



ARSD College, University of Delhi

Model Course Handout/Lesson Plan

Course Name : B.Sc. (H) Chemistry- Lab						
Semester	Course Code	Course Title	Lecture (L)	Tutorial (T)	Practical (P)	Credit (C)
III	CHEMISTRY - CVI: ORGANIC CHEMISTRY - II	Core Course-Halogenated Hydrocarbons and Oxygen Containing Functional Groups	0	0	4	2
Teacher/Instructor(s)		1. Dr. Sunita Bhagat 2. Dr. Dr. Bhaskara Nand Pant				
Session		2022-2023				

Course Objective:

- This course gives a better understanding of the organic functional groups, which include halogenated hydrocarbons and oxygen containing functional groups and their reactivity patterns. The detailed reactions mechanistic pathways for each functional group will be discussed to unravel the spectrum of organic chemistry and the extent of organic transformations.

Outcome of the course:

- Understand preparation, properties and reactions of haloalkanes, haloarenes and oxygen containing functional groups.
- Use the synthetic chemistry learnt in this course to do functional group transformations.
- To propose plausible mechanisms for any relevant reaction.

List of Experiments:

Details of the Lab Course		
Session	Name of Experiment	Contact Hours
1	Acetylation of one of the following compounds: amines (aniline, o-, m-, p- toluidines and o-, m-, panisidine) and phenols (β -naphthol, vanillin, salicylic acid) by any one method: a. Using conventional method. b. Using green approach	8
2	Benzoylation of one of the following amines (aniline, o-, m-, p- toluidines and o-, m-, p-anisidine) and one of the following phenols (β -naphthol, resorcinol, p- cresol) by Schotten-Baumann reaction.	8
3	Oxidation of ethanol/ isopropanol (Iodoform reaction)	4
4	Selective reduction of meta dinitrobenzene to m-nitroaniline	4
5	Hydrolysis of amides and esters.	8
6	Semicarbazone of any one of the following compounds: acetone, ethyl methyl ketone, cyclohexanone	8
7	S-Benzylisothiuronium salt of one each of water soluble and water insoluble acids (benzoic acid, oxalic acid, phenyl acetic acid and phthalic acid)	8
8	Aldol condensation using either conventional or green method.	4
9	Functional group tests for alcohols, phenols, carbonyl and carboxylic acid group	4
10	Mock Test	4
Total		60
Suggested Books:		
Sl. No.	Name of Authors/Books/Publishers	Year of Publication/Reprint
1	Mann, F. G.; Saunders, B. C. Practical Organic Chemistry, Pearson Education	2009
2	Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Vogel's Textbook of Practical Organic Chemistry, Pearson.	2012
3	Ahluwalia, V.K.; Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press.	2004

Evaluation Scheme:

No.	Component	Duration	Marks
1.	Internal Assessment		25
	• Quiz/Viva		
	• Observation & Record		
	• Attendance		
2.	• Model Exam	5 hr	25
	End Semester Examination		
			Total Marks 50