein Indicator; 3 .Methyl Orange Indicator

PROCEDURE:

1. Take 50 ml sample in a conical flask and add 2-3 drops of methyl orange indicator solution.
2. Fill the burette with 0.02 N NaOH solution and titrate till the colour of solution just changes to faint orange colour, indicating the end point. Record the volume of titrant consumed as V1 in ml.
3. Calculate the methyl orange acidity using Equation: **Methyl orange acidity** (or Mineral Acidity) = (V1×1000) **/** (Sample volume)

When the 0.02 N NaOH solution, used in titration is not standardized, mineral acidity is calculated using following Equation:-

Methyl orange acidity= (V1×N×50×1000) / (Sample vol.)   Where N is the normality of NaOH

For phenolphthalein acidity test.

Add 2-3 drops of phenolphthalein indicator solution to water sample and continue the titration till the faint pink colour develops in the solution (i.e., the end point of titration). Record the volume of titration consumed as V2 (mL) and calculate total acidity or phenolphthalein acidity using equation:-

 Total acidity (or Phenolphthalein Acidity)= (V2×N×50×1000) / (Sample vol.)

Record your observations in a tabular form as under :-

Sample No.	Initial Reading-ml	Final Reading-ml	Volume of 0.02N NaOH used (ml)	Indicator Used	Acidity(mg/l) (Mineral)
				Methyl Orange	
				Methyl Orange	
				Methyl Orange	

Sample No.	Initial Reading-ml	Final Reading-ml	Volume of 0.02N NaOH used (ml)	Indicator Used	Acidity(mg/l) (Total)
				phenolphthalein	
				phenolphthalein	
				phenolphthalein	

NOTE:- To be adopted for all titrations

1. Add all titrant very slowly, drop by drop

2. Shake the flask containing the sample thoroughly

3. Note all readings accurately on the burette.

4. Titrate against a white background to note the colour change.