

## EXPERIMENT NO -1

**OBJECT:** - To determine the strength of a given unknown solution of HCl by titrating it against with the help of a known solution of NaOH using phenolphthalein indicator.

### REFERENCE

1. Parle A., " Pharmaceutical Chemistry 1 Laboratory Manual", CBS Publishers and Distributors Pvt. Ltd., Ed I<sup>st</sup>, 2008, pp 59.

### REQUIREMENTS: -

**Chemical required:** NaOH Solution, HCl solution, phenolphthalein indicator

**Apparatus required:** - burette, conical flask, and beaker

### PROCEDURE:-

- (a) Take a burette and wash it with distilled water.
- (b) Rinse and fill the solution HCl N/10 with the help of a funnel and set the initial burette reading as zero. Clamp it vertically to the burette stand.
- (c) Rinse the pipette with water and then with the given NaOH solution.
- (d) Pipette out 10ml of given NaOH (N/10) solution into a conical flask and add one or two drops of methyl orange.
- (e) Titrate it against the HCl (N/10) solution taken in the burette till the color of the solution in the conical flask changes from a yellowish color to pink color
- (f) Note down the final burette reading.
- (g) Repeat the titration until concordant values are obtained.

### OBSERVATION:

No of observation	Volume of NaOH solution in ml	Burette reading		Different	Constant	Indicator used
		Initial	Final			

Calculation:

$$N_1V_1=N_2V_2$$

**RESULT:-** The strength of given unknown solution of HCl is