16HS111 ENGINEERING CHEMISTRY LABORATORY

Hours Per Week :

L	T	P	C
-	-	3	2

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:

Upon completion of the course, the student will be able to

CO1: Analyse the quality of the water by volumetric methods.

CO2: Apply the principle of electrochemistry to determine the relative strength of oxidizing/ reducing agents for the sample analysis.

CO3: Analyse various factors effecting the rate of corrosion by using weight loss method

CO4: Synthesize and analyse various polymers useful for engineering applications.

CO5: Apply instrumentation methods for chemical analysis.

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.S. Sankar, “Vogel’s Text book of qualitative Chemical Analysis”, Volume I, Pearson Publications, 2009.
2. Dr. S. Rattan, “Experiments in Applied Chemistry”, S.K. Kataria and Sons Publications, 2008.