KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Priyanka
Class- B.Sc 2nd semester
Subject- Chemistry (Major)
Paper-B23-CHE-201

January, 2025 **4th Week** **20 Jan-25 Jan**	Valence bond theory approach, valence shell electron pair repulsion (VSEPR) theory Concept of reaction rates, rate equation
26 Jan, 2025	**Sunday, Republic Day**
5th Week **27 Jan – 31 Jan**	shapes of simple inorganic molecules and ions based on valence shell electron pair repulsion (VSEPR) theory and hybridization. factors influencing the rate of reaction.

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Priyanka
Class- B.Sc 2nd semester
Subject- Chemistry (Major)
Paper-B23-CHE-201

February, 2025 **1st Week** **1 Feb, 2025**	Practical
2 Feb, 2025	**Sunday, Basant Panchmi**
2nd Week **3 Feb – 8 Feb**	Order and molecularity of a reaction, integrated rate expression for zero, first, Half-life period of a reaction Nomenclature, classification of carbon atoms in alkanes and its structure. Isomerism in alkanes, sources
9 Feb, 2025	**Sunday**
3rd Week **10 Feb - 15 Feb**	Revision and practice of shapes of simple inorganic molecules and ions based on VSEPR theory and hybridization Order and molecularity of a reaction, integrated rate expression for zero order reaction
12 Feb, 2025 **16 Feb, 2025**	**Guru Ravidas Jayanti** **Sunday**

4th Week **17 Feb-22 Feb**	Molecular orbital theory of homonuclear (N_2, O_2) and heteronuclear (CO and NO) diatomic molecules integrated rate expression for first order reaction , Half-life period of a reaction
23 Feb, 2025	**Sunday**
5th Week **24 Feb- 28 Feb**	Nomenclature, classification of carbon atoms in alkanes and its structure. Isomerism in alkanes, sources. Numerical practice
26 Feb, 2025	**Maha Shivratri**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Priyanka
Class- B.Sc 2nd semester
Subject- Chemistry (Major)
Paper-B23-CHE-201

March, 2025 **1st Week** **1 March, 2025**	**Practical**
2 March, 2025	**Sunday**
2nd Week **3 March – 8 March**	Arrhenius equation. Nernst distribution law – its thermodynamic derivation Methods of formation of alkanes: Wurtz reaction, Kolbe reaction. Assignment-I
3rd Week **9 March - 16 March**	**Holi Vacations**
4th Week **17 March – 22 March**	Dipole moment and percentage ionic character in covalent bond. Nernst distribution law after association and dissociation of solute in one of the phases, of distribution law
23 March, 2025	**Sunday, Shaheedi Diwas/ Martyrdom Day of Bhagat Singh, Rajguru & Sukhdev**
5th Week **24 March – 29 March**	Ionic structures (NaCl, CsCl, ZnS (Zinc blende), CaF_2) size effects Determination of degree of hydrolysis and hydrolysis constant of aniline hydrochloride Corey- House reaction and decarboxylation of carboxylic acids, physical properties.
30 March, 2025	**Sunday**
6th Week **31 March, 2025**	**Id-ul- Fitr**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Priyanka
Class- B.Sc 2nd semester
Subject- Chemistry (Major)
Paper-B23-CHE-201

April, 2025 **1st Week** **1 April – 5 April**	Radius ratio rule and its limitations, Concept of Lattice energy Hydrogen Bonding – Definition, types Mechanism of free radical halogenation of alkanes: reactivity and selectivity
6 April, 2024	**Sunday, Ram Navmi**
2nd Week **7 April - 12 April**	Born- Haber cycle, Solvation energy and its relationship with solubility of Ionic solids Nomenclature of alkenes and its structure. Methods of formation: dehydration of alcohols Nomenclature of Cycloalkanes, Baeyer' s strain theory and its limitations, theory of strainless rings.
10 April, 2025 **13 April, 2025** **14 April, 2025**	**Mahavir Jayanti** **Sunday, Vaisakhi** **Dr. B.R. Ambedkar Jayanti**
3rd Week **15 April - 19 April**	Polarizing power and Polarisability of ions, Fajan's rule. effects of hydrogen bonding on properties of substances, application dehydrohalogenation of alkyl halide, Hofmann elimination and their mechanism. Assignment II
20 April, 2025	**Sunday**
4th Week **21 April - 28 April**	**Sessional Exams**
27 April, 2025 **29 April, 2025** **30 April, 2025**	**Sunday** **Parshuram Jayanti** **Akshya Tritya**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Priyanka
Class- B.Sc 2nd semester
Subject- Chemistry (Major)
Paper-B23-CHE-201

May , 2025 **1st Week** **1 May - 3 May**	Practicals
4 May , 2025	**Sunday**
2nd Week **5 May – 10 May**	Saytzeff rule and relative stabilities of alkenes. Chemical reactions: electrophilic and free radical additions Brief discussion of various types of Van der Waals forces. Metallic bond – Qualitative idea of valence bond
11 May, 2025	**Sunday**
3rd Week **12 May - 17 May**	Band theories of metallic bond (conductors, semiconductors, insulators) Addition of halogens, halogen acids,hydroboration–oxidation, oxymercuration-reduction Revision
18 May , 2025	**Sunday**
4th Week **19 May - 24 May**	ozonolysis and hydration. Markownikoff's rule of addition. Semiconductors – Introduction, types, and applications
25 May , 2025	**Sunday**
5th Week **26 May - 31 May**	Revision and test
29 May , 2025	**Maharana Partap Jayanti**
1 June, 2025 Onwards	**University Examinations**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Priyanka
Class- B.Sc 2nd semester
Subject- Chemistry (Minor)
Paper-B23-CHE-203

January, 2025 **4th Week** **20 Jan-25 Jan**	Atomic and ionic radii, Ionization energy trend in periodic table
26 Jan, 2025	**Sunday, Republic Day**
5th Week **27 Jan – 31 Jan**	Electron affinity and electronegativity trend in periodic table

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Priyanka
Class- B.Sc 2nd semester
Subject- Chemistry (Minor)
Paper-B23-CHE-203

February, 2025 **1st Week** **1 Feb, 2025**	-
2 Feb, 2025	**Sunday, Basant Panchmi**
2nd Week **3 Feb – 8 Feb**	Effective nuclear charge and slater rules
9 Feb, 2025	**Sunday**
3rd Week **10 Feb - 15 Feb**	Stoichiometric and non-stoichiometric defects in crystals
12 Feb, 2025 **16 Feb, 2025**	**Guru Ravidas Jayanti** **Sunday**
4th Week **17 Feb-22 Feb**	Lattice energy, Born- Haber cycle
23 Feb, 2025	**Sunday**
5th Week **24 Feb- 28 Feb**	Solvation energy and its relationship with solubility of Ionic solids
26 Feb, 2025	**Maha Shivratri**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Priyanka
Class- B.Sc 2nd semester
Subject- Chemistry (Minor)
Paper-B23-CHE-203

March, 2025 **1st Week** **1 March, 2025**	-
2 March, 2025	**Sunday**
2nd Week **3 March – 8 March**	Polarizing power and Polarisability of ions, Fajan's rule. Assignment-I
3rd Week **9 March - 16 March**	**Holi Vacations**
4th Week **17 March – 22 March**	Localized and delocalized chemical bond, van der wall's interactions
23 March, 2025	**Sunday, Shaheedi Diwas/ Martyrdom Day of Bhagat Singh, Rajguru & Sukhdev**
5th Week **24 March – 29 March**	Resonance, resonance effect and hyperconjugation.
30 March, 2025	**Sunday**
6th Week **31 March, 2025**	**Id-ul- Fitr**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Priyanka
Class- B.Sc 2nd semester
Subject- Chemistry (Minor)
Paper-B23-CHE-203

April, 2025 **1st Week** **1 April – 5 April**	Inductive effect, electromeric effect and their comparison
6 April, 2024	**Sunday, Ram Navmi**

2nd Week **7 April - 12 April**	Kinetic theory of gases, calculation of root mean square velocity
10 April, 2025 **13 April, 2025** **14 April, 2025**	**Mahavir Jayanti** **Sunday, Vaisakhi** **Dr. B.R. Ambedkar Jayanti**
3rd Week **15 April - 19 April**	Assignment II
20 April, 2025	**Sunday**
4th Week **21 April - 28 April**	**Sessional Exams**
27 April, 2025 **29 April, 2025** **30 April, 2025**	**Sunday** **Parshuram Jayanti** **Akshya Tritya**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Priyanka
Class- B.Sc 2nd semester
Subject- Chemistry (Minor)
Paper-B23-CHE-203

May , 2025 **1st Week** **1 May - 3 May**	Calculation of average velocity and most probable velocity, collision diameter
4 May , 2025	**Sunday**
2nd Week **5 May – 10 May**	Test
11 May, 2025	**Sunday**
3rd Week **12 May - 17 May**	Collision frequency and mean free path
18 May , 2025	**Sunday**
4th Week **19 May - 24 May**	Questions practice
25 May , 2025	**Sunday**
5th Week **26 May - 31 May**	Revision and test
29 May , 2025	**Maharana Partap Jayanti**
1 June, 2025 Onwards	**University Examinations**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Manju Singh and Ms. Rimi
Class- B. Sc. II (IV semester)
Subject- Chemistry Major
Paper- B23-CHE-401

January, 2025 **4th Week** **20 Jan-25 Jan**	**Chemistry of d-Block elements** Definition of transition elements, General characteristic properties of d-Block elements, Comparison of ionic radii 3d, 4d and 5d series elements, magnetic properties, Stability of various oxidation states **Thermodynamics-I** First law of thermodynamics: statement, concepts of internal energy and enthalpy.
26 Jan, 2025	**Sunday, Republic Day**
5th Week **27 Jan – 31 Jan**	Latimer and Frost diagrams, Structure of some compounds of transition elements- TiO_2, $VOCl_2$, $FeCl_3$, $CuCl_2$ and $Ni(CO)_4$. Heat capacity, heat capacities at constant volume and pressure and their relationship.

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Manju Singh and Ms. Rimi
Class- B. Sc. II (IV semester)
Subject- Chemistry Major
Paper- B23-CHE-401

February, 2025 **1st Week** **1 Feb, 2025**	-
2 Feb, 2025	**Sunday, Basant Panchmi**
2nd Week **3 Feb – 8 Feb**	**Chemistry of f-Block elements** Lanthanide contraction, oxidation states, magnetic properties, complex formation, colour and ionic radii. **Test of d-block elements**
9 Feb, 2025	**Sunday**
3rd Week **10 Feb - 15 Feb**	Actinides: General characteristics of actinides, Transuranic elements, comparison of properties of Lanthanides and actinides with transition elements.
12 Feb, 2025 **16 Feb, 2025**	**Guru Ravidas Jayanti** **Sunday**
4th Week **17 Feb-22 Feb**	**Theory of Qualitative and Quantitative Analysis** Chemistry of analysis of various groups of basic and acidic radicals, common ion effect,
23 Feb, 2025	**Sunday**
5th Week **24 Feb- 28 Feb**	solubility product, chemistry of identification of acid radicals in typical combination, theory of precipitation, co-precipitation,
26 Feb, 2025	**Maha Shivratri**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Manju Singh and Ms. Rimi
Class- B. Sc. II (IV semester)
Subject- Chemistry Major
Paper- B23-CHE-401

March, 2025 **1st Week** **1 March, 2025**	-
2 March, 2025	**Sunday**
2nd Week **3 March – 8 March**	post precipitation, purification of precipitates. Joule– Thomson coefficient for ideal gas and real gas and inversion temperature Assignment-I
3rd Week **9 March - 16 March**	**Holi Vacations**
4th Week **17 March – 22 March**	Alcohols, Monohyric alcohols: nomenclature, methods of formation by reduction of aldehydes, ketones Calculation of w, q, dU & dH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process.
23 March, 2025	**Sunday, Shaheedi Diwas/ Martyrdom Day of Bhagat Singh, Rajguru & Sukhdev**
5th Week **24 March – 29 March**	carboxylic acids, and esters. Hydrogen bonding, Acidic nature, Reactions of alcohols. Second law of thermodynamics, Test of first law of thermodynamics
30 March, 2025	**Sunday**
6th Week **31 March, 2025**	**Id-ul- Fitr**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Manju Singh and Ms. Rimi
Class- B. Sc. II (IV semester)
Subject- Chemistry Major
Paper- B23-CHE-401

April, 2025 **1st Week** **1 April – 5 April**	**Phenols** Nomenclature, structure, and bonding. Preparation: Cumene hydroperoxide method, from diazonium salts, Carnot cycles and its efficiency, Practice of Numerical problems.
6 April, 2024	**Sunday, Ram Navmi**
2nd Week **7 April - 12 April**	physical properties, and acidic character. Chemical Reactions: — electrophilic aromatic substitution, Mechanisms of Fries rearrangement, Claisen rearrangement, Concept of entropy, entropy as a function of V & T, entropy as a function of P &T.
10 April, 2025 **13 April, 2025** **14 April, 2025**	**Mahavir Jayanti** **Sunday, Vaisakhi** **Dr. B.R. Ambedkar Jayanti**
3rd Week **15 April - 19 April**	Reimer-Tiemann reaction, Kolbe's reaction. **Aldehydes and Ketones** Nomenclature and structure of the carbonyl group. Preparation: oxidation of alcohols, from acid chlorides and from nitriles Test of alcohol and phenols, Assignment-II
20 April, 2025	**Sunday**
4th Week **21 April - 28 April**	**Sessional Exams**
27 April, 2025 **29 April, 2025** **30 April, 2025**	**Sunday** **Parshuram Jayanti** **Akshya Tritya**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Manju Singh and Ms. Rimi
Class- B. Sc. II (IV semester)
Subject- Chemistry Major
Paper- B23-CHE-401

May , 2025 **1st Week** **1 May - 3 May**	-
4 May , 2025	**Sunday**
2nd Week **5 May – 10 May**	Comparison of reactivities of aldehydes and ketones. Mechanism of nucleophilic additions to carbonyl group: benzoin, aldol, Perkin and Knoevenagel condensations. **Chemical Equilibrium** Concept of Equilibrium constant
11 May, 2025	**Sunday**
3rd Week **12 May - 17 May**	Wittig reaction. Mannich reaction, Baeyer–Villiger oxidation of ketones, Cannizzaro reaction, MPV, Condensation with ammonia and its derivatives Temperature dependence of equilibrium constant,
18 May , 2025	**Sunday**
4th Week **19 May - 24 May**	Clemmensen and Wolff- Kishner reductions. Clausius–Clapeyron equation and its applications. Practice Numerical problems
25 May , 2025	**Sunday**
5th Week **26 May - 31 May**	**Revision and Test**
29 May , 2025	**Maharana Partap Jayanti**
1 June, 2025 Onwards	**University Examinations**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Manju Singh and Ms. Rimi
Class- B. Sc. II (IV semester)
Subject- Chemistry Minor
Paper- B23-CHE-401

January, 2025 **4th Week** **20 Jan-25 Jan**	**Chemistry of d-Block elements** Definition of transition elements, General characteristic properties of d-Block elements, Comparison of ionic radii 3d, 4d and 5d series elements, magnetic properties, **Thermodynamics-I** First law of thermodynamics: statement, concepts of internal energy and enthalpy.
26 Jan, 2025	**Sunday, Republic Day**
5th Week **27 Jan – 31 Jan**	Stability of various oxidation states, Latimer and Frost diagrams, Structure of some compounds of transition elements- TiO_2, $VOCl_2$, $FeCl_3$, Heat capacity, heat capacities at constant volume and pressure and their relationship.

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Manju Singh and Ms. Rimi
Class- B. Sc. II (IV semester)
Subject- Chemistry Minor
Paper- B23-CHE-401

February, 2025 **1st Week** **1 Feb, 2025**	$CuCl_2$ and $Ni(CO)_4$.
2 Feb, 2025	**Sunday, Basant Panchmi**
2nd Week **3 Feb – 8 Feb**	**Chemistry of f-Block elements** Lanthanide contraction, oxidation states, magnetic properties, complex formation, colour and ionic radii.
9 Feb, 2025	**Sunday**
3rd Week **10 Feb - 15 Feb**	Actinides: General characteristics of actinides, Transuranic elements, comparison of properties of Lanthanides and actinides with transition elements.
12 Feb, 2025 **16 Feb, 2025**	**Guru Ravidas Jayanti** **Sunday**
4th Week **17 Feb-22 Feb**	**Theory of Qualitative and Quantitative Analysis** Chemistry of analysis of various groups of basic and acidic radicals, common ion effect, solubility product,
23 Feb, 2025	**Sunday**
5th Week **24 Feb- 28 Feb**	chemistry of identification of acid radicals in typical combination, theory of precipitation, co-precipitation,
26 Feb, 2025	**Maha Shivratri**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Manju Singh and Ms. Rimi
Class- B. Sc. II (IV semester)
Subject- Chemistry Minor
Paper- B23-CHE-401

March, 2025 **1st Week** **1 March, 2025**	**Test of d-block elements**
2 March, 2025	**Sunday**
2nd Week **3 March – 8 March**	post precipitation, purification of precipitates. Joule– Thomson coefficient for ideal gas and real gas and inversion temperature Assignment-I
3rd Week **9 March - 16 March**	**Holi Vacations**
4th Week **17 March – 22 March**	Alcohols Monohyric alcohols: nomenclature, methods of formation by reduction of aldehydes, ketones Calculation of w, q, dU & dH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process.
23 March, 2025	**Sunday, Shaheedi Diwas/ Martyrdom Day of Bhagat Singh, Rajguru & Sukhdev**
5th Week **24 March – 29 March**	carboxylic acids, and esters. Hydrogen bonding, Acidic nature, Reactions of alcohols. Second law of thermodynamics, Test of first law of thermodynamics
30 March, 2025	**Sunday**
6th Week **31 March, 2025**	**Id-ul- Fitr**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Manju Singh and Ms. Rimi
Class- B. Sc. II (IV semester)
Subject- Chemistry Minor
Paper- B23-CHE-401

April, 2025 **1st Week** **1 April – 5 April**	**Phenols** Nomenclature, structure, and bonding. Preparation: Cumene hydroperoxide method, from diazonium salts, Carnot cycles and its efficiency, Practice of Numerical problems.
6 April, 2024	**Sunday, Ram Navmi**
2nd Week **7 April - 12 April**	physical properties, and acidic character. Chemical Reactions: — electrophilic aromatic substitution, Mechanisms of Fries rearrangement, Claisen rearrangement, Concept of entropy, entropy as a function of V & T, entropy as a function of P &T.
10 April, 2025 **13 April, 2025** **14 April, 2025**	**Mahavir Jayanti** **Sunday, Vaisakhi** **Dr. B.R. Ambedkar Jayanti**
3rd Week **15 April - 19 April**	Reimer-Tiemann reaction, Kolbe's reaction. **Aldehydes and Ketones** Nomenclature and structure of the carbonyl group. Preparation: oxidation of alcohols, from acid chlorides and from nitriles, Assignment-II
20 April, 2025	**Sunday**
4th Week **21 April - 28 April**	**Sessional Exams**
27 April, 2025 **29 April, 2025** **30 April, 2025**	**Sunday** **Parshuram Jayanti** **Akshya Tritya**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to May, 2025)

Name of the Teacher – Dr. Manju Singh and Ms. Rimi
Class- B. Sc. II (IV semester)
Subject- Chemistry Minor
Paper- B23-CHE-401

May , 2025 **1st Week** **1 May - 3 May**	Comparison of reactivities of aldehydes and ketones. Test of alcohol and phenols
4 May , 2025	**Sunday**
2nd Week **5 May – 10 May**	Mechanism of nucleophilic additions to carbonyl group: benzoin, aldol, Perkin and Knoevenagel condensations. **Chemical Equilibrium** Concept of Equilibrium constant,
11 May, 2025	**Sunday**
3rd Week **12 May - 17 May**	Wittig reaction. Mannich reaction, Baeyer–Villiger oxidation of ketones, Cannizzaro reaction, MPV, Condensation with ammonia and its derivatives Temperature dependence of equilibrium constant,
18 May , 2025	**Sunday**
4th Week **19 May - 24 May**	Clemmensen and Wolff- Kishner reductions. Clausius–Clapeyron equation and its applications. Practice Numerical problems
25 May , 2025	**Sunday**
5th Week **26 May - 31 May**	**Revision and Test**
29 May , 2025	**Maharana Partap Jayanti**
1 June, 2025 Onwards	**University Examinations**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to April, 2025)

Name of the Teacher – MS. SWATI BAJAJ
Class- B.SC FINAL YEAR
Subject-(CH-304)Inorganic Chemistry
Paper- 1

January, 2025 **1st Week** **1 Jan – 4 Jan**	**Acids and Bases** Arrhenius, Bronsted-lowry, Lux-flood, solvent system and Lewis concept of acids and bases
5 Jan, 2025 **6 Jan, 2025**	**Sunday** **Shri Guru Gobind Singh Ji Jayanti**
2nd Week **6 Jan – 11 Jan**	Relative strength of acids and bases, levelling solvents, hard and soft acids and bases(HSAB).
12 Jan,2025	**Sunday**
3rd Week **13 Jan – 18 Jan**	Applications of HSAB principle
19 Jan,2025	**Sunday**
January, 2025 **4th Week** **20 Jan-25 Jan**	**REVISION OF CHAPTER-1**
26 Jan, 2025	**Sunday, Republic Day**
5th Week **27 Jan – 31 Jan**	**Organometallic chemistry** Definition, classification and nomenclature of organometallic compounds, preparation.

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to April, 2025)

Name of the Teacher – MS. SWATI BAJAJ
Class- B.SC FINAL YEAR
Subject-(CH-304)Inorganic Chemistry
Paper- 1

February, 2025 **1st Week** **1 Feb, 2025**	Properties and bonding of alkyls of Li, Al, Hg and Sn, concept of hapticity of organic ligand
2 Feb, 2025	**Sunday, Basant Panchmi**
2nd Week **3 Feb – 8 Aug**	Structure and bonding in metal-ethylenic complexes, Structure of Ferrocene
9 Feb, 2025	**Sunday**
3rd Week **10 Feb - 15 Feb**	classification in metal carbonyls, preparation, properties and bonding in mononuclear carbonyls
12 Feb, 2025 **16 Feb, 2025**	**Guru Ravidas Jayanti** **Sunday**
4th Week **17 Feb-22 Feb**	Revision of chapter-2
23 Feb, 2025	**Sunday**
5th Week **24 Feb- 28 Feb**	**Bio inorganic chemistry** Metal ions present in biological system, classification on the basis of action (essential, non essential, trace, toxic)
26 Feb, 2025	**Maha Shivratri**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to April, 2025)

Name of the Teacher – MS. SWATI BAJAJ
Class- B.SC FINAL YEAR
Subject-(CH-304)Inorganic Chemistry
Paper- 1

March, 2025 **1st Week** **1 March, 2025**	Metalloporphyrins with special reference to haemoglobin and myoglobin.
2 March, 2025	**Sunday**
2nd Week **3 March – 8 March**	Test of chapter-3
3rd Week **9 March - 16 March**	**Holi Vacations**
4th Week **17 March – 22 March**	Silicones and Phosphazenes And Assignment-2
23 March, 2025	**Sunday, Shaheedi Diwas/Martyrdom Day of Bhagat Singh, Rajguru & Sukhdev**
5th Week **24 March – 29 March**	**Sessional Exams**
30 March, 2025	**Sunday**
6th Week **31 March, 2025**	**Id-ul- Fitr**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to April, 2025)

Name of the Teacher – MS. SWATI BAJAJ
Class- B.SC FINAL YEAR
Subject-(CH-304)Inorganic Chemistry
Paper- 1

April, 2025 **1st Week** **1 April – 5 April**	Nomenclature, classification, prepration
6 April, 2024	**Sunday**
2nd Week **7 April - 12 April**	Uses of silicones, elastomers
10 April, 2025 **13 April, 2025** **14 April, 2025**	**Mahavir Jayanti** **Sunday** **Dr. B.R.Ambedkar Jayanti**
3rd Week **15 April - 19 April**	Polysiloxane copolymers, poly phosphazenes and bonding in triphosphazene.
20 April, 2025	**Sunday**
4th Week **21 April - 26 April**	TEST OF CHAPTER -4
27 April, 2025	Sunday
5th Week **28 April, 2025**	REVISON AND QUERIES
29 April, 2025 **30 April, 2025**	**Parshuram Jayanti** **Akshya Tritya**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to April, 2025)

Name of the Teacher – Ms. Rimi
Class- B.SC FINAL YEAR
Subject-(CH-305) Physical Chemistry
Paper- II

January, 2025 **1st Week** **1 Jan – 4 Jan**	**Introduction to statistical mechanics** Need for statistical thermodynamics, thermodynamic probability
5 Jan, 2025 **6 Jan, 2025**	**Sunday** **Shri Guru Gobind Singh Ji Jayanti**
2nd Week **6 Jan – 11 Jan**	Maxwell Boltzmann distribution statistics, Born oppenheimer approximation
12 Jan,2025	**Sunday**
3rd Week **13 Jan – 18 Jan**	Partition function and its physical significance Factorization of partition function.
19 Jan,2025	**Sunday**
January, 2025 **4th Week** **20 Jan-25 Jan**	**REVISION OF CHAPTER-1**
26 Jan, 2025	**Sunday, Republic Day**
5th Week **27 Jan – 31 Jan**	**Photochemistry** Interaction of radiation with matter, difference between thermal and photochemical processes

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to April, 2025)

Name of the Teacher – Ms. Rimi
Class- B.SC FINAL YEAR
Subject-(CH-305) Physical Chemistry
Paper- II

February, 2025 **1st Week** **1 Feb, 2025**	Laws of photochemistry: Grotthus-Drapper law, Stark-Einstein law (law of photochemical equivalence
2 Feb, 2025	**Sunday, Basant Panchmi**
2nd Week **3 Feb – 8 Aug**	Jablonski diagram depiciting various processes occurring in the excited state, qualitative description of fluorescence, phosphorescence,
9 Feb, 2025	**Sunday**
3rd Week **10 Feb - 15 Feb**	Non-radiative processes (internal conversion, intersystem crossing), quantum yield, photosensitized reactions-energy transfer processes (simple examples).
12 Feb, 2025 **16 Feb, 2025**	**Guru Ravidas Jayanti** **Sunday**
4th Week **17 Feb-22 Feb**	Test of chapter-2
23 Feb, 2025	**Sunday**
5th Week **24 Feb- 28 Feb**	**Solutions, Dilute Solutions and Colligative Properties** Ideal and non-ideal solutions, methods of expressing concentrations of solutions, Dilute solutions, Raoult's law. Colligative properties
26 Feb, 2025	**Maha Shivratri**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to April, 2025)

Name of the Teacher – Ms. Rimi
Class- B.SC FINAL YEAR
Subject-(CH-305) Physical Chemistry
Paper- II

March, 2025 **1st Week** **1 March, 2025**	(i) relative lowering of vapour pressure (ii) Elevation in boiling point (iii) depression in freezing point (iv) osmotic pressure. Thermodynamic derivation of relation between amount of solute and elevation in boiling point and depression in freezing point..
2 March, 2025	**Sunday**
2nd Week **3 March – 8 March**	Applications in calculating molar masses of normal, dissociated and associated solutes in solution
3rd Week **9 March - 16 March**	**Holi Vacations**
4th Week **17 March – 22 March**	Test of chapter-3
23 March, 2025	**Sunday, Shaheedi Diwas/Martyrdom Day of Bhagat Singh, Rajguru & Sukhdev**
5th Week **24 March – 29 March**	**Phase Equillibrium** Statement and meaning of the terms – phase, component and degree of freedom, And Assignment-2
30 March, 2025	**Sunday**
6th Week **31 March, 2025**	**Id-ul- Fitr**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to April, 2025)

Name of the Teacher – Ms. Rimi
Class- B.SC FINAL YEAR
Subject-(CH-305) Physical Chemistry
Paper- II

April, 2025 **1st Week** **1 April – 5 April**	Thermodynamic derivation of Gibbs phase rule, phase equilibria of one component system –Example – water system.
6 April, 2024	**Sunday**
2nd Week **7 April - 12 April**	Phase equilibria of two component systems solid-liquid equilibria
10 April, 2025 **13 April, 2025** **14 April, 2025**	**Mahavir Jayanti** **Sunday** **Dr. B.R.Ambedkar Jayanti**
3rd Week **15 April - 19 April**	simple eutectic Example Pb-Ag system, desilverisation of lead.
20 April, 2025	**Sunday**
4th Week **21 April - 26 April**	TEST OF CHAPTER –Phase Equilibria
27 April, 2025	Sunday
5th Week **28 April, 2025**	REVISON AND QUERIES
29 April, 2025 **30 April, 2025**	**Parshuram Jayanti** **Akshya Tritya**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to April, 2025)

Name of the Teacher – MS. SWATI BAJAJ
Class- B.SC FINAL YEAR
Subject-(CH-306) Organic Chemistry
Paper- III

January, 2025 **1st Week** **1 Jan – 4 Jan**	**Organic Synthesis *via* Enolates** Acidity of -hydrogens, alkylation of diethyl malonate and ethyl acetoacetate
5 Jan, 2025 **6 Jan, 2025**	**Sunday** **Shri Guru Gobind Singh Ji Jayanti**
2nd Week **6 Jan – 11 Jan**	Synthesis of ethyl acetoacetate: the Claisen condensation. Keto-enol tautomerism of ethyl acetoacetate.
12 Jan,2025	**Sunday**
3rd Week **13 Jan – 18 Jan**	Test of chapter -1
19 Jan,2025	**Sunday**
January, 2025 **4th Week** **20 Jan-25 Jan**	**Heterocyclic Compounds** Introduction: Molecular orbital picture and aromatic characteristics of pyrrole, furan
26 Jan, 2025	**Sunday, Republic Day**
5th Week **27 Jan – 31 Jan**	Introduction: Molecular orbital picture and aromatic characteristics of thiophene and pyridine. Methods of synthesis and chemical reactions

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to April, 2025)

Name of the Teacher – MS. SWATI BAJAJ
Class- B.SC FINAL YEAR
Subject-(CH-306) Organic Chemistry
Paper- III

February, 2025 **1st Week** **1 Feb, 2025**	Mechanism of nucleophilic substitution reactions in pyridine derivatives. Comparison of basicity of pyridine, piperidine and pyrrole.
2 Feb, 2025	**Sunday, Basant Panchmi**
2nd Week **3 Feb – 8 Aug**	Introduction to condensed five and six- membered heterocycles. Prepration and reactions of indole, quinoline and isoquinoline
9 Feb, 2025	**Sunday**
3rd Week **10 Feb - 15 Feb**	special reference to Fisher indole synthesis, Skraup synthesis and Bischler-Napieralskisynthesis
12 Feb, 2025 **16 Feb, 2025**	**Guru Ravidas Jayanti** **Sunday**
4th Week **17 Feb-22 Feb**	Mechanism of electrophilic substitution reactions of, quinoline and isoquinoline.
23 Feb, 2025	**Sunday**
5th Week **24 Feb- 28 Feb**	Test of chapter -2 and assignment -1
26 Feb, 2025	**Maha Shivratri**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to April, 2025)

Name of the Teacher – MS. SWATI BAJAJ
Class- B.SC FINAL YEAR
Subject-(CH-306) Organic Chemistry
Paper- III

March, 2025 **1st Week** **1 March, 2025**	**Amino Acids, Peptides& Proteins** Classification, of amino acids. Ac id-base behavior, isoelectric point and electrophoresis. Preparation of amino acids. Structure and nomenclature of peptide s and proteins.
2 March, 2025	**Sunday**
2nd Week **3 March – 8 March**	Classification of proteins. Peptide structure determination, end group analysis, selective hydrolysis of peptides
3rd Week **9 March - 16 March**	**Holi Vacations**
4th Week **17 March – 22 March**	Classical peptide synthesis, solid–phase peptide synthesis. Structures of peptides and proteins : Primary & Secondary structure.
23 March, 2025	**Sunday, Shaheedi Diwas/Martyrdom Day of Bhagat Singh, Rajguru & Sukhdev**
5th Week **24 March – 29 March**	Test of chapter-3 and Assignment-2
30 March, 2025	**Sunday**
6th Week **31 March, 2025**	**Id-ul- Fitr**

KUMARI VIDYAVATI ANAND D.A.V College for Women, Karnal

Lesson Plan for the Even Semester
(January to April, 2025)

Name of the Teacher – MS. SWATI BAJAJ
Class- B.SC FINAL YEAR
Subject-(CH-306) Organic Chemistry
Paper- III

April, 2025 **1st Week** **1 April – 5 April**	**Synthetic Polymers** Addition or chain-growth polymerization. Free radical vinyl polymerization, ionic vinyl polymerizat ion
6 April, 2024	**Sunday**
2nd Week **7 April - 12 April**	Ziegler –Natta polymerization and vinyl polymers. Condensation or step growth polymerization. Polyesters, polyamides, phenol formaldehyde resins.
10 April, 2025 **13 April, 2025** **14 April, 2025**	**Mahavir Jayanti** **Sunday** **Dr. B.R.Ambedkar Jayanti**
3rd Week **15 April - 19 April**	Natural and synthetic rubbers.
20 April, 2025	**Sunday**
4th Week **21 April - 26 April**	TEST OF CHAPTER -4
27 April, 2025	Sunday
5th Week **28 April, 2025**	REVISON AND QUERIES
29 April, 2025 **30 April, 2025**	**Parshuram Jayanti** **Akshya Tritya**