

**Code: 1BCHCSL102/202****Course: Applied Chemistry Lab for  
Computer Science & Engineering stream****Credits: 1****CIE: 25 Marks****L:T:P: 0:0:2****SET: 25 Marks****SET Hours: 2****Max. Marks: 50 Marks**

<b>Prerequisites if any</b>	<b>NA</b>
<b>Learning objectives</b>	To impart a strong foundation in the principles of chemistry through experiments with direct relevance to engineering application

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

COs	Course Outcomes	Bloom's level
CO1	To understand and apply the concept of analytical techniques, quantitative and qualitative chemical analysis and data interpretation in various science and technological applications	Apply Analyse

**Mapping with POs and PSOs:**

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11		PSO1	PSO2	PSO3	PSO4
CO1	3	3			2		2						3			

**Mapping Strength:      Strong- 3      Medium – 2      Low – 1**

Sl.NO	Name of the Experiment	No. of Practical Hours
1	Estimation of acid mixture by conductometric sensor (Conductometry).	2
2	Estimation of Iron in industrial waste by Potentiometric sensor (Potentiometry).	2
3	Determination of pKa of vinegar using pH sensor (Glass electrode).	2
4	Estimation of copper present in PCB effluent by optical sensor (Colorimetry).	2
5	Estimation of iron present in e-waste by optical sensor (Colorimetry).	2
6	Estimation of total hardness of water by EDTA method.	2
7	Determination of chemical oxygen demand (COD) of sewage water sample.	2
8	Estimation of iron in TMT bar by Internal/ External Indicator method.	2
9	Determination of viscosity coefficient of lubricant using Ostwald's viscometer	2
10	Chemical structure drawing/ Plotting the graph using software: Chem Draw/ Chem Sketch/Origin.	2
11	Virtual lab: <a href="#">EMF measurement</a>	1
12	Virtual lab: <a href="#">Determination of Viscosity of Organic Solvents</a>	1
13	Virtual lab: <a href="#">Estimation of Phosphate Content in Soft Drinks</a>	1
Any ten experiments will be performed, total practical hours 10X2= 20 hours		



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### **Reference books**

1. "Fundamentals of Analytical Chemistry" by Skoog, West, Holler, and Crouch,
2. "Quantitative Chemical Analysis" by Daniel C. Harris, and "Analytical Chemistry" by G.D. Christian.
3. Vogel's Quantitative Chemical Analysis