

ENGINEERING CHEMISTRY LAB

II Semester								
Course Code:	Category	Hours / Week			Credits	Maximum Marks		
A5BS14	BSC	L	T	P	C	CIA	SEE	Total
		0	0	3	1.5	30	70	100
COURSE OBJECTIVES								
<p>The course should enable the students to:</p> <p>I. Estimation of hardness, alkalinity and chloride content in water to check its suitability for drinking and industrial purposes.</p> <p>II. Estimation of metal oxide in construction material.</p> <p>III. The measurement of physical properties like adsorption and viscosity.</p> <p>IV. To demonstrate the digital and instrumental methods of analysis.</p>								
LIST OF EXPERIMENTS								
Experiment-1	Determination of total hardness of water by complexometric method using EDT							
Experiment-2	Determination of Alkalinity of given water sample							
Experiment-3	Estimation of Chloride content of water by Argentometry.							
Experiment-4	Estimation of amount of HCl by Conductometry.							
Experiment-5	Estimation of amount of Acetic acid by Conductometry..							
Experiment-6	Estimation of amount of ferrous ion by potentiometry using potassium dichromate							
Experiment-7	Estimation of HCl by potentiometry							
Experiment-8	Determination of Viscosity of a given liquid using Ostwald's Viscometer							
Experiment-9	Determination of surface tension of a given liquid using Stalagmometer							
Experiment-10	Synthesis of Aspirin							
Experiment-11	Synthesis of Thiokol Rubber							
Experiment-12	Separation of organic mixture by Thin layer Chromatography and calculation of RF values.							
Experiment-13	Determination of percentage of Calcium Oxide in Cement							
Experiment-14	Estimation of Manganese Dioxide in Pyrolusite							

Reference Books:

1. Senior practical physical chemistry, B. D. Khosla, A. Gulati and V. Garg (R. Chand and amp; Co., Delhi)
2. An introduction to practical chemistry, K. K. Sharma and D. S. Sharma (Vikas publishing, N. Delhi)
3. Vogel's textbook of practical organic chemistry 5th edition.
4. Text book on Experiments and calculations in Engineering chemistry- S. S. Dara

COURSE OUTCOMES:

The course should enable the students to:

- I. Determination of parameters like hardness, alkalinity and chloride content in water.
- II. Estimation of metal oxide in construction material.
- III. Determination of physical properties of organic liquids.
- IV. To develop the concept of using instrumental method of analysis.