

SGK Government Degree College, Vinukonda													
Semester Wise Curricular Plan :2024-25													
Name of the Lecturer: Valaparla Bala Yesu								Name of the Department: CHEMISTRY					
Class: B. Sc. Chemistry			Year: II & Semester: III & Course - 4					Paper: Halogen and Oxygen containing organic compounds					
Month	We ek	Hours available	Syllabus topic	Additional Input/ Value Addition Provided	Curricular Activity				Co-curricular Activity				Remarks
					Activity Proposed	Hours allotted	Whether conducted	If not, alternate date	Activity Proposed	Hours allotted	Whether conducted	If not, alternat e date	
Jul-24	1	4(Theory)	Alkyl halides: Preparation of alkyl halides from i) alkanes, ii) alkenes and iii) alcohols SN1 and SN2 and SNi mechanisms		ICT enabled Teaching	4			Assignment	1			
		2(Lab)	Demonstration - How to use glassware, equipment and chemicals		Demonstration	2							
	2	4(Theory)	Aryl halides: Preparation i) from phenols ii) Sandmeyer's reaction, nucleophilic aromatic substitution		Teaching	2							
		2(Lab)	Organic preparation : i. Acetylation of β -naphthol, vanillin and salicylic acid demonstration and mechanism		Demonstration	1			Viva-voce	2			
	3	4(Theory)	Alcohols: Preparation of 10,20,30 alcohols from Grignard's reagent, Bouveault-Blanc Reduction; Chemical properties & Oxidation of alcohols with PCC, PDC; Oxidation of diols by HIO ₄ and Pb(OAc) ₄		ICT enabled Teaching	4							
		2(Lab)	Organic preparation : i. Acetylation of β -naphthol Using conventional method		Demonstration	2							
	4	4(Theory)	Pinacol Pinacolone arrangement with mechanism & Reimer-Tiemann, Kolbe-Schmitt Reactions, Fries and Claisen rearrangements.	Conformations	ICT enabled Teaching	3			Student Seminar	1			
		2(Lab)	Organic preparation : i. Acetylation of β -naphthol Using green approach		Demonstration	1							

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Aug-24	1	4(Theory)	Preparation, Structure and reactivity of carbonyl group, Nucleophilic addition reactions with HCN, NaHSO ₃ and alcohols		ICT enabled Teaching	4			Assignment	1			
		2(Lab)	Organic preparation :Acetylation of vanillin Using conventional method		Demonstration	2							
	2	4(Theory)	addition-elimination reactions with hydroxylamine, hydrazine, phenyl hydrazine, 2,4DNP, semicarbazide. (Clemmensen's, Wolf-Kishner's, with LiAlH ₄ & NaBH ₄).	Markovni	Teaching	4							
		2(Lab)	Organic preparation : vanillin of β -naphthol Using green approach		Demonstration	1			Viva voce	2			
	4	4(Theory)	Aldol condensation, Cannizzaro reaction, Perkin reaction, Benzoin condensation, Claisen-Schmidt reaction, Haloform reaction		Teaching	3			Field visit	2			
		2(Lab)	Organic preparation :Acetylation of salicylic acid Using conventional method		Demonstration	2							
	5	4(Theory)	Preparation from Grignard reagent and hydrolysis of nitriles & Huns- Diecker's reaction, decarboxylation by Schmidt reaction, Arndt-Eistert synthesis		Teaching	4							
		2(Lab)	Organic preparation :Acetylation of salicylic acid Using green approach			1							

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Sep-24	1	4 (Theory)	Hell- Volhard- Zelinsky reaction. Mechanisms of acidic and alkaline hydrolysis of esters, Reformatsky reactions, Curtius rearrangement		ICT enabled Teaching	1			Assignment				
		2(Lab)	Organic preparation :Preparation of Nerolin - Demonstration		Demonstration	2							
	2	4(Theory)	Ketoenol tautomerism, preparation of Aceto Acetic Ester(AAE) by Claisen condensation & preparation of mono carboxylic acids, di carboxylic acids		Teaching	4							
		2(Lab)	Organic preparation :Preparation of Nerolin		Demonstration	1							
	3	4(Theory)	Classification and their biological importance, Monosaccharides : Structural elucidation of glucose and fructose		Teaching	3			Student Seminar	1			
		2(Lab)	Acetylation mechanism and determenation of physical constants		Demonstration	2							
	4	4(Theory)	epimers and anomers, mutarotation, determination of ring size of glucose and fructose, Haworth projections and conformational structures		ICT enabled Teaching	1			Student Seminar	1			
		2(Lab)	Nerolin mechanism and determenation of physical constants		Demonstration	1							

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Oct-24	1	4(Theory)	Killiani-Fischer synthesis and Ruff degradation; Disaccharides– Haworth structure of maltose, lactose and sucrose.		ICT enabled Teaching	2			Student Seminar	1			
		2(Lab)	Mock practicals and viva - 1		Demonstration	1							
	2	4(Theory)	Quick revision on carbonyl, carboxylic acid and carbohydrates		ICT enabled Teaching	2			Assignment	1			
		2(Lab)	Mock practicals and viva - 2		Demonstration	1							

Signature of the Lecturer

Signature of the Principal