

Name of Faculty	:	Faculty of Science
Name of Program	:	Bachelor of Science
Course Code	:	1BSB02
Course Title	:	Organic Chemistry-I
Type of Course	:	Professional Core
Year of Introduction	:	2023-24

Prerequisite	:	Interest in learning organic chemistry as well as practical skill in student.
Course Objective	:	It aims to provide students with a strong foundation in the principles and concepts of organic chemistry, enabling them to understand, classify, and predict the behavior of various organic compounds and reactions.
Course Outcomes	:	At the end of this course, students will be able to:
	CO1	Understand the fundamental concepts and significance of organic chemistry.
	CO2	Apply resonance theory to describe electron delocalization in organic compounds.
	CO3	Analyze and predict reactions involving alkanes, alkenes and alkynes
	CO4	Develop problem solving skills for predicting and explaining organic reactions.

Teaching and Examination Scheme

Teaching Scheme (Contact Hours)			Credits	Examination Marks				
				Theory Marks		Practical Marks		Total Marks
L	T	P	C	SEE	CIA	SEE	CIA	
3	0	2	4	50	25	50	25	150

Legends: L-Lecture; T-Tutorial/Teacher Guided Theory Practice; P - Practical, C - Credit, SEE - Semester End Examination, CIA - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

Course Content

Unit No.	Topics	Teaching Hours	Weightage	Mapping WithCOs
1	Introduction to Organic Chemistry Definition and scope of organic chemistry Structure of organic compounds: carbon bonding, functional groups Isomerism: structural, stereoisomerism (cis-trans, enantiomers) Nomenclature of organic compounds	12	26.66%	CO1
2	Structure and Bonding in Organic Compounds Hybridization and bond angles Bond polarity and electronegativity Resonance and its application in organic compounds Molecular orbital theory in organic molecules	10	22.22%	CO2
3	Alkanes, Alkenes, and Alkynes Structure, nomenclature, and properties of alkanes Isomerism in alkanes Structure, nomenclature, and properties of alkenes and alkynes Reactions of alkanes, alkenes, and alkynes	11	24.44%	CO3
4	Alcohols, Ethers, and Organic Reaction Mechanisms Structure, nomenclature, and properties of alcohols and ethers Classification of organic reactions Reaction mechanisms: substitution, elimination, addition Introduction to reaction intermediates (carbocations, carbanions, radicals)	12	26.66%	CO4

Suggested Distribution of Theory Marks Using Bloom's Taxonomy						
Level	Remembrance	Understanding	Application	Analyse	Evaluate	Create
Weightage	25	25	25	25	-	-

NOTE: This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Suggested List of Experiments / Tutorials

Sr. No.	Name of Experiment/Tutorial	Teaching Hours
1	Detection of extra elements (N, S, Cl, Br, I) in organic compounds (containing upto two extra elements) i. Urea	02
2	ii. Thiourea	02
3	iii. Benzamide	02
4	iv. Beta-Naphthol	02
5	v. p-nitro Aniline	02
6	vi. m-nitro Aniline	02
7	vii. Chlorobenzene	02
8	viii. Bromobenzene	02
9	ix. Aniline	02
10	x. Acetamide	02
11	xi. p- Tolidine	02
12	xii. Salicylic acid	02
13	xiii. Nitro phenol	02
14	xiv. Dinitro Benzene	02
15	xv. Acetanilide	02

Major Equipment/Instruments and Software Required

Sr. No.	Name of Major Equipment / Instruments and Software
1	Test tubes
2	test tube stand
3	Beakers
4	Funnel
5	Glass rod

Suggested Learning Websites

Sr. No.	Name of Website
1	https://nptel.ac.in/courses/104103071
2	https://nptel.ac.in/courses/104103023
3	https://nptel.ac.in/courses/104106119
4	https://nptel.ac.in/courses/104106131

Reference Books

Sr. No.	Name of Reference Books
1	Organic Chemistry; Morrison, R. N. & Boyd, R. N.; Dorling Kindersley (India) Pvt. Ltd. (Pearson Education)

2	Organic Chemistry (Volume 1); Finar, I. L.; Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
3	A Text Book of Organic Chemistry; Arun Bahl and B.S. Bahl; Sultan Chand & Sons, New Delhi
4	Organic Chemistry; Graham Solomons, T.W.; John Wiley & Sons, Inc.
5	Practical chemistry (for B.Sc. I, II and III year students) - O P Pandey, D. N. Bajpai and S. Giri (S Chand and company Ltd.)
6	Organic Chemistry, Johnathan Clayden, Nick Geeves, Stuart Warren, 1st Edition, Oxford University Press.
7	Vogel, A.I., Tatchell, A.R., Furnis, B.S., Hannaford, A.J. & Smith, P.W.G., Textbook of Practical Organic Chemistry, Prentice
8	Mann, F.G.& Saunders, B.C. Practical Organic Chemistry Orient