

## APPLIED CHEMISTRY LAB

Paper Code –ETCH-161  
Paper : Applied Chemistry Lab

<b>P</b>	<b>C</b>
<b>2</b>	<b>1</b>

### LIST OF EXPERIMENTS

1. Determination of alkalinity of water sample.
2. Determination of hardness of water sample by EDTA method.
3. Determine the percentage composition of sodium hydroxide in the given mixture of sodium hydroxide and sodium chloride.
4. Determine the amount of oxalic acid and Sulphuric acid in one litre of solution, given standard sodium hydroxide and Potassium Permanganate.
5. Determine the amount of copper in the copper ore solution, provided hypo-solution (Iodometric Titration).
6. Determine the amount of chloride ions present in water using silver nitrate (Mohr's Precipitation Method).
7. Determine the strength of MgSO<sub>4</sub> solution by Complexometric titration.
8. Determine the surface tension of a liquid using drop number method.
9. Determine the viscosity of a given liquid (density to be determined).
10. Determine the cell constant of conductivity cell and titration of strong acid/strong base conductometrically.
11. To determine (a)  $\lambda$  max of the solution of KMnO<sub>4</sub>. (b) Verify Beer's law and find out the concentration of unknown solution by spectrophotometer.
12. Determination of the concentration of iron in water sample by using spectrophotometer.
13. Determination of the concentration of Iron (III) by complexometric titration.
14. Proximate analysis of coal.
15. Determination of eutectic point and congruent melting point for a two component system by method of cooling curve.  
(At least 8 to 10 experiments are to be performed)

#### **Suggested Books:**

1. [A. I. Vogel, G. H. Jeffery](#), *Vogel's Text Book of Quantitative Chemical Analysis*, Published by Longman Scientific & Technical, 5<sup>th</sup> Edition, 1989.
2. S. Chawla, *Essentials of Experimental Engineering Chemistry*, Dhanpat Rai & Co., 3<sup>rd</sup> Edition, 2008.
3. S. Rattan, *Experiments in Applied Chemistry*, Published by S.K.Kataria & Sons, 2<sup>nd</sup> Edition, 2003.
4. O. P. Pandey, D. N. Bajpai and S. Giri, *Practical Chemistry*, Published by S. Chand, 2005.
5. M. S. Kaurav, *Engineering Chemistry with Laboratory Experiments*, Published by PHI Learning Private Limited, 2011.
6. S. K. Bhasin and Sudha Rani, *Laboratory Manual on Engineering Chemistry*, Published by Dhanpat Rai Publishing Company, 2006.

**Note:- Any 8-10 Experiments out of the list may be chosen.**