

## Lesson Plan

Mehr Chand Mahajan D.A.V. College for Women, Sector – 36A,  
Chandigarh  
Monthly Teaching Plans (Odd Semester)  
Session –2022-2023

Name of Teachers: Dr. Manjot kaur and Ms. Priyanka

Department: Chemistry

Class: B. Sc. III<sup>rd</sup> year (5<sup>th</sup> Semester) Subject: Organic Chemistry (CH-XVIII)

Lesson Plan: Unit 1, 2, 3 and 4.

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	25-08-2022	07-09-2022	<b>Unit 1: Electromagnetic spectra: Absorption spectra</b> <b>UV Absorption spectroscopy:</b> Beer Lambert Law, molar absorptivity, presentation and analysis of UV spectra.	<b>Lecture</b>
2.	25-08-2022	30-09-2022	<b>Unit 1: UV Absorption spectroscopy:</b> types of electronic transitions, Effects of conjugation, chromophore, auxochromes, bathochromic, hypsochromic, hyperchromic shifts, UV spectra of conjugated enes and enones, Woodward fisher rules and application to conjugated alkenes and carbonyl compounds  <b>Unit 2: Electromagnetic spectra: Absorption spectra</b> <b>IR Absorption spectroscopy:</b> Molecular vibrations, Hooke's law, selection rules, intensity and positions of IR bands,	<b>Lecture, group discussion</b>
3.	1-10-2022	24-10-2022	<b>Unit 2: IR Absorption spectroscopy:</b> measurement of IR spectrum, finger print	<b>Lecture, group discussion</b>

			<p>region, IR absorption of various functional groups, and interpretation of IR spectra of simple organic compounds.</p> <p><b>Unit 3: Spectroscopy</b>  <b>Nuclear Magnetic resonance spectroscopy (NMR):</b> <math>^1\text{H}</math> NMR, nuclear shielding and deshielding, chemical shift, spin-spin coupling, coupling constants.</p>	
4.	25-10-2022	12-11-2022	<p><b>Unit 3: Spectroscopy</b>  <b>Nuclear Magnetic resonance spectroscopy (NMR):</b> area of signals, interpretation of NMR spectra of simple organic molecules.</p> <p>.</p>	<b>Lecture, group discussion</b>
5.	14-11-2022	22-11-2022	<p><b>Unit 4: Carbohydrates</b>  Classification and structure, monosaccharides, osazone formation, interconversion of glucose to fructose, chain lengthening and chain shortening of aldoses, configurations of monosaccharides, erythro and threo diastereomers</p>	<b>Lecture, online resources</b>
7	23-11-2022	Till Exam	<p><b>Unit 4: Carbohydrates</b>  Conversion of glucose to mannose, formation of glucosides, ethers and esters, determination of ring size of monosaccharides, cyclic structure of D-glucose, mechanism of mutarotation.  Structure of ribose and deoxyribose.  Introduction to disaccharides (maltose, sucrose, lactose)  And polysaccharides (starch and cellulose)</p>	<b>Lecture, online resources</b>

<b>Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans</b>	
10 <sup>th</sup> Oct, 2022	The teachers have completed the scheduled chapters and topics as shown in the lesson plan
<b>Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans</b>	
26 <sup>th</sup> Oct, 2022	The teachers have completed the scheduled chapters and topics as shown in the lesson plan
<b>Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans</b>	
17 <sup>th</sup> Nov, 2022	The teachers have completed the scheduled chapters and topics as shown in the lesson plan
<b>Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans</b>	
27 <sup>th</sup> Nov, 2022	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

## Lesson Plan

Mehr Chand Mahajan D.A.V. College for Women, Sector – 36A,  
Chandigarh  
Monthly Teaching Plans (Even Semester)  
Session –2022-23

Name of Teachers: Dr. Manjot kaur and Ms. Priyanka

Department: Chemistry

Class: B. Sc. III<sup>rd</sup> year (6<sup>th</sup> Semester) Subject: Organic Chemistry (CH-XXII)

Lesson Plan: Unit 1, 2, 3 and 4.

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	16.01.2023	16.02.2023	<b>Unit 1: Amino acids, Peptides, Proteins and Nucleic acids</b> Classification, structure, stereochemistry of amino acids, acid-base behavior, isoelectric point, electrophoresis, preparation and reactions of amino acids. Structure and nomenclature, classification of peptides, proteins. Peptide structure determination, end group analysis, selective hydrolysis of peptides.	<b>Lecture</b>
2.	17.02.2023	10.03.2023	<b>Unit 1:</b> Classical and solid-phase peptide synthesis, Levels of protein structure, protein denaturation/renaturation. Introduction to nucleic acids, ribonucleosides and ribonucleotides, double helical structure of DNA. <b>Unit 2: Synthetic polymers</b> Addition or chain growth polymerization, free radical and	<b>Lecture, group discussion</b>

			ionic vinyl polymerization, Ziegler-Natta Polymerization, vinyl polymers, Condensation Polymerization,	
3.	11.03.2023	08.04.2023	<p><b>Unit 2:</b> Polyesters, polyamides, phenol formaldehyde resins, epoxy resins, urea formaldehyde resins, polyurethanes, Natural and synthetic rubbers.</p> <p><b>Unit 3: Organic synthesis via enolates</b> Acidity of <math>\alpha</math>-hydrogens, alkylation of diethyl malonate and ethyl acetoacetate. Synthesis of ethyl acetoacetate: Claisen condensation, Keto-enol Tautomerism of ethyl acetoacetate. Alkylation and acylation of enamines.</p>	<b>Lecture, group discussion</b>
4.	11.04.2023	Till exams	<p><b>Unit 4: Organometallic Compounds</b> Organomagnesium compounds: Grignard reagents- Synthesis, structure and chemical reactions. Organozinc Compounds: Synthesis and chemical reactions. Organolithium Compounds: Synthesis and chemical reactions.</p>	<b>Lecture, group discussion and seminar</b>
<b>Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans</b>				
25 <sup>th</sup> Jan, 2023	The teachers have completed the scheduled chapters and topics as shown in the lesson plan			
<b>Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans</b>				
3 <sup>rd</sup> Feb, 2023	The teachers have completed the scheduled chapters and topics as shown in the lesson plan			
<b>Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans</b>				
15 <sup>th</sup> , March 2023	The teachers have completed the scheduled chapters and topics as shown in the lesson plan			
<b>Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans</b>				
8 <sup>th</sup> April, 2023	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