

DYAL SINGH COLLEGE, KARNAL

Lesson Plan

Name of the Assistant /Associate Professor : Dr. Ravi Kumar

Class and Section: Monday-Tuesday: B.Sc.-III section-A

Wednesday-Thursday: B.Sc.-I Section-A and B.Sc.-III section-medical

Week	Date	Topics
1	16-Jul-18	Orientation for new comers
	17-Jul-18	Orientation for new comers
	18-Jul-18	Structure and Bonding -Localized and delocalized chemical bond; Definition of transition elements, position in the periodic table
	19-Jul-18	Van der Waal's interactions, resonance: conditions; Definition of transition elements, position in the periodic table.....contd
	20-Jul-18	
	21-Jul-18	
	22-Jul-18	Sunday
2	23-Jul-18	Alcohols -Monohydric alcohols-nomenclature of Alcohols
	24-Jul-18	Methods of formation by reduction of aldehydes & ketones
	25-Jul-18	Resonance effect and its applications, hyper conjugation General characteristic properties of d-Block elements
	26-Jul-18	Inductive effect, Electrometric effect & their comparison. General characteristic properties of d-Block elements.....contd
	27-Jul-18	
	28-Jul-18	
	29-Jul-18	Sunday
3	30-Jul-18	Carboxylic acids and esters. Hydrogen bonding. Acidic nature.
	31-Jul-18	Shaheed Udham Singh's Martyrdom Day
	1-Aug-18	Mechanism of Organic Reactions -Curved arrow notation, drawing electron movements with arrows Comparison of properties of 3d elements with 4d and 5d elements with reference only to ionic radii
	2-Aug-18	Half-headed and double-headed arrows, Comparison of properties of 3d elements with 4d and 5d elements with reference only to ionic radii
	3-Aug-18	
	4-Aug-18	
	5-Aug-18	Sunday
4	6-Aug-18	Reactions of alcohols
	7-Aug-18	Reactions of alcohols.....contd
	8-Aug-18	Homolytic and heterolytic bond breaking. Types of reagents – electrophiles and nucleophiles. Comparison of properties of 3d elements with 4d and 5d elements with reference only to oxidation state
	9-Aug-18	Types of organic reactions. Reactive intermediates –Carbocations Comparison of properties of 3d elements with 4d and 5d elements with reference only to magnetic and spectral properties
	10-Aug-18	
	11-Aug-18	
	12-Aug-18	Sunday
5	13-Aug-18	Dihydric alcohols — nomenclature, methods of formation

	14-Aug-18	Chemical reactions of vicinal glycols
	15-Aug-18	Independence Day
	16-Aug-18	Carbanions, free radicals, carbenes,(formation, structure & stability). Comparison of properties of 3d elements with 4d and 5d elements with reference only to magnetic and spectral properties.....contd
	17-Aug-18	
	18-Aug-18	
	19-Aug-18	Sunday
6	20-Aug-18	Oxidative cleavage [Pb(OAc) ₄ and HIO ₄]
	21-Aug-18	Pinacol-pinacolone rearrangement
	22-Aug-18	Id-UI-Zuha (Bakrid)
	23-Aug-18	Stereochemistry of Organic Compounds -Concept of isomerism, Types of isomerism Comparison of properties of 3d elements with 4d and 5d elements with reference only to stereochemistry
	24-Aug-18	
	25-Aug-18	
	26-Aug-18	Sunday (Raksha Bandhan)
7	27-Aug-18	Phenols -Nomenclature, structure and bonding
	28-Aug-18	Preparation of phenols, physical properties and acidic character.
	29-Aug-18	Optical isomerism-Elements of symmetry, molecular chirality Stability of various oxidation states and e.m.f (Latimer and Frost diagrams)
	30-Aug-18	Enantiomers, stereogenic centre, Optical activity, properties of enantiomers,chiral and achiral molecules Stability of various oxidation states and e.m.f (Latimer and Frost diagrams).....contd
	31-Aug-18	
	1-Sep-18	
	2-Sep-18	Sunday
8	3-Sep-18	Janamashatmi
	4-Sep-18	Comparative acidic strengths of alcohols and phenols with two stereogenic centres , threo and erythro diastereomers, meso compounds, resolution
	5-Sep-18	Structure and properties of some compounds of transition elements -TiO ₂ , VOCl ₂
	6-Sep-18	Inversion, retention and racemization. Relative and absolute configuration Structure and properties of some compounds of transition elements - FeCl ₃ , CuCl ₂ and Ni(CO) ₄
	7-Sep-18	
	8-Sep-18	
	9-Sep-18	Sunday
9	10-Sep-18	Resonance stabilization of phenoxide ion. Reactions of phenols
	11-Sep-18	Electrophonic aromatic substitution, Mechanisms of Fries rearrangement
	12-Sep-18	Sequence rules, R & S systems of nomenclature. Geometric isomerism Werner's theory of coordination compounds, effective atomic number
	13-Sep-18	Determination of configuration of geometric isomers. E & Z system of nomenclature\ chelates, nomenclature of coordination compounds
	14-Sep-18	
	15-Sep-18	
	16-Sep-18	Sunday
10	17-Sep-18	Claisen rearrangement, Reimer-Tiemann reaction
	18-Sep-18	Kolbe's reaction and Schotten and Baumann reactions. Revision

	19-Sep-18	Conformational isomerism- conformational analysis of ethane and n-butane, Isomerism in coordination compounds
	20-Sep-18	Conformations of cyclohexane, axial and equatorial bonds. Newman projection Isomerism in coordination compounds.....contd
	21-Sep-18	
	22-Sep-18	
	23-Sep-18	Sunday (Haryana Heroes' Martyrdom Day)
11	24-Sep-18	Epoxides -Synthesis of epoxides. Acid and base-catalyzed ring opening of epoxides
	25-Sep-18	Orientation of epoxide ring opening, reactions of Grignard and organolithium reagents with epoxides
	26-Sep-18	Sawhorse formulae, Difference between configuration and conformation valence bond theory of transition metal complexes
	27-Sep-18	Alkanes and Cycloalkanes -IUPAC nomenclature of branched and unbranched alkanes, valence bond theory of transition metal complexes.....contd
	28-Sep-18	
	29-Sep-18	
	30-Sep-18	Sunday
12	1-Oct-18	Carboxylic Acids & Acid Derivatives -Nomenclature of Carboxylic acids
	2-Oct-18	Mahatama Gandhi Jayanti
	3-Oct-18	classification of carbon atoms in alkanes. Isomerism in alkanes, sources, methods of formation Physical properties of solvents
	4-Oct-18	Wurtz reaction, Kolbe reaction, Corey-House reaction and decarboxylation of carboxylic acids types of solvents and their general characteristics
	5-Oct-18	
	6-Oct-18	
	7-Oct-18	Sunday
13	8-Oct-18	Structure and bonding, physical properties, acidity of carboxylic acids
	9-Oct-18	Effects of substituents on acid strength. Preparation of carboxylic acids
	10-Oct-18	Maharaja Agrasen Jayanti
	11-Oct-18	Physical properties. Mechanism of free radical halogenation of alkanes: reactivity and selectivity types of solvents and their general characteristics.....contd
	12-Oct-18	
	13-Oct-18	
	14-Oct-18	Sunday
14	15-Oct-18	Reactions of carboxylic acids. Hell-Volhard-Zelinsky reaction. Reduction of carboxylic acids, Mechanism of decarboxylation
	16-Oct-18	Relative stability of acyl derivatives Physical properties Interconversion of acid derivatives by nucleophilic acyl substitution. Mechanisms of esterification and hydrolysis (acidic and basic). Revision
	17-Oct-18	Cycloalkanes - nomenclature, synthesis of cycloalkanes and their derivatives-photochemical reaction reactions in non aqueous solvents with reference to liquid NH ₃
	18-Oct-18	Dussehra
	19-Oct-18	
	20-Oct-18	
	21-Oct-18	Sunday
15	22-Oct-18	U.V. spectroscopy -Molar absorptivity, Presentation and analysis of UV spectra, electronic transitions,
	23-Oct-18	Concept of chromophore and auxochrome. Batho, hypso, hyper & hypo chromic shifts.
	24-Oct-18	Maharishi Valmiki's Birthday
	25-Oct-18	Dehalogenation of -dihalides, pyrolysis of calcium or barium salts of dicarboxylic acids reactions in non aqueous solvents with reference to liquid SO ₂

	26-Oct-18	
	27-Oct-18	
	28-Oct-18	Sunday
16	29-Oct-18	Conjugation, UV spectra of conjugated enes and enones, Woodward- Fieser rules, calculation of λ_{max}
	30-Oct-18	Conjugated dienes, α - β -unsaturated ketones. Applications of UV Spectroscopy in structure elucidation
	31-Oct-18	Baeyer's strain theory and its limitations, theory of strained rings. Revision Work
	1-Nov-18	Haryana Day
	2-Nov-18	
	3-Nov-18	
	4-Nov-18	Sunday
17	5-Nov-18	Revision Work