

**ENGINEERING CHEMISTRY LAB**  
(Common to CE,ME)

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

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

<b>Contribution of Course Outcomes towards achievement of Program Outcomes &amp; Strength of correlations(3:High,2: Medium, 1:Low)</b>														
	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO 1	3												1	
CO2	3												1	
CO3		3											1	
CO4		3											1	
CO 5		3											1	

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

**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