SYRK GOYERNMENT DEGREE COLLEGE :: NIDADAYOLE TABLE – A –CURRICULAR PLAN – LECTURER WISE

NAME OF DEPARTN	THE LECTU	U RER: EMISTR'	NAME OF THE LECTURER: (3782) (1850) DEPARTMENT: CHEMISTRY CLASS: IIB.Sc (850)	YEAR: 2021-2022	022	SEME	SEMESTER: III	II		PAPER:III		
					CURRICULAR ACTIVITY	LAR			CO	CO- CURRICULAR ACTIVITIY	ĀR	
SERIAL NUMBER	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPIC	ADDITIONAL INPUT /VALUE ADDITION	ACTIVITY	HOURS ALLOTED	WHETHER CONDUCTED	IF NOT, ALTERNATIV E DATE	ACTIVITY	HOUR S ALLOT ED	SS	REMARK S
-	2	u	4	5	6	7	∞	9	10	11	11	4 -
			UNIT I: ORGANIC CHEMISTRY									
Nov	l week	4	Chemistry of Halogenated Hydrocarbons:Alkyl Halides: Methods of preparation and properties, nucleophilic substitution reactions— SNI, SN2 and SNi mechanisms with stereo chemicalaspects and effect of solvent etc.; nucleophilic substitution vs. elimination, Williamson's synthesis	Distinction between Nuclear Halogen andside chain halogen	Lecture	4						

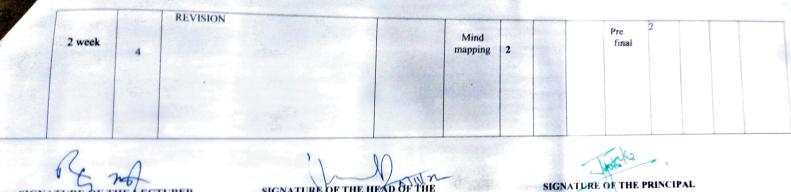
2 week	4	_Aryl Halides: Preparation (including preparation from diazonium salts) and properties, nucleophilic aromatic substitution; SN Ar, Benzyne mechanism. Relative reactivity of alkyl, allyl, benzyl, vinyl and aryl halides towards nucleophilic substitution reactions		Audio visual presentation through LCD	3		Assign ment	1		
3 week	4	Alcohols: preparation, properties and relative	Dihydric ,Tri hydric alcohols Introduction	Lecture	4					
4 week	4	Phenols: Preparation And Properties; Acidity And Factors Affecting It, Ring substitution reactions, Reimer–Tiemann and Kolbe's–Schmidt Reactions, Fries and Claisen Rearrangement with mechanism;		Interactive method	3		Student semina r	1	1	

	1 week	4	Benzoin Condensation,	n, Analysis of aldehydes and ketones	Lecture Mid exam	3				
Dec	2 week	4	Claisan-Schmidt, Perkin, Cannizzaro and Wittig reaction, Beckmann Haloform Reaction And Baeyer Villiger oxidation, α- substitution reactions, oxidations and reductions (Clemmensen, wolf –kishner, with LiAlH4 &NaBH4).		Lecture	4			-	
	3 week	4	Addition Re actions Of α , β -unsaturated carbonyl compounds: Michael Addition. Active Methylene Compounds: Keto-enol tautomerism. Preparation And Synthetic Applications Diethyl malonate and ethyl acetoacetate		Power point	4				

	4 week	4	UNIT III: Carboxylic Acids and their Derivatives: General methods of preparation, physical properties and reactions of monocarboxylic acids, effect of substituent acidic strength. Typical reactions of carboxylic acids, hydroxy acids and unsaturated acids.	Power point	3		Assignme t			
	l week	4	. Preparation And Reactions Of Acid Chlorides, anhydrides, esters and amides; Comparative study of nucleophilic substitution at acyl group-Mechanism of acidic and alkaline hydrolysis of esters, Claisen Condensation, Reformatsky reactions and Curtius Rearrangement	lecture	4					
Jan	2 week	4	Reactions involving H, OH and COOH groups-salt formation, anhydride formation, acid chloride formation, amide formation and esterification (mechanism).	Discussion method	3		Quiz	1		

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	3 week	4	Degradation of carboxylic acids by Huns- Diecker reaction, decarboxylation by Schimdt reaction, Arndt- Eistert synthesis, halogenation by Hell- Volhard- Zelinsky reaction.		Lecture Mid exam	3					
	4 week	4	UNIT IV: SPECTROSCOPY Molecular Spectroscopy:Interaction of electromagnetic radiation with molecules and various types of spectra; Rotation spectroscopy: Selection rules, intensities of spectral lines, determination of bond lengths of diatomic and linear triatomic molecules, isotopic substitution.	Electromagnetic radiation, Properties of light, Effect of magnetic field on nucleus.	lecture	4					
	l week	4	Vibrational Spectroscopy: Classical Equation Of Vibration, computation of force constant, Harmonic and anharmonic oscillator, Morse Potential curve, vibrational degrees of freedom for polyatomic molecules, modes of vibration. . transitions in molecules, effect of conjugation. Concept of Chromophore. bathochromic and hypsochromic shifts. Beer-Lambert's law and its limitations.		lecture	3		Assign ment	1		
Feb	2 week	4	Selection rules for vibrational transitions, Fundamental Frequencies, overtones and hot bands. Electronic spectroscopy: Energy levels of molecular orbitals (σ, π, n) . Selection rules for electronic spectra. Types of electronic in molecules, effect of conjugation. Concept of chromophore. bathochromic and hypsochromic shifts. Beer-Lambert's law and its limitations		Power point	4					

	3 week	4	Nuclear Magnetic Resonance (NMR) spectroscopy: Principles of nuclear magnetic resonance, equivalent and non-equivalent protons, position of signals. Chemical shift, NMR splitting of signals -spin-spin coupling, coupling constants. Applications of NMR with suitable examples - ethyl bromide, ethanol, acetaldehyde, 1,1,2-tribromo ethane, ethyl acetate, toluene and acetophenone	Lecture	3	Assi	gnme			
	4 week	4	UNIT 5:Application of Spectroscopy to Simple Organic Molecules Application of visible, ultraviolet and Infrared spectroscopy in organic molecules. Application of electronic spectroscopy and Woodward rules for calculating λ max of conjugated dienes and α,β – unsaturated compounds.	lecture	3		udent emina	I		
Mar	1 week	4	REVISION	Q&A Method	4					



SIGNATURE OF THE LECTURER

SIGNATURE OF THE HEAD OF THE DEPARTMENT