

Course No	Course Name	L-T-P-Credits
CY 481	Organic Chemistry Laboratory	0-0-6: 4
Prerequisite: NIL		
Course Objectives:	The main objective of this laboratory course is to provide hands on practical training on different organic reactions taught in the classes. The course will also cover several aspects of separation and purifications techniques.	
Course Outcomes:	After the successful completion of the laboratory the students will be able to	
	<ol style="list-style-type: none"> 1. Perform single step and multi-step synthesis of organic compounds. 2. Separate and purify compounds. 3. Understand basic characterization of synthesized compounds by spectroscopic techniques. 4. Understand the use of green chemistry in chemical synthesis. 	
SYLLABUS		
Module	Contents	Hours
I	Systematic qualitative analysis of organic compounds in a binary mixture-Separation and purification of each of the component in the mixture (by chromatographic techniques, re-crystallization etc.) and identification of the individual organic compound by chemical and spectroscopic methods. Separation of organic liquids by fractional distillation methods.	06 h per laboratory experiment
II	Preparation of organic compounds by typical organic reactions, purification and characterization of the products: <ol style="list-style-type: none"> a. Oxidation reaction b. Reduction reaction by hydride reagents c. Aromatic electrophilic substitution reaction d. Nucleophilic substitution reaction e. Condensation reaction f. Cycloaddition reaction g. Grignard reaction h. Heterocyclic compound synthesis i. Wittig reaction j. Esterification and saponification reaction k. Synthesis of acetanilide/ Aspirin l. Rearrangement reaction 	
III	Extraction and purification of natural products.	
IV	Green experiments (as per DST laboratory manual)	

Essential Readings:

1. A. I. Vogel. Practical Organic Chemistry, Longman Group Ltd.
2. A. K. Nad, B. Mahapatra, A. Ghosal. An Advanced Course in Practical Chemistry, New Central Book Agency (P) Ltd.

Supplementary Readings:

1. Departmental laboratory manuals.