

Government PG College, Ambala Cantt.

Course: CHEMISTRY-II ; CC-2/MCC-3; B-23 CHE-201

Lesson Plan Session 2023-24 (Even Semester)

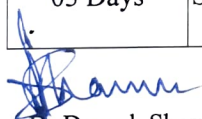
Class: B.PSc./B.LSc.

Name: Dr. DEEPAK SHARMA

Semester: II

Week/ Working Days	Details	Remarks
Feb 19, 2024- Feb 21, 2024 03 Days	Concept of reaction rates, rate equation, factors influencing the rate of reaction, Order and molecularity of a reaction	
Feb 26, 2024- Feb 28, 2024 03 Days	integrated rate expression for zero, first, Half-life period of a reaction, Arrhenius equation.	
Mar 04, 2024- Mar 06, 2024 03 Days	Valence bond theory approach, 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	
Mar 11, 2024- Mar 13, 2024 03 Days	Valence bond theory approach, 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	
Mar 18, 2024- Mar 19, 2024 03 Days	Molecularorbital theory of homonuclear (N ₂ , O ₂) and heteronuclear (CO and NO) diatomic molecules, dipole moment and percentage ionic character in covalent bond	
Apr 01, 2024- Apr 03, 2024 03 Days	Nomenclature, classification of carbon atoms in alkanes and its structure. Isomerism in alkanes, sources. Methods of formation: Wurtz reaction, Kolbe reaction, Corey- House reaction and decarboxylation of carboxylic acids.	
Apr 08, 2024- Apr 10, 2024 03 Days	physicalproperties. Mechanism of free radical halogenation of alkanes:reactivity and selectivity. Nomenclature of Cycloalkanes, Baeyer' s strain theory and its limitations, theory of strainless rings.	
Apr 15, 2024- Apr 17, 2024 02 Days	Nomenclature of alkenes and its structure. Methods of formation: dehydration of alcohols, dehydrohalogenation of alkyl halide, Hofmann elimination and their mechanism.	
Apr 22, 2024- Apr 24, 2024	The Saytzeff rule and relative stabilities of alkenes. Chemical	

03 Days	reactions: electrophilic and free radical additions, addition of halogens, halogen acids, hydroboration oxidation, oxymercuration-reduction, ozonolysis and hydration. Markownikoff's rule of addition	
Apr 29, 2024- May 01, 2024 03 Days	Ionic structures (NaCl, CsCl, ZnS (Zinc blende), CaF ₂) size effects, radius ratio rule and its limitations, Concept of Lattice energy, Born- Haber cycle	
May 06, 2024- May 08, 2024 03 Days	Solvation energy and its relationship with solubility of Ionic solids, Polarizing power and Polarizability of ions, Fajan's Rule	
May 13, 2024- May 15, 2024 03 Days	Nernst distribution law its thermodynamic derivation, Nernst distribution law after association and dissociation of solute in one of the phases	
May 20, 2024- May 22, 2024 03 Days	Determination of degree of hydrolysis and hydrolysis constant of aniline hydrochloride	
May 27, 2024- May 29, 2024 03 Days	Hydrogen Bonding and Van der Waals forces Hydrogen Bonding Definition, types, effects of hydrogen bonding on properties of substances	
Jun 03, 2024- Jun 05, 2024 03 Days	Brief discussion of various types of Van der Waals forces. Metallic Bond and semiconductors Metallic bond Qualitative idea of valence bond and Band theories of metallic bond	
Jun 10, 2024- Jun 12, 2024 03 Days	(conductors, semiconductors, insulators). Semiconductors Introduction, types, and applications.	



Dr Deepak Sharma
Associate Professor
Chemistry Department

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Course: MINOR CHEMISTRY-II ; CC-M2; B-23 CHE-203

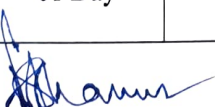
Lesson Plan Session **2023-24** (Even Semester)

Class: B.PSc. (C.Sc.)

Name: Dr. DEEPAK SHARMA

Semester: II

Week/ Working Days	Details	Remarks
Feb 15, 2024 01 Day	Localized and delocalized chemical bond, Van der Waal's interactions, resonance: conditions and resonance effect	
Feb 22, 2024 01 Day	hyperconjugation, inductive effect, Electromeric effect & their comparison.	
Feb 29, 2024 01 Day	Atomic and ionic radii, ionisation energy	
Mar 7, 2024 01 Day	electron affinity, electronegativity definition, trend in periodic table	
Mar 14, 2024 01 Day	effective nuclear charge, Slater's rules	
Mar 21, 2024 01 Day	Kinetic theory of gases, Calculation of root mean square velocity	
Apr 4, 2024 01 Day	Calculation of average velocity, and most probable velocity. Collision diameter,	
Apr 18, 2024 01 Day	collision number, collision frequency and mean free path (derivations excluded)..	
Apr 25, 2024 01 Day	Stoichiometric and Non-stoichiometric defects in crystals,	
May 02, 2024 01 Day	Lattice energy and Born- Haber cycle	
May 09, 2024 01 Day	Solvation energy and its relationship with solubility of Ionic solids	
May 16, 2024 01 Day	Polarizing power and Polarisability of ions, Fajan's rule.	



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Chemistry Department

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Lesson Plan Session 2023-24 (Even Semester)

Class: B.Sc. II Non Medical&Medical

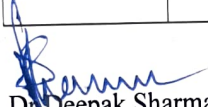
Subject: **INORG CHEMISTRY**

Name: **Dr Deepak Sharma**

Semester:IV

Week/ Working Days	Details	Remarks
Jan 05, 2024 Jan 06, 2024 02 Days	Lanthanides: Electronic structure oxidation states, magnetic properties, complex formation	
Jan 12, 2024 Jan 13, 2024 02 Days	colour, ionic radii and lanthanide contraction occurrence, separation of lanthanides,	
Jan 19, 2024 Jan 20, 2024 02 Days	Lanthanide compounds	
Jan 26, 2024 Jan 27, 2024 01 Day	Actinides: General characteristics of actinides, chemistry of separation of Np, Pu and Am from uranium,	
Feb 02, 2024 Feb 03, 2024 02 Days	Assignments Transuranic elements, comparison of properties of Lanthanides and actinides with transition elements	
Feb 09, 2024 Feb 10, 2024 02 Days	Transuranic elements, comparison of properties of Lanthanides and actinides with transition elements	
Feb 16, 2024 Feb 17, 2024 02 Days	Assessment Tests/ common ion effect, solubility product	
Feb 23, 2024 Feb 24, 2024 02 Days	theory of precipitation, co-precipitation, post precipitation, purification of precipitates.	
Mar 01, 2024 Mar 02, 2024 02 Days	Theory of Qualitative and Quantitative Analysis Chemistry of analysis of various groups of basic radicals	
Mar 08, 2024 Mar 09, 2024 01 Days	Assignments/ Theory of Qualitative and Quantitative Analysis Chemistry of analysis of various groups of basic radicals	
Mar 15, 2024 Mar 16, 2024 02 Days	Assessment Tests/ Theory of Qualitative and Quantitative Analysis Chemistry of analysis of various groups of acidic radicals	
Mar 22, 2024 Mar 23, 2024 01 Days	Theory of Qualitative and Quantitative Analysis Chemistry of analysis of various groups of acidic radicals	
Apr 05, 2024	Theory of Qualitative and Quantitative Analysis Chemistry of analysis of	

Apr 06, 2024 02 Days	various groups of acidic radicals	
Apr 12, 2024 Apr 13, 2024 01 Days	chemistry of identification of acid radicals in typical combination	
Apr 19, 2024 Apr 20, 2024 02 Days	chemistry of identification of acid radicals in typical combination	
Apr 26, 2024 Apr 27, 2024 02 Days	chemistry of interference of acid radicals including their removal in the analysis of basic radicals	
	Semester End Final Examinations 1/5/24 Onwards	


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