CHEMISTRY OF MATERIALS LAB

Course Code	20BS1154	Year	I	Semester	I
Course Category	Basic Science	Branch	ME	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Prerequisites	Nil
Continuous Internal Evaluation	15	Semester End Evaluation	35	Total Marks	50

Course Outcomes: Upon successful completion of the course, the student will be able to

CO	Statement	Skill	BTL	Expts.
CO1	Apply the acquired knowledge to estimate the amount of calcium, Chromium in a given sample.	Apply	L3	1,2
CO2	Analyze the quality of ground water sample, and active chlorine in bleaching powder.	Analyze	L4	6,7,8
CO3	Calculate the strength of an acid in lead-acid storage cell.	Apply	L3	5
CO4	Compare the viscosities and surface tension of different liquids.	Analyze	L4	3,4
CO5	Analyze the compounds and examine the Preparation of a polymer.	Analyze	L4	9,10
CO6	Make an effective report based on experiments	Apply	L3	1-10

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3: High, 2: Medium, 1: Low)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3		2				3					1		1
CO2	3		2				3					1		1
CO3	3		2				3					1		1
CO4	3		2				3					1	2	1
CO5	3		2				3					1		1
CO6	3		2				3			3		1		1

Syllabus

Expt. No.	Contents	Mapped CO's
1	Estimation of calcium in Portland cement	CO1, CO6
2	Determination of chromium (VI) in potassium dichromate	CO1, CO6
3	Determination of viscosity of a liquid	CO4, CO6
4	Determination of surface tension of a liquid	CO4, CO6
5	Determination of sulphuric acid in lead-acid storage cell	CO3, CO6
6	Determination of strength of an acid by pH metric method	CO2, CO6
7	Determination of Hardness of a ground water sample	CO2, CO6
8	Estimation of active chlorine content in Bleaching powder	CO2, CO6
9	Thin layer chromatography (paper chromatography)	CO5, CO6
10	Preparation of Phenol-formaldehyde resin	CO5, CO6

Learning Resources
Text Books
1. Mendham J, Denney RC, Barnes JD, Thosmas M and Sivasankar B Vogel's Quantitative Chemical Analysis 6/e, Pearson publishers(2000).
Reference Books
1. N.KBhasin and Sudha Rani Laboratory Manual on Engineering Chemistry 3/e, DhanpatRai Publishing Company(2007).
e- Resources & other digital material
1. https://nptel.ac.in/courses/105105178/ 2. http://202.53.81.118/course/view.php?id=82