Lesson Plan

MCM DAV College for Women, Sector – 36 A, Chandigarh

Monthly Teaching Plans (Odd Semester)

Session: 2025-26

Name of the Teacher: Dr. Sagarika Dev, Dr. Nisha Dawra

Department: Chemistry

Class: B.Sc (3rd Semester) **Subject:** Chemistry (CHM-DSC-3_Maj/Min-301)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	24-07-2025	31-08-2025	**INORGANIC CHEMISTRY** **Chemistry of s-Block Elements** Comparative study, diagonal relationships, salient features of hydrides. **ORGANIC CHEMISTRY** **Alkenes and Cycloalkenes** Nomenclature of alkenes, methods of formation, mechanisms of dehydration of alcohols and dehydrohalogenation of alkyl halides, regioselectivity in alcohol dehydration.	Lecture

			PHYSICAL CHEMISTRY **Thermochemistry:** Standard state, standard enthalpy of formation-Hess's Law of constant Heat Summation and its applications. Heat of reaction at constant pressure and at constant volume, Enthalpy of neutralisation	
2.	01-09-2025	30-09-2025	**INORGANIC CHEMISTRY** **Chemistry of s-Block Elements** Solvation and complexation tendencies, including their function in biosystems, and an introduction to alkyls and aryls. **ORGANIC CHEMISTRY** **Alkenes and Cycloalkenes** Saytzeff's Rule, Hofmann elimination, physical properties and relative stabilities of alkenes, Chemical reactions of alkenes–mechanisms involved in hydrogenation, electrophilic and free radical additions, Markownikoff's rule, hydroboration-oxidation, oxymercuration-reduction. Epoxidation, ozonolysis,	Lecture and discussion

			hydration, hydroxylation and oxidation with $KMnO_4$, Polymerisation of alkenes, Substitution at the allylic and vinylic positions of alkenes, Methods of formation, conformation and chemical reactions of cycloalkenes. **PHYSICAL CHEMISTRY** **Thermochemistry:** Bond dissociation energy and its calculation from thermochemical data, temperature dependence of enthalpy.Kirchhoff's equation.	
3.	01-10-2025	31-10-2025	**INORGANIC CHEMISTRY** **Chemistry of Noble Gases** Occurrence and uses, rationalisation of inertness of noble gases, Clathrates; preparation and properties of XeF_2, XeF_4 and XeF_6 **ORGANIC CHEMISTRY** **Dienes and Alkynes** Nomenclature and classification of dienes: Isolated, conjugated and cumulated dienes. Structure of allenes and butadiene, methods of formation, and polymerisation. Chemical	Lecture

			reactions – 1,2 and 1,4 additions, **PHYSICAL CHEMISTRY** **Thermodynamics II:** Second Law of Thermodynamics: Need for the law, different statements of the law, Carnot cycle and its efficiency, Carnot theorem. Thermodynamic scale of temperature, Concept of Entropy: Entropy as a state function, entropy as a function of V & T	
4.	01-11-2025	10-11-2025	**INORGANIC CHEMISTRY** **Chemistry of Noble Gases** Nature of bonding in noble gas compounds (Valence bond treatment and MO treatment for XeF_2), Molecular shapes of noble gas compounds (VSEPR theory) **ORGANIC CHEMISTRY** **Dienes and Alkynes** Diels-Alder reaction. Nomenclature, structure and bonding in alkynes. Methods of formation.Chemical reactions of alkynes, acidity of alkynes. Mechanism of electrophilic and	Lecture and group discussion

			nucleophilic addition reactions, hydroboration-oxidation, metal-ammonia reductions, oxidation and polymerisation. **PHYSICAL CHEMISTRY** **Thermodynamics II:** entropy as a function of P & T, entropy change in physical change, Clausius inequality, entropy as a criterion of spontaneity and equilibrium. Entropy change in ideal gases and mixing of gases.	

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
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24th Sept, 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 Oct, 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 Nov, 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