

CHEMISTRY LAB

The lab provides students with a practical approach towards the various techniques used in engineering application. Practical awareness is inculcated and students are trained both quantitatively and qualitatively during the lab sessions so that their understanding and problem solving abilities can be enhanced.

The lab has a wide range of equipment which is aptly prepared to impart education in chemistry in a neatly designed, spacious and well-ventilated laboratory with a capacity to accommodate 60 students. The lab is aesthetically designed with polished ceramic tiles and separate chemical store room.

- ❖ Area in Sq. Mts : 150 Sft
- ❖ Established in the year : 2010
- ❖ Total Investment made : 10 lakhs
- ❖ Lab Utilization : By all the departments i.e., ASE, CE, CSE, IT, ECE, EEE, EIE and ME.



Glass ware: Burettes, pipettes, conical flasks, volumetric flasks, beakers, funnels, measuring jars, micro burettes, dropping bottles

Chemicals: Hydrochloric acid, Sulphuric acid, Ammonium Solution Ammonium chloride, E.D.T.A disodium salt, Calcium carbonate, Eriochrome Black-T, Potassium dichromate, Potassium permanganate, Mohrs salt, Oxalic acid, Carbinol. Buffer tablets, Hydrazine sulphate, Hexa methyl tetramine, Magnesium sulphate, Zinc sulphate, Calcium sulphate, Ammonium sulphate, N-Phenyl Anthranilic acid.

Major Equipment

Name	Quantity	Total Investment on Lab
Single distillation water plant	01	7400/-
Double distillation water plant	01	35000/-
Hot air oven	01	10500/-
Hot plates	02	7200/-
Digital Electronic weighing balances	07	49000/-
Electronic weighing balance	01	8000/-
Digital conductivity meter	05	24000/-
Digital P ^H meter	02	7800/-
Digital potentio meter with 4 electrodes	03	26700/-
Digital potentio meter with 2 electrodes	02	15000/-
Digital photo colorimete	02	9100/-
Digital Turbidity meter	02	21200/-
Magnetic stirrer (500ml capacity)	02	6980/-
Magnetic stirrer (1lit capacity with hot plate)	01	7500/-
Gas analyzers	01	48000/-
Total		2,83,380/-

List of Experiments

S.no.	Engineering chemistry lab	S.no	Applied chemistry lab
	Water analysis		Water analysis
1	Determination of alkalinity of a given water sample	1	Determination of alkalinity of a given water sample
	Complexometric titrations	2	Determination of total hardness of water by EDTA method
2	Estimation of $Mg^{+2}/Zn^{+2}/Ca^{+2}$ in given solution by using standard EDTA solution	3	Determination of permanent hardness of water by EDTA method
	Preparation of polymers		Preparation of polymers
3	Preparation of urea formaldehyde resin	4	Preparation of urea formaldehyde resin
4	Preparation of phenol formaldehyde resin	5	Preparation of phenol formaldehyde resin
	Redox titrations		Redox titrations
5	Estimation of Mohr's salt by using potassium permanganate	6	Estimation of Mohr's salt by using potassium permanganate
6	Estimation of Mohr's salt by using potassium dichromate	7	Estimation of Mohr's salt by using potassium dichromate
7	Estimation of $KMnO_4$ salt by using oxalic acid	8	Estimation of $KMnO_4$ salt by using oxalic acid
	Conductometric measurements		Demonstration experiments
8	Estimation of amount of HCl conductometrically using standard NaOH solution	9	Determination of p^H of the given sample solution/ soil using pH meter.
9	Estimation of amount of HCl conductometrically using NH_4OH solution	10	Determination of turbidity of the given sample water.
	Potentiometric measurements		Fuels
10	Estimation of amount of HCl potentiometrically using NaOH solution	11	Determination of flash and fire points of a given fuel/lubricant.
11	Estimation of amount of Fe^{+2} potentiometrically using	12	Determination of cloud and pour point of a given fuel/lubricant.

	KMnO ₄ / K ₂ Cr ₂ O ₇ solution		
	Demonstration experiments	13	Determination of aniline point of a given lubricant.
12	Determination of pH of the given sample solution using p ^H meter		
13	Determination of turbidity of the given sample water		
14	Colorimetric analysis		
15	Determination of iron by a colorimetric method using thiocyanate as a reagent		

- ❖ Faculty Incharge : Dr. V.Parvathi Professor
- ❖ Supporting Faculty : Dr T.V Naga Lakshmi Sr Asst Professor
S. Vijaya Dasaradha Asst Professor
K. Jamili Reddy Asst Professor
- ❖ Lab Technician : V.V Rajeswara rao B.Sc