

Lesson Plan

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

Monthly Teaching Plans (ODD Semester)

Session: 2024-25

Name of the Teacher: Dr. Madhuri, Dr. Manjot, Dr. Archana

Department: Chemistry

Class: B.Sc (1st Semester)

Subject: Chemistry (CHM-SEC-1)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	15-07-2024	31-08-2024	INORGANIC CHEMISTRY 1. Calibration and use of apparatus 2. Preparation of solutions of different Molarity/Normality of titrants 2. Acid-Base Titrations: 1. Estimation of carbonate/bicarbonate/hydroxide present together in mixture. 2. Estimation of free alkali present in different soaps/detergents 3. Oxidation-Reduction Titrimetry 1. Estimation of Fe(II) and oxalic acid using standardized KMnO ₄ solution. 2. Estimation of oxalic acid and sodium oxalate in a given mixture.	Practical
2.	01-09-2024	30-09-2024	3. Oxidation-Reduction	Practical

			<p>Titrimetry cont.</p> <p>3. Estimation of Fe(II) with K₂Cr₂O₇ using internal (diphenylamine, anthranilic acid) and external indicator.</p> <p>UNIT- II</p> <p>PHYSICAL CHEMISTRY-I PRACTICALS</p> <p>1. Surface tension measurements</p> <p>1. Determine the surface tension by (i) drop number (ii) drop weight method. 1.2. Study the variation of surface tension of detergent solutions with concentration.</p>	
3.	01-10-2024	26-10-2024	<p>2. Viscosity measurement using Ostwald's viscometer.</p> <p>1. Determination of viscosity of aqueous solutions of (i) polymer (ii) ethanol and (iii) sugar at room temperature.</p> <p>2. Study the variation of viscosity of sucrose solution with the concentration of solute.</p> <p>3. Density and refractive index measurements</p> <p>1. Determination of density and refractive index viscosity of organic solvents at room temperature.</p> <p>4. pH metry</p> <p>1. Study the effect on pH of addition of HCl/NaOH to solutions of acetic acid, sodium acetate and their mixtures.</p>	Practical

4.	27-10-2024	14-11-2024	4. pH metry cont. 2. Preparation of buffer solutions of different pH 3. Sodium acetate-acetic acid 4. Ammonium chloride-ammonium hydroxide 5. pH metric titration of (i) strong acid vs. strong base, (ii) weak acid vs. strongbase. 6. Determination of dissociation constant of a weak acid.	Practical
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Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans	
31 st Aug, 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	
30 th Sept, 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	
26 th 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	
14 th 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

Lesson Plan

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

Monthly Teaching Plans (Even Semester)

Session: 2024-25

Name of the Teacher: Dr. Madhuri, Dr. Manjot, Dr. Archana

Department: Chemistry

Class: B.Sc (2nd Semester)

Subject: Chemistry (CHM-SEC-1)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	10-01-2025	31-01-2025	INORGANIC CHEMISTRY UNIT-I: Basics and Hydrocarbons: 1. Calibration of Thermometer: melting point of Naphthalene; acetanilide; Urea 2. Determination of melting point: Naphthalene, Benzoic acid, Urea, Cinnamic acid, Acetanilide, p-dichlorobenzene, Aspirin 3. Determination of boiling points: Ethanol, Cyclohexane, Toluene 4. Mixed melting point determination Urea-Cinnamic acid mixture of various compositions 5. Distillation: Simple	Practical

			<p>distillation of ethanol-water mixture using water condenser</p> <p>6. Crystallization: Concept of induction of crystallization Phthalic acid from hot water (using fluted filter paper and stemless funnel) Acetanilide from boiling water</p>	
2.	02-02-2025	28-02-2025	<p>7. Decolorisation and crystallization using charcoal: Decolorisation of brown sugar (sucrose) with animal charcoal using gravity filtration. Crystallization and decolorisation of impure naphthalene Congo Red using decolorising carbon from ethanol.</p> <p>8. Sublimation (Simple and Vacuum): Camphor, Naphthalene, Phthalic acid and Succinic acid.</p> <p>9. Extraction: The separatory funnel, drying agent: Isolation of caffeine from tea leaves</p> <p>10. Steam distillation Purification of aniline/nitrobenzene by steam distillation.</p>	Practical
3.	01-03-2025	29-03-2025	<p>UNIT II:</p> <p>Physical Chemistry- II</p> <p>Chemical Thermodynamics and its Applications</p>	Practical

			Thermochemistry 1. Determination of heat capacity of a calorimeter 2. Determination of heat capacity of the calorimeter and enthalpy of neutralization of hydrochloric acid with sodium hydroxide.	
4.	30-03-2025	19-04-2025	3. Calculation of the enthalpy of ionization. 4. Determination of heat of solution of a salt. 5. Determination of enthalpy of hydration of copper sulphate. 6. Study of the solubility of benzoic acid in water and determination of ΔH .	Practical

Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans	
31 st Jan, 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	
28 th Feb, 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	
29 th March, 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	
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14 th April, 2025	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