Lesson Plan

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Odd Semester)
Session – (2025-26)

Name of the Teacher: Dr. Manjot Kaur and Dr. Swatika Sharma

Department: Chemistry

Class: M.Sc I **Subject:** Organic Chemistry CH-412

S.No	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	01-08.2025	20.08.2025	Unit III Aliphatic Nucleophilic substitution: S_N1 and S_N2, Neighbouring group participation.	Lecture method
2	21.08.2025	06.09.2025	Unit III Aliphatic Nucleophilic substitution: S_N1 and S_N2, Neighbouring group participation. Phase transfer catalysis, ambident nucleophiles, regioselectivity, esterification and ester hydrolysis. S_{N1} mechanism, SET mechanism, Factors affecting reactivity in SN reactions. Nucleophilic substitution at an allylic carbon, aliphatic trigonal carbon and at a vinylic carbon. Phase transfer catalysis, ambident nucleophiles, regioselectivity, esterification and ester hydrolysis.	Lecture Method & Group Discussion for paper solving by giving Assignment
3	08.09.2025	30.09.2025	Unit III Aliphatic Nucleophilic Aliphatic Electrophilic substitution: SE1, SE2 and SEi. Electrophilic substitution accompanied by double bond shifts, Factors affecting electrophilic substitution reactions. Unit IV Aromatic Electrophilic substitution: Arenium ion mechanism, orientation and reactivity, energy profile diagrams, Nitration, sulphonation, halogenations, Friedel-Crafts reaction and Friedel-Crafts acylation.	Lecture Method & Group Discussion for paper solving by giving Assignment

4	06.10.2025	Till Exam	Unit IV Aromatic Electrophilic substitution: o/p- ratio. Ipso attack, orientation in other ring systems. Vilsmeier-Haack Reaction, Gatterman-Koch Reaction, Diazonium coupling. Aromatic Nucleophilic substitution: Unimolecular and Bimolecular mechanism. Aromatic Nucleophilic Substitution Reaction via Benzynes. Factors affecting reactivity. Von Richter Rearrangement, Smiles Rearrangement and Sommelet-Hauser Rearrangement.	Lecture method
5.	01-08.2025	20.08.2025	Unit I Nature of Bonding in Organic molecules: Fundamental concepts, Delocalized chemical bonding, conjugation, Cross conjugation, resonance, hyper- conjugation.	Lecture Method & Group Discussion for paper solving by giving Assignment
6	21.08.2025	06.09.2025	Unit I Nature of Bonding in Organic molecules: Bonding in fullerenes, Tautomerism, Aromaticity in benzenoid and non-benzenoid compd Alternant and non-alternant hydrocarbons, Huckel's rule. Energy level of π M.O., Annulenes, anti-aromaticity, aromaticity, Homo aromaticity, PMO approach. Bonds weaker than covalent, addition compound, crown ether complexes and cryptands, Inclusion compound, cyclo dextrins, Catenanes & rotaxanes.	Lecture Method & Group Discussion for paper solving by giving Assignment
7.	08.09.2025	30.09.2025	Effect of structure on reactivity-resonance and field effects, steric effect, quantitative treatment. The Hammett equation and linear free energy relationship, substituent and reaction constants. Taft equation.synthesis, chirality due to helical shape. Stereochemistry of compounds containing N, S, P	Lecture Method & Group Discussion for paper solving by giving Assignment
8.	06.10.2025	Till Exam	Unit II Stereochemistry: Geometrical Isomerism, Conformational Analysis, Conformation of Acyclic systems, cycloalkanes, sugars and decalins. Effect of conformation on reactivity. Steric strain due to undesirable crowding of resolution. Stereospecific and	Lecture Method & Group Discussion for paper solving by giving Assignment

			stereoselectiveRevision and Solution of previous years' question papers	
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans				
27th August, 2025	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				
24thSeptember, 2025	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				
29th October, 2025	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				
10th November, 2025	The teachers have completed the scheduled chapters and topics as shown in the lesson plan			

***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