GOVERNMENT COLLEGE FOR WOMEN, HISAR

Lesson Plan July 2026 to November/December 2026

Name of Teacher: Dr.Satyender Kumar
Class: - B.Sc. 3rd sem
Subject:-SEC Chemistry
Subject Code:-C24SEC328T

External Marks - 35 ***Internal Marks- 15*** ***Total Marks -50***

Date	Week	Topics to be covered
03.08.2026 to 08.08.2026	Week 1	Review of energy sources, renewable and non- renewable.
10.08.2026 to 15.08.2026	Week 2	Classification of fuels and their calorific value.
17.08.2026 to 22.08.2026	Week 3	Uses of coal as fuel and non-fuel in various industries.
24.08.2026 to 29.08.2026	Week 4	Carbonization of coal. Composition and uses of coal gas.
31.08.2026 to 05.09.2026	Week 5	Composition & uses of producer gas & water gas.
07.09.2026 to 12.09.2026	Week 6	Coal gasification- Hydro gasification & catalytic gasification.
14.09.2026 to 19.09.2026	Week 7	Composition of crude petroleum. Refining of petroleum.
21.09.2026 to 26.09.2026	Week 8	Various refining products & their applications.
28.09.2026 to 03.10.2026	Week 9	Priniciple and process of fractional distillation.
05.10.2026 to 10.10.2026	Week 10	Thermal & Catalytic cracking. Reforming
12.10.2026 to 17.10.2026	Week 11	Reforming, Petroleum & non- petroleum fuels, LPG
19.10.2026 to 24.10.2026	Week 12	CNG, LNG, BIO GAS, Syn gas
26.10.2026 to 31.10.2026	Week 13	Synthetic Natural Gas, Classification of Petrochemicals.
11.11.2026 to 14.11.2026	Week 14	Classification & functions of lubricants
16.11.2026 to 21.11.2026	Week 15	Conducting, non-conducting, solid & semi solid lubricants.
23.11.2026 to 28.11.2026	Week 16	Synthetic lubricants, Properties of lubricants (viscosity index, cloud point, pore point)
30.11.2026 to 04.12.2026	Week 17	Revision

Teacher's Signature

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GOVERNMENT COLLEGE FOR WOMEN, HISAR

Lesson Plan July 2026 to November/December 2026

Name of Teacher: Dr.Satyender Kumar
Class: - B.Sc. 5th sem
Subject:- DSC Chemistry
Subject Code:-C24CHE501T

External Marks - 50 Internal Marks- 20 Total Marks -70

Date	Week	Topics to be covered
20.07.2026 to 25.07.2026	Week 1	**Organometallics**- Classification and nature of C-M bond.
27.07.2026 to 01.08.2026	Week 2	Structure of Methyl lithium, Zeiss salt and ferrocene.
03.08.2026 to 08.08.2026	Week 3	Preparation, structure and bonding in metal carbonyls.
10.08.2026 to 15.08.2026	Week 4	Pi- acceptor behavior of carbon monoxide.
17.08.2026 to 22.08.2026	Week 5	EAN rule as applied to carbonyls.
24.08.2026 to 29.08.2026	Week 6	**Carboxylic acids-** Nomenclature and methods of preparations.
31.08.2026 to 05.09.2026	Week 7	Reactions of carboxylic acids.
07.09.2026 to 12.09.2026	Week 8	Preparation of Acid chloride, Anhydride, Esters & Amides.
14.09.2026 to 19.09.2026	Week 9	Comparative study of nucleophilicity & reactions of derivatives.
21.09.2026 to 26.09.2026	Week 10	**UV Spectroscopy**- Absorption laws, type of electronic transition
28.09.2026 to 03.10.2026	Week 11	Effect of conjugation, Concept of chromophore & auxochrome.
05.10.2026 to 10.10.2026	Week 12	Woodward-Fieser rules for calculation of lambda max of conjugated dienes & unsaturated ketones.
12.10.2026 to 17.10.2026	Week 13	**Chemical Equilibrium**- Law of mass action, chem equilibrium law.
19.10.2026 to 24.10.2026	Week 14	Types of equilibrium Constants, relation between them, chem. Potential.
26.10.2026 to 31.10.2026	Week 15	Free energy change and standard free energy change.
11.11.2026 to 14.11.2026	Week 16	Thermodynamic derivation of law of chemical equilibrium. Equilibrium constant and free energy.
16.11.2026 to 21.11.2026	Week 17	Classius- Clapeyron equation& applications. Le Chatlier's Principle.
23.11.2026 to 28.11.2026	Week 18	Revision
30.11.2026 to 04.12.2026	Week 19	Revision

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Lesson Plan July 2026 to November/December 2026

Name of Teacher: Dr. Rakesh Kumar
Class: - B. Sc. 2nd (Semester -3rd)
Subject: - Chemistry – III
Subject Code: - C24CHE301T

External Marks - 50 ***Internal Marks-20*** ***Total Marks – 70***

Date	Week	Topics to be covered
01/08/2026 to 08/08/2026	Week 1	**Transition Elements (3d series)** General group trends with special reference to electronic configuration.
10/08/2026 to 15/08/2026	Week 2	**Transition Elements (3d series)** Variable valency, colour, magnetic and catalytic properties, ability to form complexes.
17/08/2026 to 22/08/2026	Week 3	**Transition Elements (3d series)** Stability of various oxidation states (Latimer diagrams) for Fe and Cu.
24/08/2026 to 29/08/2026	Week 4	**Lanthanoids** Electronic configurations, oxidation states, colour, magnetic properties, lanthanide contraction, separation of lanthanides (ion exchange method only).
31/08/2026 to 05/09/2026	Week 5	**Actinoids** Electronic configurations, oxidation states, colour, magnetic properties, Actinoids contraction. ***Doubt Session ; Unit Test -1***
07/09/2026 to 12/09/2026	Week 6	**Alkyl and aryl halides** Alkyl Halides Preparation: From Alkenes and Alcohols, Reactions: Nitrite and Nitro formation, Nitrile and isonitrile formation.
14/09/2026 to 19/09/2026	Week 7	**Alkyl and aryl halides** Williamson's ether synthesis. Types of Nucleophilic Substitution (SN^1, SN^2 and SN^i) reactions.
21/09/2026 to 26/09/2026	Week 8	Aryl Halides Preparation (Chloro, bromo and iodo-benzene case): From phenol, Sandmeyer & Gattermann reactions. Chemical reactions (Chlorobenzene): Aromatic nucleophilic substitution (replacement by – OH group) and effect of nitro substituent.
28/09/2026 to 03/10/2026	Week 9	Benzyne Mechanism: KNH_2/NH_3 (or $NaNH_2/NH_3$). Reactivity and Relative strength of C-Halogen bond in alkyl, allyl, vinyl and aryl halides.

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		Doubt Session ; Unit Test -2
05/10/2026 to 10/10/2026	Week 10	**Alcohols and Phenols** Alcohols Preparation: Preparation of 1o, 2o and 3o alcohols using Grignard reagent, Ester hydrolysis,
12/10/2026 to 17/10/2026	Week 11	Reduction of aldehydes, ketones and esters. Acidic nature reactions: With sodium, HX (Lucas test), Esterification, Oxidation (with PCC and acidic dichromate).
19/10/2026 to 24/10/2026	Week 12	Phenols Preparation: From Cumene, diazonium salts and Grignard reagent. Acidic nature,
26/10/2026 to 31/10/2026	Week 13	Chemical reactions: Electrophilic substitution: Nitration, halogenation and sulphonation. Reimer-Tiemann Reaction, Claisen rearrangement, Fries rearrangement and Schotten-Baumann Reaction, Kolbe's reaction (with mechanism). ***Doubt session; Unit Test-3***
02/11/2026 to 07/11/2026	---	Vacations (Diwali)
09/11/2026 to 14/11/2026	Week 14	**Conductance and Conductivity** Introduction, Equivalent and Molar conductivity and their variation with dilution for weak and strong electrolytes, Kohlrausch's law of independent migration of ions, Transport number, Ionic mobility, .
02/11/2026 to 07/11/2026	Week 15	Applications of conductance measurements: Determination of degree of ionization of weak electrolyte, Solubility and Solubility products of sparingly soluble salts, Ionic product of water.
09/11/2026 to 14/11/2026	Week 16	Conductometric titrations (only acid-base): Concept of pH and pKa, buffer solution, buffer action, Henderson-Hasselbalch equation. ***Doubt session; Unit Test-4***
16/11/2026 to 25/11/2026	Week 17	Revision and Complete syllabus Test

Teacher Signature

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Lesson Plan July 2026 to November/December 2026

Name of Teacher: Dr. Rakesh Kumar
Class: - B. Sc. 2nd (Semester -3rd)
Subject: - Basic Chemistry – III
Subject Code: - C24MIC331T

External Marks - 50 ***Internal Marks-20*** ***Total Marks – 70***

Date	Week	Topics to be covered
01/08/2026 to 08/08/2026	Week 1	**Periodic table and Properties** Classification of periodic table: s, p, d and f blocks, Periodic properties:
10/08/2026 to 15/08/2026	Week 2	Atomic and ionic radii, ionization energy, electron affinity.
17/08/2026 to 22/08/2026	Week 3	Electronegativity- trend in periodic properties (in s and p-block elements) ***Doubt session; Unit Test-1***
24/08/2026 to 29/08/2026	Week 4	**Mechanism of Organic Reactions** Curved arrow notation, Homolytic and heterolytic bond fission.
31/08/2026 to 05/09/2026	Week 5	Types of reagents: electrophiles and nucleophiles.
07/09/2026 to 12/09/2026	Week 6	Types of organic reactions: Substitution, Addition, Condensation
14/09/2026 to 19/09/2026	Week 7	Types of organic reactions: Elimination, Rearrangement, Isomerization.
21/09/2026 to 26/09/2026	Week 8	Reactive intermediates: Carbocations, Carbanions, (structure & stability).
28/09/2026 to 03/10/2026	Week 9	Reactive intermediates: Free radicals and Carbenes (structure & stability). ***Doubt session; Unit Test-2***
05/10/2026 to 10/10/2026	Week 10	Thermodynamics System and surroundings, types of systems, concept of internal energy,
12/10/2026 to 17/10/2026	Week 11	work, heat, enthalpy and entropy.
19/10/2026 to 24/10/2026	Week 12	Statement of first, second and third laws of thermodynamics,
26/10/2026 to 31/10/2026	Week 13	Hess's law of constant heat summation, spontaneous and mon spontaneous processes
02/11/2026 to 07/11/2026	---	Vacations (Diwali)
09/11/2026 to 14/11/2026	Week 14	**Solutions and Colligative Properties**

RKumar

		Formation of different types of solutions, expressing concentration of solution in different units,
02/11/2026 to 07/11/2026	Week 15	Statement of Henry's law and Raoult's law. Ideal and non-ideal solutions,
09/11/2026 to 14/11/2026	Week 16	Deviation of real solutions from Raoult's law (elementary treatment only) ***Doubt session; Unit Test-3***
16/11/2026 to 25/11/2026	Week 17	Revision and Complete syllabus Test

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Lesson Plan July 2026 to November/December 2026

Name of Teacher: Dr. Rakesh Kumar
Class: - B. Sc. 3rd (Semester -5th)
Subject: - Chemistry of Oils, Fats and Everyday Compound
Subject Code: - C24MIC331T

External Marks - 35 ***Internal Marks-15*** ***Total Marks – 50***

Date	Week	Topics to be covered
20/07/2026 to 25/07/2026	Week 1	**Chemistry of Oils** Introduction to oils and fats, Classification: Edible and Non-edible oils,
27/07/2026 to 01/08/2026	Week 2	Essential and Mineral oil, Common fatty acids present in oils and fats,
03/08/2026 to 08/08/2026	Week 3	Classification of glycerides, M.pt. of glycerides,
10/08/2026 to 15/08/2026	Week 4	Chemical difference between fat and oils,
17/08/2026 to 22/08/2026	Week 5	Chemical properties: Hydrogenation,
24/08/2026 to 29/08/2026	Week 6	hydrolysis, Rancidity. Analysis of fats and oils:
31/08/2026 to 05/09/2026	Week 7	Acid value, Saponification value,
07/09/2026 to 12/09/2026	Week 8	iodine value (Hubl's method). ***Doubt session; Unit Test-1***
14/09/2026 to 19/09/2026	Week 9	**Common Compounds** Preparation, properties and uses of some common compounds: baking soda.
21/09/2026 to 26/09/2026	Week 10	Preparation, properties and uses of some common compound: washing soda.
28/09/2026 to 03/10/2026	Week 11	Preparation, properties and uses of some common compound: plaster of paris.
05/10/2026 to 10/10/2026	Week 12	Preparation, properties and uses of some common compound: bleaching powder.
12/10/2026 to 17/10/2026	Week 13	Preparation, properties and uses of some common compound: gypsum.
19/10/2026 to 24/10/2026	Week 14	Preparation, properties and uses of some common compound: quick lime.
26/10/2026 to 31/10/2026	Week 15	Preparation, properties and uses of some common compound:, slaked lime.

RKumar

02/11/2026 to 07/11/2026	---	Vacations (Diwali)
09/11/2026 to 14/11/2026	Week 16	Preparation, properties and uses of some common compound: limestone.
02/11/2026 to 07/11/2026	Week 17	Preparation, properties and uses of some common compound:, boric acid.
09/11/2026 to 14/11/2026	Week 18	Revision *and Doubt session; Unit Test-2*
16/11/2026 to 25/11/2026	Week 19	Revision and Complete syllabus Test

Teacher Signature

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GOVERNMENT COLLEGE FOR WOMEN, HISAR

Lesson Plan July 2026 to November/December 2026

Name of Teacher: Dr.Satyender Kumar & Ms. Jyoti
Class: - B.A. & B.Com. 3rd sem
Subject:-MDC Chemistry
Subject Code:-C24MDC304T

External Marks - 35 ***Internal Marks- 15*** ***Total Marks -50***

Date	Week	Topics to be covered
03.08.2026 to 08.08.2026	Week 1	Energy sources-Introduction
10.08.2026 to 15.08.2026	Week 2	Renewable & non-renewable energy sources.
17.08.2026 to 22.08.2026	Week 3	Cells & batteries.
24.08.2026 to 29.08.2026	Week 4	Fuel cell, solar cell
31.08.2026 to 05.09.2026	Week 5	Revision
07.09.2026 to 12.09.2026	Week 6	Sources of drinking water.
14.09.2026 to 19.09.2026	Week 7	Uses of drinking water.
21.09.2026 to 26.09.2026	Week 8	Water conservation.
28.09.2026 to 03.10.2026	Week 9	Permissible TDS
05.10.2026 to 10.10.2026	Week 10	Water Pollution.
12.10.2026 to 17.10.2026	Week 11	Different types of water pollutants.
19.10.2026 to 24.10.2026	Week 12	Techniques of purification of water.
26.10.2026 to 31.10.2026	Week 13	Techniques of purification of water.
11.11.2026 to 14.11.2026	Week 14	R.O. water.
16.11.2026 to 21.11.2026	Week 15	Osmosis and reverse osmosis techniques.
23.11.2026 to 28.11.2026	Week 16	Waste water management methods
30.11.2026 to 04.12.2026	Week 17	Revision

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GOVERNMENT COLLEGE FOR WOMEN, HISAR

Lesson Plan July 2026 to November/December 2026

Name of Teacher: Ms. Jyoti
Class: - B.A. and B.Com. 1st sem
Subject:- MDC Chemistry-I
Subject Code:-C24MDC104T
External Marks -35 ***Internal Marks-15*** ***Total Marks -50***

Date	Week	Topics to be covered
03.08.2026 to 08.08.2026	Week 1	Introduction to oils and fats; classification
10.08.2026 to 15.08.2026	Week 2	Common fatty acids present in oils and fats
17.08.2026 to 22.08.2026	Week 3	Difference between fats and oils
24.08.2026 to 29.08.2026	Week 4	Saponification value; acid value ; iodine value
31.08.2026 to 05.09.2026	Week 5	Applications and uses of different oils and fats
07.09.2026 to 12.09.2026	Week 6	Doubt Session ; Unit Test -1
14.09.2026 to 19.09.2026	Week 7	Definition of dyes; colour and constitution
21.09.2026 to 26.09.2026	Week 8	Classification of dyes on the basis of origin and application methods
28.09.2026 to 03.10.2026	Week 9	Applications and uses of methyl orange (azo dye)
05.10.2026 to 10.10.2026	Week 10	Applications and uses of Malachite green (triphenylmethane dye)
12.10.2026 to 17.10.2026	Week 11	Applications and uses of Phenophthalein (Phthalein dye)
19.10.2026 to 24.10.2026	Week 12	Applications and uses of Alizarin (Anthraquinone dye)
26.10.2026 to 31.10.2026	Week 13	Applications and uses of Indigo dye
11.11.2026 to 14.11.2026	Week 14	Doubt session; Unit Test-2
16.11.2026 to 21.11.2026	Week 15	Revision
23.11.2026 to 28.11.2026	Week 16	Complete syllabus Test
30.11.2026 to 04.12.2026	Week 17	Revision

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GOVERNMENT COLLEGE FOR WOMEN, HISAR

Lesson Plan July 2026 to November/December 2026

Name of Teacher: Ms. Jyoti
Class: - B.Sc. 1st sem
Subject:- DSC Chemistry-I
Subject Code:-C24CHE101T

External Marks -50 ***Internal Marks-20*** ***Total Marks -70***

Date	Week	Topics to be covered
03.08.2026 to 08.08.2026	Week 1	Introduction and Dual behaviour of matter and radiation.
10.08.2026 to 15.08.2026	Week 2	De-Broglie relation, Heisenberg's uncertainity principle ; Introduction to quantum mechanics
17.08.2026 to 22.08.2026	Week 3	Time-independent Schrödinger equation, significance of wavefunction, normal and orthogonal wave function
24.08.2026 to 29.08.2026	Week 4	Concept of atomic orbitals; significance of quantum numbers; shapes of orbitals; rules for filling electrons; electronic configurations; stability of half-filled and completely filled orbitals
31.08.2026 to 05.09.2026	Week 5	Unit Test -1 ; Localized and delocalized chemical bond; Van der Waals interactions
07.09.2026 to 12.09.2026	Week 6	Concept of resonance and its applications; Hyperconjugation ; Inductive effect
14.09.2026 to 19.09.2026	Week 7	Electronic effects and their comparison , Curved arrow notation; homolytic and heterolytic bond fission; electrophiles and nucleophiles
21.09.2026 to 26.09.2026	Week 8	Substitution, addition and condensation reactions
28.09.2026 to 03.10.2026	Week 9	Elimination, rearrangement and isomerization reactions; carbocations and carbanions, Free radicals and carbenes
05.10.2026 to 10.10.2026	Week 10	Structure and stability of reactive intermediates ; Unit Test -2
12.10.2026 to 17.10.2026	Week 11	Types of stereoisomers; conformations of ethane and butane ; Connformations of cyclohexane; optical isomerism

19.10.2026 to 24.10.2026	Week 12	Elements of symmetry ,Concept of chiralityenantiomerism; diastereomerism; threo and erythro diastereomers; meso compounds; Relative and absolute configuration
26.10.2026 to 31.10.2026	Week 13	Sequence rules D/L and R/S; geometrical isomerism; cis-trans and E/Z nomenclature ;Unit Test -3
11.11.2026 to 14.11.2026	Week 14	Kinetic theory of gases; derivation of kinetic gas equation; Maxwell's distribution of velocities and energies; graphical representation
16.11.2026 to 21.11.2026	Week 15	Temperature dependence of distributions; most probable, average and root mean square velocities; relationship among the three velocities
23.11.2026 to 28.11.2026	Week 16	Collision diameter; collision number; collision frequency; mean free path; deviation of real gases; compressibility factor; causes of deviation; van der Waals equation of state; Boyle's temperature
30.11.2026 to 04.12.2026	Week 17	Unit Test -4 ; Revision

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GOVERNMENT COLLEGE FOR WOMEN, HISAR

Lesson Plan July 2026 to November/December 2026

Name of Teacher: Ms. Jyoti
Class: - B.Sc. 1st sem (Minor)
Subject:- Basic Chemistry-I
Subject Code:-C24MIC131T

External Marks -35 ***Internal Marks-15*** ***Total Marks -50***

Date	Week	Topics to be covered
03.08.2026 to 08.08.2026	Week 1	Valence bond theory approach
10.08.2026 to 15.08.2026	Week 2	Various types of hybridisation and shapes of simple inorganic molecules and ions; linear and trigonal planar arrangements
17.08.2026 to 22.08.2026	Week 3	Square planar and tetrahedral arrangements with suitable examples
24.08.2026 to 29.08.2026	Week 4	Trigonal bipyramidal and octahedral arrangements with suitable examples
31.08.2026 to 05.09.2026	Week 5	Valence Shell Electron Pair Repulsion (VSEPR) Theory
07.09.2026 to 12.09.2026	Week 6	Application of VSEPR Theory to various compounds
14.09.2026 to 19.09.2026	Week 7	Doubt session ; Unit Test-1
21.09.2026 to 26.09.2026	Week 8	Nomenclature; classification of carbon atoms in alkanes; structure of alkanes
28.09.2026 to 03.10.2026	Week 9	Isomerism in alkanes; methods of formation "Wurtz Reaction"
05.10.2026 to 10.10.2026	Week 10	Corey House reaction ; Kolbe electrolytic reaction ; Decarboxylation of carboxylic acids
12.10.2026 to 17.10.2026	Week 11	Mechanism of free radicle halogenation of alkanes
19.10.2026 to 24.10.2026	Week 12	Reactivity and selectivity in free radicle halogenation mechanism
26.10.2026 to 31.10.2026	Week 13	Doubt session ; Unit Test -2
11.11.2026 to 14.11.2026	Week 14	Revision of Unit -1 (Covalent Bond)
16.11.2026 to 21.11.2026	Week 15	Revision of Unit-2 (Alkanes)
23.11.2026 to 28.11.2026	Week 16	Complete syllabus Test
30.11.2026 to 04.12.2026	Week 17	Revision