

## Chemistry of Materials Lab

<b>Course Code</b>	19BS1151	<b>Year</b>	I	<b>Semester</b>	I
<b>Course Category</b>	Basic Sciences	<b>Branch</b>	ME	<b>Course Type</b>	Lab
<b>Credits</b>	1.5	<b>L-T-P</b>	0-0-3	<b>Prerequisites</b>	Nil
<b>Continuous Internal Evaluation:</b>	25	<b>Semester End Evaluation:</b>	50	<b>Total Marks:</b>	75

<b>Course Outcomes</b>	
Upon successful completion of the course, the student will be able to	
<b>CO1</b>	Illustrate different ores (Fe, Cr & Cu) and their usage.
<b>CO2</b>	Compare the viscosities of oils.
<b>CO3</b>	Experiment with the physical parameters of organic compounds.
<b>CO4</b>	Apply the TLC technique for the identification of organic compounds.
<b>CO5</b>	Analyze the quality of ground water sample.

<b>Contribution of Course Outcomes towards achievement of Program Outcomes &amp; Strength of correlations (H:High, M: Medium, L:Low)</b>														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	H		M											L
CO2	H		M											L
CO3	H		M											L
CO4	H		M											L
CO5	H		M											L

<b>Syllabus</b>		
<b>Expt. No.</b>	<b>Contents</b>	<b>Mapped CO</b>
I	Estimation of calcium in Portland cement	CO1
II	Determination of chromium (VI) in potassium dichromate	
III	Determination of viscosity of a liquid	CO2
IV	Determination of surface tension of a liquid	CO3
V	Determination of sulphuric acid in lead-acid storage cell	
VI	Determination of strength of an acid by pH metric method	
VII	Determination of Hardness of a ground water sample	CO5
VIII	Estimation of active chlorine content in Bleaching powder	CO3
IX	Thin layer chromatography	CO4
X	Preparation of Phenol-formaldehyde resin	CO3

<b>Learning Resources</b>
<b>Text Books</b>
1. Mendham J, Denney RC, Barnes JD, Thomas M and Sivasankar B Vogel's Quantitative Chemical Analysis 6/e, Pearson publishers(2000).
<b>Reference Books</b>
1. N.KBhasin and Sudha Rani Laboratory Manual on Engineering Chemistry 3/e, Dhanpat Rai Publishing Company(2007).
<b>e- Resources &amp; other digital material</b>

<https://nptel.ac.in/courses/105105178/>  
<http://202.53.81.118/course/view.php?id=82>