CH151	ENGINEERING CHEMISTRY LAB	L	T	P	C	Int	Ext
		-	-	2	1.0	30	70

Semester I [First Year]

COURSE OBJECTIVES:

1. To know the method of determining hardness of water sample, moisture content of coal sample and determination of Fe2+ ions in a solution.
2. To learn principles and methods involved in using instruments like conductivity meter, potentiometer, pH meter and spectrophotometer.
3. To know synthetic method for preparation of polymer.
4. To know the molecular properties/parameters like surface tension, viscosity and partition co-efficient.

COURSE OUTCOMES:

Course Outcomes: After the successful completion of the course, students are able to

1. determine the ferrous content of a given solution, hardness content of water and moisture content of coal sample.
2. measure conductance, potentials and acidity of solutions.
3. apply knowledge for compound characterization and polymer preparation.
4. measure molecular properties/parameters like surface tension, viscosity and partition co-efficient.

EXPERIMENTS:

1. Determination of total hardness of water sample using EDTA.
2. Estimation of Mohr's salt using potassium dichromate.
3. Determination of percentage of moisture content in a coal sample.
4. Determination of percentage of iron in cement sample by colorimetry.
5. Determination of strength of NaOH using HCl conductometrically.
6. Determination of iron (II) strength using K Cr O potentiometrically.
7. pH metric titration of strong acid vs strong base.
8. Determination of strength of an acid in lead-acid battery.
9. Preparation of phenol-formaldehyde resin.
10. Identification of simple organic compounds by infra-red spectroscopy.
11. Determination of viscosity.
12. Determination of surface tension
13. Determination of partition co-efficient of I2between water and CCl4.
14. Verification of Freundlich isotherm using adsorption of acetic acid on activated charcoal.

Note:**

A minimum of ten experiments have to be performed and recorded by the candidate to attain eligibility for semester end examination.