

Regulation GRBT-20	Godavari Institute of Engineering and Technology (Autonomous)	I B.Tech I SEM			
Course Code	ENGINEERING CHEMISTRY LABORATORY (Common to All Branches)				
Teaching	Total contact hours - 45	L	T	P	C
Prerequisite(s): Basic knowledge of Engineering Chemistry Applications		0	0	3	1.5

COURSE OBJECTIVES

To familiarize the students with the basic concepts of Engineering Chemistry Lab, training the students on how to handle the instruments and to demonstrate the digital and instrumental methods of analysis.

COURSE OUTCOMES

On Completion of the course, the students will be able to-	
CO1:	Explain the functioning of the instruments such as pH, Conductivity and Potentiometric meters
CO2:	Determine the total hardness of water
CO3:	Perform various Redox titrations
CO4:	Preparation of polymers
CO5:	Compare viscosities of different oils

LIST OF EXPERIMENTS

1. Determination of strength of an acid by pH metric method
2. Determination of Fe (II) in Mohr's salt by potentiometric method
3. Determination of conductance by conductometric method
4. Determination of Hardness of a ground water sample
5. Determination of chromium (VI) in potassium dichromate
6. Determination of strength of KMnO_4 using standard Oxalic acid solution
7. Determination of Zinc by EDTA method
8. Preparation of Urea-Formaldehyde resin
9. Estimation of active chlorine content in Bleaching powder
10. Estimation of sodium hydroxide with HCl

Demonstration Experiments

1. Determination of viscosity of a liquid
2. Determination of surface tension of a liquid
3. Estimation of vitamin-C

TEXT BOOKS

1. Mendham J, Denney RC, Barnes JD, Thosmas M and Sivasankar B Vogel's Quantitative Chemical Analysis 6/e, Pearson publishers (2000).
2. N.K Bhasin and Sudha Rani Laboratory Manual on Engineering Chemistry 3/e, Dhanpat Rai Publishing Company (2007).

CO-PO Mapping:**1: Slight [Low]; 2: Moderate [Medium]; 3: Substantial [High], '-' : No Correlation**

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