

Lesson Plan

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Odd Semester)
Session – (2023-24)

Name of the Teacher/s: Dr. Aanchal and Dr. Archana

Department: Chemistry

Class: B.Sc-II (3rd semester)

Subject: Organic Chemistry

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	21-07-2023	03-08-2023	Classification and nomenclature Monohydric alcohols-Nomenclature, methods of formation by reduction of aldehydes, ketones, carboxylic acids and esters. Hydrogen bonding. Acidic nature.	Lecture
2	04-08-2023	19-08-2023	Reactions of alcohols. Dihydric and Trihydric alcohols Nomenclature, methods of formation, chemical reactions of vicinal glycols and glycerol. Preparation of phenols, physical properties and acidic character.	Lecture
3	21-08-2023	28-08-2023	Comparative acidic strengths of alcohols and phenols, resonance stabilization of phenoxide ion. Reactions of phenols-electrophilic aromatic substitution, acylation and carboxylation. Mechanisms of Fries rearrangement, Claisen rearrangement, Gatterman synthesis, and Reimer-Tiemann reaction.	Lecture
4	29-08-2023	14-09-2023	Nomenclature and structure of the carbonyl group. Synthesis of aldehydes and ketones with particular reference to the synthesis of aldehydes from acid chlorides, synthesis of aldehydes and ketones using 1,3-dithianes, synthesis of ketones from nitriles and from carboxylic acids. Physical properties.	Lecture and group discussion

5	15-09-2023	25-09-2023	Mechanism of nucleophilic additions to carbonyl group with particular emphasis on benzoin, aldol, Perkin and Knoevenagel condensations. Condensation with ammonia and its derivatives. Wittig reaction, Mannich reaction. Use of acetals as protecting group.	Lecture
6	26-09-2023	04-10-2023	Oxidation of aldehydes, Baeyer-Villiger oxidation of ketones, Cannizzaro reaction, MPV, Clemmensen, Wolff-Kishner, LiAlH ₄ and NaBH ₄ reductions. Nomenclature, structure and bonding, physical properties, acidity of carboxylic acids, effects of substitutions on acid strength. Preparations of carboxylic acids. Reactions of carboxylic acids. Hell-Volhard-Zelinsky reaction.	Group discussion
7	05-10-2023	20-10-2023	Synthesis of acid chlorides, esters and amides, Reduction of carboxylic acids. Mechanism of decarboxylation. Methods of formation and chemical reactions of halo acids. Hydroxyl acids: Malic, tartaric and citric acids (structural features only).	Lecture
8	21-10-2023	06-11-2023	Methods of formation and chemical reactions of unsaturated monocarboxylic acids. Dicarboxylic acids: Methods of formation and effects of heat and hydrating agents.	Lecture and Group discussion
9	07-11-2023	Till exams	Revision and question answer discussion	Group discussion

Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans	
30 th August, 2023	The teachers have completed the scheduled chapters and topics as shown in the lesson plan
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans	
29 th Sept, 2023	The teachers have completed the scheduled chapters and topics as shown in the lesson plan
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans	
31 st Oct, 2023	The teachers have completed the scheduled chapters and topics as shown in the lesson plan

Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans

22 nd Nov, 2023	The teachers have completed the scheduled chapters and topics as shown in the lesson plan
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***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc. Other Methods adopted by the teacher – Please write the specific teaching method

Lesson Plan

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)
Session – (2023-24)

Name of the Teacher/s: Dr. Aanchal and Dr. Archana

Department: Chemistry

Class: B.Sc-II (4th Semester)

Subject: Organic Chemistry

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	09.01.2024	31.01.2024	Structure and nomenclature of acid chlorides, esters, amides and acid anhydrides. Relative stability & reactivity of acyl derivatives. Physical properties, interconversion of acid derivatives by nucleophilic acyl substitution. Preparation of carboxylic acid derivatives, chemical reactions. Mechanisms of esterification and hydrolysis (acidic and basic).	Lecture
2	01-02-2024	18.02.2024	Nomenclature of ether and methods of their formation, physical properties. Chemical reaction-cleavage and autoxidation, Ziesel's method. Synthesis of epoxides. Acid and base-catalyzed ring opening of epoxides, orientation of epoxide ring opening, reactions of Grignard and organolithium reagents with epoxides.	Lecture
3	19-02-2024	05-03-2024	Natural fats, edible and industrial oils of vegetable origin, common fatty acids, glycerides, hydrogenation of unsaturated oils. Saponification value, iodine value, acid value. Soaps, synthetic detergents; alkyl and aryl sulphonates.	Lecture and Group Discussion
4	06-03-2024	16.03.2024	Preparation of nitroalkanes and nitroarenes. Chemical reactions of nitroalkanes. Mechanisms of nucleophilic substitution in nitroarenes and their reductions in acidic, neutral	Lecture

			and alkaline media. Picric acid. Structure and nomenclature of amines, physical properties. Stereochemistry of amines, Separation of a mixture of primary, secondary and tertiary amines.	
5	18.03.2024	31.03.2024	Structural features effecting basicity of amines. Amine salts as phasetransfer catalysis. Preparation of alkyl and aryl amines (reduction of nitro compounds, nitriles), reductive amination of aldehydic and ketonic compounds. Gabriel-phthalimide reaction, Hofmann bromamide reaction.	Lecture
6	01.04.2024	Till exam	Introduction: Molecular Orbital picture and aromatic character of pyrrole, furan, thiophene, pyridine. Methods of synthesis and chemical reactions with particular emphasis on the mechanism of electrophilic substitution. Mechanism of nucleophilic substitution reactions in pyridine derivatives. Comparison of basicity of pyridine, piperidine and pyrrole. Introduction to condensed-five and six-membered heterocycles. Preparation and reactions of indole, quinoline and isoquinoline with special reference to Fisher indole synthesis. Skraup synthesis and Bischler-Napieralski synthesis. Mechanism of electrophilic substitution reactions of indole, quinoline and isoquinoline.	Lecture and Group Discussion
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
30th Jan, 2024	The teachers have completed the scheduled chapters and topics as shown in the lesson plan			
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
24th Feb, 2024	The teachers have completed the scheduled chapters and topics as shown in the lesson plan			
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
28th, March 2024	The teachers have completed the scheduled chapters and topics as shown in the lesson plan			
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				

19th April, 2024	The teachers have completed the scheduled chapters and topics as shown in the lesson plan
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***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc. Other Methods adopted by the teacher – Please write the specific teaching method