

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Manju Singh

Class- B.sc II year

Subject- Physical Chemistry

Paper- CH-202

August, 2023 1 st Week 1 Aug - 5 Aug	Thermodynamics: Definition of thermodynamic terms: system, surrounding etc.
6 Aug, 2023	Sunday
2 nd Week 7 Aug - 12 Aug	Types of systems, intensive and extensive properties. State and path functions and their differentials.
13 Aug, 2023	Sunday
3 rd Week 14 Aug-19 Aug	Thermodynamic process. Thermodynamic equilibrium, Concept of heat and work.
15 Aug, 2023 20 Aug, 2023	Independence Day Sunday
4 th Week 21 Aug - 26 Aug	First law of thermodynamics: statement, concepts of internal energy and enthalpy.
27 Aug, 2023	Sunday
5 th Week 28 Aug - 31Aug	Heat capacity, heat capacities at constant volume and pressure and their relationship.
30 Aug, 2023	Raksha Bandhan

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Manju Singh

Class- B.sc II year

Subject- Physical Chemistry

Paper- CH-202

September, 2023 1 st Week 1 Sept - 2 Sept	Joule–Thomson coefficient for ideal gas and real gas and inversion temperature.
3 Sept, 2023	Sunday
2 nd Week 4 Sept - 9 Sept	Calculation of w,q, dU & dH for the expansion of ideal gases under isothermal conditions for reversible process.
5 Sept, 2023 7 Sept, 2023 10 Sept, 2023	Talent Show Janmastami Sunday
3 rd Week 11 Sept-16 Sept	Calculation of w,q, dU & dH for the expansion of ideal gases under adiabatic conditions for reversible process.
17 Sept, 2023	Sunday
4 th Week 18 Sept - 22 Sept	Chemical Equilibrium: Equilibrium constant and free energy.
23 Sept, 2023 24 Sept, 2023 25 Sept, 2023	Shaheed Divas/Haryana War Heroes' Martyrdom Day Sunday Annual Prize Distribution Function
5 th Week 26 Sept - 30 Sept	Assignment-1 and test.

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Manju Singh

Class- B.sc II year

Subject- Physical Chemistry

Paper- CH-202

October, 2023 1 Oct , 2023 2 Oct, 2023	Sunday Mahatama Gandhi Jayanti
8 Oct, 2023	Sunday
2nd Week 9 Oct - 14 Oct	Concept of chemical potential, Thermodynamic derivation of law of chemical equilibrium. Temperature dependence of equilibrium constant.
15 Oct, 2023	Maharaja Agrasen Jayanti, Sunday
3rd Week 16 Oct - 21 Oct	Clausius–Clapeyron equation and its applications., test and assignment-2.
22 Oct, 2023	Sunday
4th Week 23 Oct – 27 Oct	Distribution Law: Nernst distribution law – its thermodynamic derivation.
24 Oct, 2023 28 Oct, 2023 29 Oct, 2023	Dussehra Maharishi Valmiki Jayanti Sunday
5th Week 30 Oct – 31 Oct	Applications of distribution law: (i) Determination of degree of hydrolysis and hydrolysis constant of aniline hydrochloride
25 Oct – 4 Nov, 2023	Sessional Exams

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Manju Singh

Class- B.sc II year

Subject- Physical Chemistry

Paper- CH-202

November, 2023 1st Week 1 Nov, 2023 5 Nov, 2023	Haryana Day Sunday
2nd Week 6 Nov – 9 Nov	Applications of distribution law: (ii) Determination of equilibrium constant of potassium tri-iodide complex
10 Nov - 16 Nov , 2023	Diwali Break
3rd Week 17 Nov - 18 Nov	Applications of distribution law: (iii) Process of extraction. More stress on numerical problems.
19 Nov, 2023	Sunday
4th Week 20 Nov - 24 Nov	Numerical practice and test.
5th Week 25 Nov, 2023 Onwards	University Examination

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023 (August - December)

Name of the Teacher – Dr. Manishita Rani

Class- B.sc II year

Subject- Organic Chemistry

Paper- CH-203

August, 2023 1 st Week 1 Aug - 5 Aug	Alcohols: Monohydric alcohols — nomenclature, methods of formation by reduction of aldehydes, ketones, carboxylic acids and esters.
6 Aug, 2023	Sunday
2 nd Week 7 Aug - 12 Aug	Hydrogen bonding. Acidic nature. Reactions of alcohols.
13 Aug, 2023	Sunday
3 rd Week 14 Aug-19 Aug	Dihydric alcohols — nomenclature, methods of formation, chemical reactions of vicinal glycols.
15 Aug, 2023 20 Aug, 2023	Independence Day Sunday
4 th Week 21 Aug - 26 Aug	Oxidative cleavage [$\text{Pb}(\text{OAc})_4$ and HIO_4] and pinacol-pinacolone rearrangement.
27 Aug, 2023	Sunday
5 th Week 28 Aug - 31Aug	Doubt session.
30 Aug, 2023	Raksha Bandhan

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Manishita Rani

Class- B.sc II year

Subject- Organic Chemistry

Paper- CH-203

September, 2023 1 st Week 1 Sept - 2 Sept	Phenols: Nomenclature, structure and bonding. Preparation of phenols, physical properties and acidic character.
3 Sept, 2023	Sunday
2 nd Week 4 Sept - 9 Sept	Comparative acidic strengths of alcohols and phenols, resonance stabilization of phenoxide ion.
5 Sept, 2023 7 Sept, 2023 10 Sept, 2023	Talent Show Janmastami Sunday
3 rd Week 11 Sept-16 Sept	Reactions of phenols — electrophilic aromatic substitution, Mechanisms of Fries rearrangement and assignment-1.
17 Sept, 2023	Sunday
4 th Week 18 Sept - 22 Sept	Claisen rearrangement, Reimer-Tiemann reaction, Kolbe's reaction and Schotten and Baumann reactions.
23 Sept, 2023 24 Sept, 2023 25 Sept, 2023	Shaedi Divas/Haryana War Heroes' Martyrdom Day Sunday Annual Prize Distribution Function
5 th Week 26 Sept - 30 Sept	Carboxylic Acids & Acid Derivatives: Nomenclature of Carboxylic acids, structure and bonding, physical properties, acidity of carboxylic acids, effects of substituents on acid strength.

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Manishita Rani

Class- B.sc II year

Subject- Organic Chemistry

Paper- CH-203

October, 2023 1 Oct, 2023 2 Oct, 2023	Sunday Mahatama Gandhi Jayanti
1st Week 3 Oct – 7 Oct	Preparation of carboxylic acids. Reactions of carboxylic acids. Hell-Volhard-Zelinsky reaction. Reduction of carboxylic acids. Mechanism of decarboxylation.
8 Oct, 2023	Sunday
2nd Week 9 Oct - 14 Oct	Relative stability of acyl derivatives.
15 Oct, 2023	Maharaja Agrasen Jayanti, Sunday
3rd Week 16 Oct - 21 Oct	Physical properties, interconversion of acid derivatives by nucleophilic acyl substitution. Mechanisms of esterification and hydrolysis (acidic and basic) and assignment-2.
22 Oct, 2023	Sunday
4th Week 23 Oct – 27 Oct	Ultraviolet (UV) absorption spectroscopy: Absorption laws (Beer-Lambert law), molar absorptivity, presentation and analysis of UV spectra.
24 Oct, 2023 28 Oct, 2023 29 Oct, 2023	Dussehra Maharishi Valmiki Jayanti Sunday
5th Week 30 Oct – 31 Oct	Types of electronic transitions, effect of conjugation. Concept of chromophore and auxochrome.
25 Oct – 4 Nov, 2023	Sessional Exams

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Manishita Rani

Class- B.sc II year

Subject- Organic Chemistry

Paper- CH-203

November, 2023 1st Week 1 Nov, 2023 5 Nov, 2023	Haryana Day Sunday
2nd Week 6 Nov – 9 Nov	Bathochromic, hypsochromic, hyperchromic and hypochromic shifts. UV spectra of conjugated enes and enones.
10 Nov - 16 Nov , 2023	Diwali Break
3rd Week 17 Nov - 18 Nov	Woodward- Fieser rules, calculation of λ_{max} of simple conjugated dienes and α,β -unsaturated ketones.
19 Nov, 2023	Sunday
4th Week 20 Nov - 24 Nov	Applications of UV Spectroscopy in structure elucidation of simple organic compounds.
5th Week 25 Nov, 2023 Onwards	University Examination

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023 (August - December)

Name of the Teacher – Dr. Manishita Rani

Class- B.sc II year

Subject- Inorganic Chemistry

Paper- CH-201

August, 2023 1 st Week 1 Aug - 5 Aug	Coordination Compounds: Werner's theory of coordination compounds, effective atomic number
6 Aug, 2023	Sunday
2 nd Week 7 Aug - 12 Aug	Chelates, nomenclature of coordination compounds.
13 Aug, 2023	Sunday
3 rd Week 14 Aug-19 Aug	Isomerism in coordination compounds, valence bond theory of transition metal complexes.
15 Aug, 2023 20 Aug, 2023	Independence Day Sunday
4 th Week 21 Aug - 26 Aug	Valence bond theory of transition metal complexes example practice.
27 Aug, 2023	Sunday
5 th Week 28 Aug - 31Aug	Non-aqueous solvents: Physical properties of solvents. Types of solvents and their general characteristics.
30 Aug, 2023	Raksha Bandhan

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Manishita Rani

Class- B.sc II year

Subject- Inorganic Chemistry

Paper- CH-201

September, 2023 1 st Week 1 Sept - 2 Sept	Reactions in non aqueous solvents with reference to liquid NH ₃ .
3 Sept, 2023	Sunday
2 nd Week 4 Sept - 9 Sept	Reactions in non aqueous solvents with reference to liquid SO ₂ .
5 Sept, 2023 7 Sept, 2023 10 Sept, 2023	Talent Show Janmastami Sunday
3 rd Week 11 Sept-16 Sept	Question practice and assignment-1.
17 Sept, 2023	Sunday
4 th Week 18 Sept - 22 Sept	Chemistry of d-Block elements: Definition of transition elements, position in the periodic table.
23 Sept, 2023 24 Sept, 2023 25 Sept, 2023	Shaheed Divas/Haryana War Heroes' Martyrdom Day Sunday Annual Prize Distribution Function
5 th Week 26 Sept - 30 Sept	General characteristic properties of d-Block elements, Comparison of properties of 3d elements with 4d and 5d elements with reference only to ionic radii.

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Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Manishita Rani

Class- B.sc II year

Subject- Inorganic Chemistry

Paper- CH-201

October, 2023 1 Oct, 2023 2 Oct, 2023	Sunday Mahatama Gandhi Jayanti
8 Oct, 2023	Sunday
2nd Week 9 Oct - 14 Oct	Comparison of properties of 3d elements with 4d and 5d elements with reference only to oxidation state, magnetic and spectral properties and stereo chemistry.
15 Oct, 2023	Maharaja Agrasen Jayanti, Sunday
3rd Week 16 Oct - 21 Oct	Test and assignment-2.
22 Oct, 2023	Sunday
4th Week 23 Oct – 27 Oct	Stability of various oxidation states and e.m.f (Latimer and Frost diagrams).
24 Oct, 2023 28 Oct, 2023 29 Oct, 2023	Dussehra Maharishi Valmiki Jayanti Sunday
5th Week 30 Oct – 31 Oct	Structure and properties of some compounds of transition elements- TiO ₂ , VOCl ₂ , FeCl ₃ , CuCl ₂ and Ni(CO) ₄ .
25 Oct – 4 Nov, 2023	Sessional Exams

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Manishita Rani

Class- B.sc II year

Subject- Inorganic Chemistry

Paper- CH-201

November, 2023 1st Week 1 Nov, 2023 5 Nov, 2023	Haryana Day Sunday
2nd Week 6 Nov – 9 Nov	Quick revision of chapter coordination compounds.
10 Nov - 16 Nov , 2023	Diwali Break
3rd Week 17 Nov - 18 Nov	Question practice of chapter non-aqueous solvents.
19 Nov, 2023	Sunday
4th Week 20 Nov - 24 Nov	Revision and question practice of chapter d-block elements.
5th Week 25 Nov, 2023 Onwards	University Examination

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023 (August - December)

Name of the Teacher – Dr. Priyanka

Class- B.sc Ist sem

Subject- Chemistry major

Paper- B23-CHE-101

August, 2023 1 st Week 1 Aug - 5 Aug	Kinetic theory of gases, Maxwell's distribution of velocities and energies (derivation excluded) Localized and delocalized chemical bond, Van der Waals interactions
6 Aug, 2023	Sunday
2 nd Week 7 Aug - 12 Aug	Dual behavior of matter and radiation, De Broglie's relation Calculation of root mean square velocity, average velocity and most probable velocity Concept of resonance and its applications
13 Aug, 2023	Sunday
3 rd Week 14 Aug-19 Aug	Heisenberg's uncertainty principle, concept of atomic orbitals Collision diameter, collision number, collision frequency and mean free path (Derivations excluded), Deviation of Real gases from ideal behavior Hyperconjugation
15 Aug, 2023 20 Aug, 2023	Independence Day Sunday
4 th Week 21 Aug - 26 Aug	Significance of quantum numbers, radial and angular wave functions Derivation of Van der Waal's Equation of State Inductive effect, electromeric effect and their comparison
27 Aug, 2023	Sunday
5 th Week 28 Aug - 31 Aug	Normal and orthogonal wave functions, significance of Ψ and Ψ^2 , probability distribution curves, shapes of s, p, d, f orbitals Compression factor (application of Van der wall's equation of state) Revision
30 Aug, 2023	Raksha Bandhan

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023 (August - December)

Name of the Teacher – Dr. Priyanka

Class- B.sc I st sem

Subject- Chemistry Major

Paper- B23-CHE-101

September, 2023 1 st Week 1 Sept - 2 Sept	Practicals
3 Sept, 2023	Sunday
2 nd Week 4 Sept - 9 Sept	Rules for filling electrons in various orbitals Effective nuclear charge and Slater's rules Practicals
5 Sept, 2023 7 Sept, 2023 10 Sept, 2023	Talent Show Janmastami Sunday
3 rd Week 11 Sept-16 Sept	Revision and question practice Concept of critical temperature, critical pressure and critical volume Curved arrow notations, homolytic and heterolytic bond fission, Type of reagents: electrophiles and nucleophiles
17 Sept, 2023	Sunday
4 th Week 18 Sept - 22 Sept	classification of periodic table, definition of atomic and ionic radii Relationship between critical constants and Van der Waals constants Reactive intermediates: carbocations
23 Sept, 2023 24 Sept, 2023 25 Sept, 2023	Shaheed Divas/Haryana War Heroes' Martyrdom Day Sunday Annual Prize Distribution Function
5 th Week 26 Sept - 30 Sept	Revision carbanions

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023 (August - December)

Name of the Teacher – Dr. Priyanka

Class- B.sc Ist sem

Subject- Chemistry major

Paper- B23-CHE-101

October, 2023 1 Oct, 2023 2 Oct, 2023	Sunday Mahatama Gandhi Jayanti
1 st Week 3 Oct – 7 Oct	Test of gaseous state Free radicals and carbenes
8 Oct, 2023	Sunday
2 nd Week 9 Oct - 14 Oct	Ionization energy, electron affinity and electronegativity Classification of solids, law of constancy of interfacial angles Revision and Practicals
15 Oct, 2023	Maharaja Aggarsain Jayanti, Sunday
3 rd Week 16 Oct - 21 Oct	Trends in periodic table (in s and p-block elements) Law of rational indices, Miller indices Types of organic reactions- substitution and addition
22 Oct, 2023	Sunday
4 th Week 23 Oct – 27 Oct	Pauling, Mulliken, Allred Rachow and Mulliken Jaffe's electronegativity scale Elementary ideas of symmetry and symmetry elements, Seven crystal systems and fourteen Bravias lattices Condensation and elimination reactions
24 Oct, 2023 28 Oct, 2023 29 Oct, 2023	Dussehra Maharishi Valmiki Jayanti Sunday
5 th Week 30 Oct – 31 Oct	Sanderson's electron density ratio

	x-ray diffraction, Braggs law, Laue method, crystal method, powder method
25 Oct – 4 Nov, 2023	Sessional Exams

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023 (August - December)

Name of the Teacher – Dr. Priyanka
Class- B.sc Ist sem
Subject- Chemistry major
Paper- B23-CHE-101

November, 2023 1st Week 1 Nov, 2023 5 Nov, 2023	Haryana Day Sunday
2nd Week 6 Nov – 9 Nov	Question practice of atomic structure Rearrangement, Isomerization and pericyclic reactions
10 Nov - 16 Nov , 2023	Diwali Break
3rd Week 17 Nov - 18 Nov	Practicals
19 Nov, 2023	Sunday
4th Week 20 Nov - 24 Nov	Liquid state
5th Week 25 Nov, 2023 Onwards	University Examination

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Priyanka

Class- B.Sc Ist year

Subject- Chemistry Minor

Paper- B23-CHE-103

August, 2023 1 st Week 1 Aug - 5 Aug	Valence bond theory approach
6 Aug, 2023	Sunday
2nd Week 7 Aug - 12 Aug	shapes of simple inorganic molecules and ions based on valence shell electron pair repulsion (VSEPR) theory and hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements.
13 Aug, 2023	Sunday
3rd Week 14 Aug-19 Aug	Molecular orbital theory of homonuclear (N ₂ , O ₂) diatomic molecules
15 Aug, 2023	Independence Day
20 Aug, 2023	Sunday
4th Week 21 Aug - 26 Aug	Molecular orbital theory of heteronuclear (CO and NO) diatomic molecules
27 Aug, 2023	Sunday
5th Week 28 Aug - 31Aug	Dipole moment and percentage ionic character in covalent bond.
30 Aug, 2023	Raksha Bandhan

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Priyanka

Class- B.Sc-Ist year

Subject- Chemistry minor

Paper- B23-CHE-103

September, 2023 1 st Week 1 Sept - 2 Sept	Question practice
3 Sept, 2023	Sunday
2 nd Week 4 Sept - 9 Sept	Concept of reaction rates, rate equation
5 Sept, 2023 7 Sept, 2023 10 Sept, 2023	Talent Show Janmastami Sunday
3 rd Week 11 Sept-16 Sept	factors influencing the rate of reaction, Order and molecularity of a reaction
17 Sept, 2023	Sunday
4 th Week 18 Sept - 22 Sept	Integrated rate expression for zero and first order reaction
23 Sept, 2023 24 Sept, 2023 25 Sept, 2023	Shaheed Divas/Haryana War Heroes' Martyrdom Day Sunday Annual Prize Distribution Function
5 th Week 26 Sept - 30 Sept	Integrated rate expression for second order reactions (for equal conc. of reactants), Half-life period of a reaction.

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Priyanka

Class- B.sc Ist Year

Subject- Chemistry Minor

Paper- B23-CHE-103

October, 2023 1 Oct, 2023 2 Oct, 2023	Sunday Mahatama Gandhi Jayanti
1st Week 3 Oct – 7 Oct	Question practice/ Numericals
8 Oct, 2023	Sunday
2nd Week 9 Oct - 14 Oct	Metallic bond – Qualitative idea of valence bond and Band theories of metallic bond (conductors, semiconductors, insulators).
15 Oct, 2023	Maharaja Agrasen Jayanti, Sunday
3rd Week 16 Oct - 21 Oct	Semiconductors – Introduction, types, and applications.
22 Oct, 2023	Sunday
4th Week 23 Oct – 27 Oct	Alkanes, nomenclature, classification of carbon atoms in alkanes.
24 Oct, 2023 28 Oct, 2023 29 Oct, 2023	Dussehra Maharishi Valmiki Jayanti Sunday
5th Week 30 Oct – 31 Oct	Problems discussion
25 Oct – 4 Nov, 2023	Sessional Exams

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Priyanka

Class- B.Sc Ist year

Subject- Chemistry Minor

Paper- B23-CHE-103

November, 2023 1st Week 1 Nov, 2023 5 Nov, 2023	Haryana Day Sunday
2nd Week 6 Nov – 9 Nov	Alkanes, nomenclature, classification of carbon atoms in alkanes. Isomerism in alkanes and sources
10 Nov - 16 Nov , 2023	Diwali Break
3rd Week 17 Nov - 18 Nov	methods of formation: Wurtz reaction, Kolbe reaction, Corey-House reaction and decarboxylation of carboxylic acids
19 Nov, 2023	Sunday
4th Week 20 Nov - 24 Nov	Physical properties. Mechanism of free radical halogenation of alkanes: reactivity and selectivity
5th Week 25 Nov, 2023 Onwards	University Examination

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – MS.SWATI BAJAJ

Class- B.SC Final year.

Subject- INORGANIC

Paper- 1

August, 2023 1 st Week 1 Aug - 5 Aug	Metal- Ligand Bonding in Transition Metal complexes Limitations of valence bond theory
6 Aug, 2023	Sunday
2 nd Week 7 Aug - 12 Aug	An elementary idea of crystal field theory, crystal field splitting in octahedral
13 Aug, 2023	Sunday
3 rd Week 14 Aug-19 Aug	Tetrahedral and square planer complexes.
15 Aug, 2023 20 Aug, 2023	Independence Day Sunday
4 th Week 21 Aug - 26 Aug	Factors affecting the crystal field parameters.
27 Aug, 2023	Sunday
5 th Week 28 Aug - 31Aug	REVISION OF CHAPTER -1 OF INORGANIC
30 Aug, 2023	Raksha Bandhan

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – MS.SWATI BAJAJ

Class- B.SC Final year.

Subject- INORGANIC

Paper- 1

September, 2023 1 st Week 1 Sept - 2 Sept	Test of chapter -1 of Inorganic
3 Sept, 2023	Sunday
2 nd Week 4 Sept - 9 Sept	ASSIGNMENT-1, Thermodynamics and Kinetic Aspects of metal complexes, a brief outline of thermodynamic stability of metal complexes
5 Sept, 2023 7 Sept, 2023 10 Sept, 2023	Talent Show Janmastami Sunday
3 rd Week 11 Sept-16 Sept	Factors affecting the stability, Irving William Series,
17 Sept, 2023	Sunday
4 th Week 18 Sept - 22 Sept	Substitution reactions of square planer complexes of Pt[II], Trans effect.
23 Sept, 2023 24 Sept, 2023 25 Sept, 2023	Shaedi Divas/Haryana War Heroes' Martyrdom Day Sunday Annual Prize Distribution Function
5 th Week 26 Sept - 30 Sept	QUESTION PRACTICE OF CHAPTER -2

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – MS.SWATI BAJAJ

Class- B.SC Final year.

Subject- INORGANIC

Paper- 1

October, 2023 1 Oct, 2023 2 Oct, 2023	Sunday Mahatama Gandhi Jayanti
1st Week 3 Oct – 7 Oct	Magnetic properties of Transition metal complexes Types of magnetic materials, magnetic susceptibility, method of determining magnetic susceptibility, spin only formula.
8 Oct, 2023	Sunday
2nd Week 9 Oct - 14 Oct	L-S coupling, correlation of μ_s and μ_{eff} values, orbital contribution to magnetic moments.
15 Oct, 2023	Maharaja Agrasen Jayanti, Sunday
3rd Week 16 Oct - 21 Oct	ASSIGNMENT-2, Application of magnetic moment data for 3d metal complexes.
22 Oct, 2023	Sunday
4th Week 23 Oct – 27 Oct	Test of chapter -3
24 Oct, 2023 28 Oct, 2023 29 Oct, 2023	Dussehra Maharishi Valmiki Jayanti Sunday
5th Week 30 Oct – 31 Oct	Electronic spectra of Transition metal complexes Selection rules for d-d transition Spectroscopic ground states, spectrochemical series, Orgel energy level diagram for d_1 and d_9 states.

25 Oct – 4 Nov, 2023	Sessional Exams
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KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023 (August - December)

Name of the Teacher — MS. SWATI BAJAJ

Class- B.SC Final year.

Subject- INORGANIC

Paper- 1

November, 2023 1st Week 1 Nov, 2023 5 Nov, 2023	Haryana Day Sunday
2nd Week 6 Nov – 9 Nov	Spectroscopic ground states, spectrochemical series, Orgel energy level diagram for d_1 and d_9 states.
10 Nov - 16 Nov, 2023	Diwali Break
3rd Week 17 Nov - 18 Nov	Discussion of electronic spectrum of $[\text{Ti}(\text{H}_2\text{O})_6]^{+3}$ complex ion
19 Nov, 2023	Sunday
4th Week 20 Nov - 24 Nov	Question practice of chapter -4, Revision.
5th Week 25 Nov, 2023 Onwards	University Examination

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Priyanka

Class- B.Sc III Year

Subject- Physical Chemistry

Paper- 2

August, 2023 1 st Week 1 Aug - 5 Aug	Spectroscopy Introduction: Electromagnetic radiation, regions of spectrum, basic features of spectroscopy. statement of Born-oppenheimer approximation
6 Aug, 2023	Sunday
2 nd Week 7 Aug - 12 Aug	Degrees of freedom. Rotational Spectrum Selection rules, Energy levels of rigid rotator (semi-classical principles)
13 Aug, 2023	Sunday
3 rd Week 14 Aug-19 Aug	Rotational spectra of diatomic molecules
15 Aug, 2023 20 Aug, 2023	Independence Day Sunday
4 th Week 21 Aug - 26 Aug	spectral intensity distribution using population distribution (Maxwell-Boltzmann distribution).
27 Aug, 2023	Sunday
5 th Week 28 Aug - 31Aug	Determination of bond length and isotopic effect
30 Aug, 2023	Raksha Bandhan

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher –Dr. priyanka .

Class- B.Sc-III year

Subject- Physical chemistry

Paper- 2.

September, 2023 1 st Week 1 Sept - 2 Sept	Revision of Rotational spectrum.
3 Sept, 2023	Sunday
2 nd Week 4 Sept - 9 Sept	Vibrational spectrum Selection rules, Energy levels of simple harmonic oscillator.
5 Sept, 2023 7 Sept, 2023 10 Sept, 2023	Talent Show Janmastami Sunday
3 rd Week 11 Sept-16 Sept	Pure vibrational spectrum of diatomic molecules, determination of force constant .
17 Sept, 2023	Sunday
4 th Week 18 Sept - 22 Sept	ASSIGNMENT-1+ Qualitative relation of force constant and bond energy, idea of vibrational frequencies of different functional groups.
23 Sept, 2023 24 Sept, 2023 25 Sept, 2023	Shaeeedi Divas/Haryana War Heroes' Martyrdom Day Sunday Annual Prize Distribution Function
5 th Week 26 Sept - 30 Sept	Raman Spectrum Concept of polarizability, pure rotational and pure vibrational Raman spectra of diatomic molecules

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr. Priyanka

Class- B.SC Final year

Subject- Physical chemistry

Paper- 2

October, 2023 1 Oct, 2023 2 Oct, 2023	Sunday Mahatama Gandhi Jayanti
1st Week 3 Oct – 7 Oct	Revision of vibrational spectra. Selection rules, Quantum theory of Raman spectra.
8 Oct, 2023	Sunday
2nd Week 9 Oct - 14 Oct	Quantum Mechanics-I Black-body radiation, Plank's radiation law, photoelectric effect, postulates of quantum mechanics, quantum mechanical operator s, commutation relations
15 Oct, 2023	Maharaja Agrasen Jayanti, Sunday
3rd Week 16 Oct - 21 Oct	Assignment-2+ Hamiltonian operator, Hermitian operator, average value of square of Hermitian as a positive quantity, Role of operators in quantum mechanics
22 Oct, 2023	Sunday
4th Week 23 Oct – 27 Oct	To show quantum mechanically that position and momentum cannot be predicated simultaneously, Determination of wave function & energy of a particle in one dimensional box.
24 Oct, 2023 28 Oct, 2023 29 Oct, 2023	Dussehra Maharishi Valmiki Jayanti Sunday
5th Week 30 Oct – 31 Oct	Test of chapter-1
25 Oct – 4 Nov, 2023	Sessional Exams

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Dr.Priyanka

Class- B.Sc-III year

Subject- physical chemistry

Paper- 2

November, 2023 1st Week 1 Nov, 2023 5 Nov, 2023	Haryana Day Sunday
2nd Week 6 Nov – 9 Nov	Physical Properties and Molecular Structure Optical activity, polarization – (Clausius – Mossotti equation derivation excluded). Orientation of dipoles in an electric field, dipole moment, induced dipole moment
10 Nov - 16 Nov , 2023	Diwali Break
3rd Week 17 Nov - 18 Nov	Measurement of dipole moment -temperature method and refractivity method. Dipole moment and structure of molecules,
19 Nov, 2023	Sunday
4th Week 20 Nov - 24 Nov	Magnetic permeability, magnetic susceptibility and its determination. Application of magnetic susceptibility, magnetic properties – paramagnetism, diamagnetism and ferromagnetism.
5th Week 25 Nov, 2023 Onwards	University Examination

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – MS. SWATI BAJAJ

Class- B.Sc Final year

Subject- Organic

Paper-3

August, 2023 1 st Week 1 Aug - 5 Aug	NMR Spectroscopy Principle of nuclear magnetic resonance, the PMR spectrum, number of signals
6 Aug, 2023	Sunday
2nd Week 7 Aug - 12 Aug	Peak areas, equivalent and nonequivalent protons positions of signals and chemical shift, shielding and de shielding of protons.
13 Aug, 2023	Sunday
3rd Week 14 Aug-19 Aug	Proton counting, splitting of signals and coupling constants, magnetic equivalence of protons.
15 Aug, 2023 20 Aug, 2023	Independence Day Sunday
4th Week 21 Aug - 26 Aug	Discussion of PMR spectra of the molecules: ethyl bromide, n-propyl bromide Isopropyl bromide, 1,1 - diBromoethane, ethanol.
27 Aug, 2023	Sunday
5th Week 28 Aug - 31Aug	Acetaldehyde, ethyl acetate, toluene, benzaldehyde and acetophenone.
30 Aug, 2023	Raksha Bandhan

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Ms. Swati Bajaj

Class- B.Sc-III year

Subject- Organic

Paper- 3

September, 2023 1 st Week 1 Sept - 2 Sept	Test of chapter -1 of organic
3 Sept, 2023	Sunday
2 nd Week 4 Sept - 9 Sept	ASSIGNMENT-1, Carbohydrates - Classification and nomenclature of Monosaccharides, mechanism of osazone formation.
5 Sept, 2023 7 Sept, 2023 10 Sept, 2023	Talent Show Janmastami Sunday
3 rd Week 11 Sept-16 Sept	Interconversion of glucose and fructose chain lengthening and chain shortening of aldoses. Configuration of monosaccharides. Erythro and threo diastereomers.
17 Sept, 2023	Sunday
4 th Week 18 Sept - 22 Sept	Conversion of glucose into mannose. Formation of glycosides Determination of ring size of glucose and fructose.
23 Sept, 2023 24 Sept, 2023 25 Sept, 2023	Shaheed Divas/Haryana War Heroes' Martyrdom Day Sunday Annual Prize Distribution Function
5 th Week 26 Sept - 30 Sept	Open chain and cyclic structure of D(+)-glucose & D(-) fructose. Mechanism of mutarotation.

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – MS.SWATI BAJAJ

Class- B.SC Final year.

Subject- ORGANIC

Paper- 3

October, 2023 1 Oct, 2023 2 Oct, 2023	Sunday Mahatama Gandhi Jayanti
1st Week 3 Oct – 7 Oct	Structures of ribose and deoxyribose. An introduction to di saccharides (mal tose, sucrose and lactose) .
8 Oct, 2023	Sunday
2nd Week 9 Oct - 14 Oct	polysaccharides (starch and cellulose) without involving structur e determination.
15 Oct, 2023	Maharaja Agrasen Jayanti, Sunday
3rd Week 16 Oct - 21 Oct	ASSIGNMENT-2, Test of chapter -2.
22 Oct, 2023	Sunday
4th Week 23 Oct – 27 Oct	Organometallic Compounds Organomagnesium compounds: the Grignard reagents-format ion.
24 Oct, 2023 28 Oct, 2023 29 Oct, 2023	Dussehra Maharishi Valmiki Jayanti Sunday
5th Week 30 Oct – 31 Oct	Organomagnesium compounds : structure and chemical reactions
25 Oct – 4 Nov, 2023	Sessional Exams

KVA DAV College for Women, Karnal

Lesson Plan for the Odd Semester, 2023

(August - December)

Name of the Teacher – Ms. Swati Bajaj

Class- B.Sc-III year

Subject- Organic

Paper- 3

November, 2023 1st Week 1 Nov, 2023 5 Nov, 2023	Haryana Day Sunday
2nd Week 6 Nov – 9 Nov	Organozinc compounds: formation and chemical reactions.
10 Nov - 16 Nov , 2023	Diwali Break
3rd Week 17 Nov - 18 Nov	Organolithium compounds: formation and chemical reactions.
19 Nov, 2023	Sunday
4th Week 20 Nov - 24 Nov	Question practice of chapter -4, Revision.
5th Week 25 Nov, 2023 Onwards	University Examination

