

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					Paper: Fundamentals in Organic Chemistry					
Month	Week	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, alternate date	
Jul-24	1	4(Theory)	Types of bond fission and organic reagents, Reaction intermediates – Carbocations, carbanions & free radicals		ICT enabled Teaching	4			Assignment	1			
		2(Lab)	Practical demonstration		Demonstration	2							
	2	4(Theory)	Bond polarization: Factors influencing the polarization of covalent bonds, inductive effect - Application of inductive effect (a) Basicity of amines (b) Acidity of carboxylic acids (c) Stability of carbonium ions		Teaching	2							
		2(Lab)			Demonstration	1			Viva-voce	2			
	3	4(Theory)	Resonance or Mesomeric effect, application to (a) acidity of phenol, and (b) acidity of carboxylic acids. Hyper conjugation and its application to stability of carbonium ions, Free radicals and alkenes.		ICT enabled Teaching	4							
		2(Lab)			Demonstration	2							
	4	4(Theory)	General methods of preparation of alkanes- Wurtz and Wurtz Fittig reaction, Corey House synthesis physical and chemical properties of	Conformations	ICT enabled Teaching	3			Student Seminar	1			
		2(Lab)			Demonstration	1							

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Aug-24	1	4(Theory)	General molecular formulae of cycloalkanes and relative stability, Baeyer strain theory Cyclohexane conformations with energy diagram		ICT enabled Teaching	4			Assignment	1			
		2(Lab)			Demonstration	2							
	2	4(Theory)	General methods of preparation, physical and chemical properties, Saytzeff and Hoffmann eliminations (with mechanism), Electrophilic	Markovni	Teaching	4							
		2(Lab)			Demonstration	1			Viva voce	2			
	4	4(Theory)	Addition of X ₂ , HX. Oxymercuration demercuration, ozonolysis, hydroxylation, Diels Alder reaction, 1,2- and 1,4-addition reactions in conjugated dienes		Teaching	3			Field visit	2			
		2(Lab)	Systematic qualitative procedure for functional group identification of phenol - Demonstration		Demonstration	2							
	5	4(Theory)	Reactions of alkynes; acidity, electrophilic and nucleophilic additions, hydration to form carbonyl compounds, Alkylation of terminal alkynes.		Teaching	4							
		2(Lab)	Systematic qualitative procedure for functional group identification of phenol			1							

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Sep-24	1	4 (Theory)	Structure of Benzene – Preparation - polymerisation of acetylene and decarboxylation- Properties		ICT enabled Teaching	1			Assignment				
		2(Lab)	Systematic qualitative procedure for functional group identification of carboxylic acid - Demonstration		Demonstration	2							
	2	4(Theory)	mechanism of electrophilic aromatic substitution of Friedel- Craft's alkylation and acylation. halogenation and nitration		Teaching	4							
		2(Lab)	Systematic qualitative procedure for functional group identification of carboxylic acid		Demonstration	1							
	3	4(Theory)	Concept of aromaticity, Huckel's rule - application to Benzenoid (Benzene, Naphthalene) and Non - Benzenoid compounds		Teaching	3			Student Seminar	1			
		2(Lab)	Systematic qualitative procedure for functional group identification of carbonyl (aldehyde & ketones)		Demonstration	2							
	4	4(Theory)	Orientation of aromatic substitution - ortho, para and meta directing groups		ICT enabled Teaching	1			Student Seminar	1			
		2(Lab)	Systematic qualitative procedure for functional group identification of carbohydrates		Demonstration	1							

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Oct-24	1	4(Theory)	Ring activating and deactivating groups with examples (Electronic interpretation of various groups like NO ₂ and Phenolic)		ICT enabled Teaching	2			Student Seminar	1			
		2(Lab)	Systematic qualitative procedure for functional group identification of amines		Demonstration	1							
	2	4(Theory)	Orientation of (i) Amino, methoxy and methyl groups (ii) Carboxy, nitro, nitrile, carbonyl and sulphonic acid groups (iii) Halogens.		ICT enabled Teaching	2			Assignment	1			
		2(Lab)	Systematic qualitative procedure for functional group identification of - Mock test		Demonstration	1							

Signature of the Lecturer

Signature of the Principal