

**CH. DEVI LAL STATE INSTITUTE OF ENGINEERING AND TECHNOLOGY
PANNIWALA MOTA (SIRSA), HARYANA -125077**

Applied Sciences and Humanities Department

Faculty : Sh. Sonu Jakhar

Subject: Chemistry Lab (BSC-102P)

Syllabus:-

(ii) Chemistry Laboratory [L : 0; T:0 ; P : 3 (1.5 credits)]

Choice of 10-12 experiments from the following:

- Determination of surface tension and viscosity
- Thin layer chromatography
- Ion exchange column for removal of hardness of water
- Determination of chloride content of water
- Colligative properties using freezing point depression
- Determination of the rate constant of a reaction
- Determination of cell constant and conductance of solutions
- Potentiometry - determination of redox potentials and emfs
- Synthesis of a polymer/drug

- Saponification/acid value of an oil
- Chemical analysis of a salt
- Lattice structures and packing of spheres
- Models of potential energy surfaces
- Chemical oscillations- Iodine clock reaction
- Determination of the partition coefficient of a substance between two immiscible liquids
- Adsorption of acetic acid by charcoal
- Use of the capillary viscosimeters to demonstrate the isoelectric point as the pH of minimum viscosity for gelatin sols and/or coagulation of the white part of egg .

Laboratory Outcomes

- The chemistry laboratory course will consist of experiments illustrating the principles of chemistry relevant to the study of science and engineering. The students will learn to:
 - Estimate rate constants of reactions from concentration of reactants/products as a function of time
 - Measure molecular/system properties such as surface tension, viscosity, conductance of solutions, redox potentials, chloride content of water, etc
 - Synthesize a small drug molecule and analyse a salt sample
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Equipment's Available in Chemistry Lab.



Redwood Viscometer



Water Distillation Apparatus



Flame photometer



Dissolved Oxygen Meter



Digital Conductivity Meter



weighing balance



6 Hole Water Bath



Hot Air oven



Muffle Furnace



Heating Mantle

Thank You