ENGINEERING CHEMISTRY LAB

Course Code	23BS1253	**Year**	I	**Semester**	II
Course Category	Basic Sciences	**Branch**	CE	**Course Type**	Lab
Credits	1	**L-T-P**	0-0-2	**Prerequisites**	NIL
Continuous Internal Evaluation:	**30**	**Semester End Evaluation**	**70**	**Total Marks:**	**100**

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	Demonstrate the viscosities of different oils. L3
CO2	Prepare advanced materials like polymers and nanomaterials.L3
CO3	Calculate the strength of a Pb-Acid battery and measure moisture in a coal sample.L4
CO4	Analyze the quality of a groundwater sample.L4
CO5	Examine the iron and calcium content in cement. L4
CO6	Make an effective report based on experiments.

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			3								3		2
CO2	3			3								3		2
CO3	3			3								3		2
CO4	3			3								3		2
CO5	3			3								3		2
CO6									3	3		3		

Syllabus		
Exp. No.	Contents	Mapped CO
	Experiments	
1	Determination of Hardness of a groundwater sample.	CO4,CO6
2	Estimation of Dissolved Oxygen by Winkler's method	CO4,CO6
3	Determination of Strength of an acid in Pb-Acid battery	CO3,CO6
4	Preparation of a polymer (Bakelite)	CO2,CO6
5	Estimation of Calcium in port land Cement	CO5,CO6
6	Determination of percentage of Iron in Cement sample by colorimetry	CO5,CO6
7	Determination of percentage Moisture content in a coal sample	CO3,CO6
8	Determination of Viscosity of lubricating oil by Redwood Viscometer1	CO1,CO6
9	Determination of Viscosity of lubricating oil by Redwood Viscometer2	CO1,CO6
10	Preparation of Nano-materials by precipitation method.	CO2,CO6

Learning Resources

Reference:

• "Vogel's Quantitative Chemical Analysis 6th Edition" Pearson Publications by J. Mendham, R.C. Denney, J.D. Barnes and B. Siva sankar