

BSC 502P					Organic Chemistry Lab – I					
Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs/Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
0	0	2	1	2	--	--	--	50	50	100

**COURSE OBJECTIVES**

- To translate the theoretical knowledge of Organic Chemistry into practical application.
- To develop the skills for identifying the presence of different functional groups.
- To classify different types of organic compounds.
- To learn good and safe laboratory practices.

**LIST OF EXPERIMENTS**

1. Alkaline Hydrolysis tests for the presence of amides and esters.
2. Benedict's Test for the presence of aldehydes.
3. Chromic Acid tests for the presence of primary alcohols, secondary alcohols, and aldehydes.
4. 2,4-Dinitrophenylhydrazine tests for the presence of aldehydes and ketones.
5. Ferric Hydroxamate test for the presence of esters.
6. Hinsberg's test for classifying amines as primary, secondary or tertiary.
7. Iodoform test to determine the establishment of alcohol or a ketone.
8. Lucas's test for classifying alcohols as primary, secondary, or tertiary.
9. Neutralization Equivalent test for the determination of the molecular weight of your unknown and the number of carboxylic acids present in the unknown.
10. Tollen's test for the presence of aldehyde.

**COURSE OUTCOMES**

On completion of the course, student will be able to

CO1 – Apply the theoretical knowledge of Organic Chemistry in identifying different functional groups (aldehyde, ketone, amide, ester, alcohol etc.)

CO2 – Critically evaluate the choice of reagents and reactions for qualitative analysis of organic compounds.

CO3 – Distinguish between three types of amines by using suitable reagents.

CO4 – Classify different types of alcohols with the help of chemical reactions.

CO5 – Determine the molecular weight of an unknown carboxylic acid (by neutralization equivalent test).

CO6 – Develop the skills for studying unknown organic compounds.

**TEXT/REFERENCE BOOKS**

1. Mann, F.G. and Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009).
2. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)
3. Vogel, A.I. Quantitative Organic Analysis, Part 3, Pearson (2012).
4. Ahluwalia, V.K. and Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).

**SEMESTER EXAMINATION PATTERN**

**Max. Marks: 100**

LW(Daily lab performance plus journal)

LE (Viva-voce plus Lab examination)

**Exam Duration: 3 Hrs**

50 Marks

50 Marks

