

**16HS111**

# ENGINEERING CHEMISTRY LABORATORY

Hours Per Week :

L	T	P	C
-	-	3	2

Total Hours :

L	T	P
-	-	45

**Course description and Objectives:**

*This course is aimed at enlightening the importance of theoretical concepts of chemistry and experimental techniques for characterization of materials.*

**Course Outcomes:**

The student will be able to:

- analyse the total hardness present in water samples.
- determine the total alkalinity of water used in industries.
- acquire the knowledge on polymers used as insulators.
- familiarize advanced techniques in chemical analysis using conductometer and pH meter.

**LIST OF EXPERIMENTS**

1. Determination of Total Alkalinity of water.
2. Estimation of Total hardness of water.
3. Find the percentage of available chlorine in Bleaching powder.
4. Estimation of Fe (II) by Dichrometry method.
5. Preparation of Phenol - Formaldehyde Resin.
6. Synthesis of Urea- Formaldehyde Resin.
7. Estimation of Concentration of acid by pH metry.
8. Determination of Strength of acid by Conductometry.
9. Measurement of  $Mn^{+7}$  by Colorimetry.
10. Determination of concentration of a salt by ion exchange method.
11. Find the concentration of  $Mn^{+7}$  and  $Cr^{+6}$  by UV-Visible Spectrophotometry.
12. Find the rate of corrosion by weight loss method.

**TEXT BOOKS:**

1. J.Mendham, R.C.Denney, J.D. Bares, M.Thomas and B.Siva Sankar, "Vogel's Text book of qualitative Chemical Analysis", Pearson Publications - Volume I, 2009.
2. Dr.Sunita Rattan "Experiments in Applied Chemistry", S.K. Kataria & Sons Publications, 2008.