

#### Experiment No. 4. Determination of reeling water alkalinity

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**Aim:** To estimate the total alkalinity of the given reeling water sample.

**Introduction:** Total alkalinity of water is the measure of water to neutralize a strong acid. The alkalinity of the water is generally due to the presence of salts of carbonate, bicarbonate, phosphate, borate, silicate *etc.*, with hydrogen ion in the free state. However, most of the water is rich in carbonates and bicarbonates with little concentration of other ions. The standard alkalinity required for cocoon reeling is  $30 \pm 10$  ppm (B.H. Kim, 1983).

**Requirements:** Reeling water samples, methyl orange, 0.1 N HCl, *etc.*,

**Procedure:** Take 50 ml of water sample in a conical flask and add 2-3 drops of methyl orange and titrate against 0.1N HCl taken in a burette until the pink colour appears. Repeat the titration to get concordant values. Calculate the total alkalinity using the following formula.

Total alkalinity =

$$\frac{\text{Volume of HCl rundown} \times \text{Normality of the HCl} \times 1000 \times 50}{\text{Volume of water taken in ml}} = \text{__ mg/lt.}$$

**Report:** Total alkalinity of the given water sample is \_\_\_\_\_ mg/liter.

#### Observations and calculations:

##### Sample No. 1 (Cauvery Water)

	Trial No. 1	Trial No. 2	Trial No. 3
Initial burette reading			
Final burette reading			
Volume of HCl rundown			

##### Sample No. 2 (Bore well Water)

	Trial No. 1	Trial No. 2	Trial No. 3
Initial burette reading			
Final burette reading			
Volume of HCl rundown			

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