GraphicEra
(Deemed to be University)
Accredited by NAAC with Grade A

ENGINEERING CHEMISTRY LAB

Learning Outcomes: Upon completion of this course the student will be able to:

1. Understand the physical and chemical behavior due of chemical bonding in molecules.

2. Apply the concepts of organic chemistry to design economically and new methods of synthesis.

3. Substitute metals with conducting polymers and also produce cheaper biodegradable polymers to reduce the environmental pollution. Have the knowledge of the synthesis and applications of polymer science.

4. Apply their knowledge in electrochemistry and for protection of different metals from corrosion.

5. Develop innovative methods to produce soft water for industrial use and potable water at cheaper cost, and identify the structure of organic molecules by spectroscopy.

S.No.	Sub Code	Sub Name	L	T	P	Credits	MTE	TA	ESE	TOTAL
1.	PCH-151	Engineering Chemistry Lab	0	0	2	1	25	25	50	100

UNIT	CONTENTS	CONTACT HRS
EXP- 1	**To determine the alkalinity of the given water sample containing carbonate (CO_3^{2-}) ions and bicarbonate (HCO_3^-) ions by titrating it against standard HCl solution [N/10] using phenolphthalein and methyl orange as indicators.**	**2**
EXP - 2	**To determine the chloride ion (Cl^-) content in the given water sample by Argentometric method (Mohr's method) using N/50 $AgNO_3$ as a standard solution and potassium chromate (K_2CrO_4) as an internal indicator.**	**2**
EXP-3	**To determine the temporary and permanent hardness of given water sample by titrating it against standard solution of M/100 Ethylene Diamine Tetracetic Acid (EDTA) using Eriochrome black-T (EBT) as an internal indicator.**	**2**
EXP-4	**To determine the coefficient of viscosity of the given sample solution by Ostwald's viscometer (Viscosity of water = 0.0101 Poise).**	**2**
	To determine the ferrous ion (Fe^{++}) content in given sample	

EXP-5	**solution of Mohr's salt ($FeSO_4.(NH_4)_2SO_4.6H_2O$) by titrating it against standard N/30 potassium dichromate ($K_2Cr_2O_7$) solution by using potassium ferricyanide $K_3[Fe(CN)_6]$ as an external indicator.**	**2**
EXP - 6	**To determine the surface tension of the given sample solution by drop number method.**	**2**
EXP - 7	**To determine the percentage of available chlorine in the given sample of 1 gram bleaching powder by titrating it against standard solution of N/25 sodium thiosulphate ($Na_2S_2O_3$) using starch $(C_6H_{10}O_5)_n$ as an internal indicator.**	**2**
EXP – 8	**To determine the alkalinity of the given water sample containing carbonate (CO_3^{2-}) ions and hydroxide (OH^-) ions by titrating it against standard HCl solution [N/10] using phenolphthalein and methyl orange as indicators.**	**2**
EXP – 9	**To determine the rate constant of a reaction**	**2**
EXP – 10	**To determine the acid value of oil**	**2**
EXP – 11	**To determine the Copper (Cu^{++}) ion content in the given sample of copper ore (blue vitriol) by titrating it against standard N/30 sodium thiosulphate solution using starch as indicator by Iodometric titration.**	**2**
EXP - 12	**Synthesis of phenol-formaldehyde resin**	**2**
EXP - 13	**To determine the strength of unknown HCl solution by titrating it against N/10 NaOH solution with the help of pH meter.**	**2**
EXP - 14	**Determination of adsorption isotherm of acetic acid on activated charcoal**	**2**