



Program	Bachelor of Pharmacy (BPharm)	Semester - 2
Type of Course	-	
Prerequisite		
Course Objective	-	
Effective From A.Y.	2023-24	

Teaching Scheme (Contact Hours)				Examination Scheme				
Lecture	Tutorial	Lab	Credit	Theory Marks		Practical Marks		Total Marks
				External Marks (T)	Internal Marks (T)	External Marks (P)	Internal Marks (P)	
3	1	4	6	75	25	35	15	150

SEE - Semester End Examination, CIA - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

Course Content		T - Teaching Hours W - Weightage	
Sr.	Topics	T	W
1	UNIT-1 Classification, nomenclature and isomerism: Classification of Organic Compounds Common and IUPAC systems of nomenclature of organic compounds(up to 10 Carbons open chain and carbocyclic compounds), Structural isomerism in organic compounds	7	16
2	UNIT-2 Alkanes, Alkenes and Conjugated dienes: SP ³ hybridization in alkanes, Halogenation of alkanes, uses of paraffins. Stabilities of alkenes, SP ² hybridization in alkenes. E1 and E2 reactions – kinetics, order of reactivity of alkyl halides, rearrangement of carbocations, Saytzeffs orientation and evidences. E1 versus E2 reactions, Factors affecting E1 and E2 reactions. Ozonolysis, electrophilic addition reactions of alkenes, Markownikoff's orientation, free radical addition reactions of alkenes, Anti Markownikoff's orientation. Stability of conjugated dienes, Diel-Alder, electrophilic addition, free radical addition reactions of conjugated dienes, allylic rearrangement	10	23
3	UNIT-3 Alkyl halides: SN ¹ and SN ² reactions - kinetics, order of reactivity of alkyl halides, stereochemistry and rearrangement of carbocations. SN ¹ versus SN ² reactions, Factors affecting SN ¹ and SN ² reactions Structure and uses of ethylchloride, Chloroform, trichloroethylene, tetrachloroethylene, dichloromethane, tetrachloromethane and iodoform Alcohols: Qualitative tests, Structure and uses of Ethyl alcohol, Methyl alcohol, chlorobutanol, Cetosteryl alcohol, Benzyl alcohol, Glycerol, Propylene glycol	10	23
4	UNIT-4 Carbonyl compounds (Aldehydes and ketones): Nucleophilic addition, Electromeric effect, aldol condensation, Crossed Aldol condensation, Cannizzaro reaction, Crossed Cannizzaro reaction, Benzoin condensation, Perkin condensation, qualitative tests, Structure and uses of Formaldehyde, Paraldehyde, Acetone, Chloral hydrate, Hexamine, Benzaldehyde, Vanilin, Cinnamaldehyde.	10	23
5	UNIT-5	8	15



Course Content		T - Teaching Hours W - Weightage	
Sr.	Topics	T	W
	Carboxylic acids: Acidity of carboxylic acids, effect of substituents on acidity, inductive effect and qualitative tests for carboxylic acids, amide and ester. Structure and Uses of Acetic acid, Lactic acid, Tartaric acid, Citric acid, Succinic acid. Oxalic acid, Salicylic acid, Benzoic acid, Benzyl benzoate, Dimethyl phthalate, Methyl salicylate and Acetyl salicylic acid Aliphatic amines: Basicity, effect of substituent on Basicity. Qualitative test, Structure and uses of Ethanolamine, Ethylenediamine, Amphetamine		
Total		45	100

Suggested Distribution Of Theory Marks Using Bloom's Taxonomy					
Level	Remembrance	Understanding	Application	Analyze	Evaluate
Weightage	30	20	20	10	10

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.

Course Outcomes	
At the end of this course, students will be able to:	
C01	Knowledge of classification, IUPAC nomenclature of organic compounds and structural Isomerism.
C02	Knowledge and applications of general reactions, orientation of reactions, reactivity/ stability of organic compounds and analytical constant
C03	Knowledge and basic understanding of methods of preparation, reactions, physical & chemical properties.
C04	Knowledge about structure, Qualitative tests and uses of organic compounds
C05	Ability to perform different qualitative tests for organic compounds

Reference Books	
1.	Organic Chemistry By Morrison and Boyd
2.	Organic Chemistry By I.L. Finar, Volume-I
3.	Textbook of Organic Chemistry By B.S. Bahl & Arun Bahl
4.	. Organic Chemistry By P.L.Soni
5.	Practical Organic Chemistry By Mann and Saunders
6.	Text book of Practical Organic Chemistry By Vogel
7.	Advanced Practical organic chemistry By N.K.Vishnoi
8.	Introduction to Organic Laboratory techniques By Pavia, Lampman and Kriz. Reaction and reaction mechanism by Ahluwalia/Chatwal



List of Practical

1.	INTRODUCTION TO SAFE WORKING IN ORGANIC CHEMISTRY LABORATORY
2.	TO DETERMINE MELTING POINT OF THE GIVEN UNKNOWN ORGANIC COMPOUND
3.	TO DETERMINE BOILING POINT OF THE GIVEN UNKNOWN ORGANIC COMPOUND
4.	TO DETECT THE EXTRA ELEMENTS IN THE GIVEN ORGANIC COMPOUND
5.	TO DETECT THE EXTRA ELEMENT IN THE GIVEN ORGANIC COMPOUND
6.	TO PERFORM QUALITATIVE ANALYSIS OF GIVEN UNKNOWN ORGANIC COMPOUND
7.	TO PERFORM QUALITATIVE ANALYSIS OF GIVEN UNKNOWN ORGANIC COMPOUND
8.	TO PERFORM QUALITATIVE ANALYSIS OF GIVEN UNKNOWN ORGANIC COMPOUND
9.	TO PERFORM QUALITATIVE ANALYSIS OF GIVEN UNKNOWN ORGANIC COMPOUND
10.	TO PERFORM QUALITATIVE ANALYSIS OF GIVEN UNKNOWN ORGANIC COMPOUND
11.	TO PERFORM QUALITATIVE ANALYSIS OF GIVEN UNKNOWN ORGANIC COMPOUND
12.	TO PERFORM QUALITATIVE ANALYSIS OF GIVEN UNKNOWN ORGANIC COMPOUND
13.	TO PERFORM QUALITATIVE ANALYSIS OF GIVEN UNKNOWN ORGANIC COMPOUND
14.	CONSTRUCTION OF MOLECULAR MODELS
15.	TO PREPARE SOLID DERIVATIVE FROM ORGANIC COMPOUND

List of Tutorial

1.	revision-1
2.	revision-2
3.	revision-3
4.	revision-4
5.	revision-5
6.	revision-6
7.	revision-7
8.	revision-8
9.	revision-9
10.	revision-10
11.	revision-11
12.	revision-12
13.	revision-13
14.	revision-14
15.	revision-15