


Class: XII

Organic Chemistry

Week	Day	Chapter	Page	Content	Reference (Book)	
1	Wednesday Thursday	Stereoisomerism				Edexcel A2 CHEMISTRY Book
				1. Optical Isomerism : cause of optical activity, chiral or asymmetric centre, enantiomer, racemic mixture, meso compounds, diastereoisomers, plane of symmetry, mirror image, etc.	Chemistry --R N Ramsden	
				2. Geometrical Isomerism : Condition, <i>cis-trans</i> and <i>E-Z</i> isomerism, properties.		
				3. Rotational Isomerism (conformation): Conformation of cyclohexane—chair-boat conformations, axial and equatorial bonds, stability of chair and boat forms.		
		Reaction Mechanism				
				1. Nucleophilic Substitution : S _N 1 and S _N 2 mechanism, formation of enantiomer and inverted products, stability of carbocations, rate expression, one-step and two-step mechanism. 2. Electrophilic Substitution : Substitution in benzene ring, Friedel-Crafts reaction and its mechanism. 3. Addition Reaction : Addition of Br ₂ to alkenes (<i>trans</i> addition), addition of HBr to propene, CH ₃ -CH=CH ₂ , <i>Markovnikov</i> rule. Addition of KMnO ₄ (aq), stereochemistry (<i>cis</i> addition) 4. Elimination Reaction : formation of alkenes (by dehydration of alcohols), mechanism of dehydration, dehydrohalogenation(-HX) of alkyl halides(RX), formation of major and minor products.	Edexcel A2 CHEMISTRY Book Chemistry --R N Ramsden	
		Identification of Functional Groups				
2	Wednesday Thursday			1. Test for unsaturation, >C=C< : Colour tests—Br ₂ and KMnO ₄ test. 2. Test of OH : PCl ₅ test 3. Test of >C=O group : DNP test, distinction between aldehydic and ketonic >C=O, the <i>Tollen's</i> and <i>Fehling's</i> test 4. Test for COOH Group : HCO ₃ ⁻ test 5. Amide, -CONH₂ test : test with soda-lime (NaOH-CaO) 6. Iodoform test : test of CH ₃ CO-, CH ₃ -CHOH-, and only CH ₃ CH ₂ OH (with I ₂ +HO ⁻)	Edexcel A2 CHEMISTRY Book Chemistry --R N Ramsden	

		Preparation of Some Common Organic Compounds		
3	Wednesday Thursday		<p>1. Ethanal ($\text{CH}_3\text{CH}=\text{O}$) from ethanol: detail procedure, apparatus, separation, test of ethanol chemical and IR), etc.</p> <p>2. Ethanoic acid (CH_3COOH): from ethanol: detail procedure, apparatus, separation, test of ethanol chemical and IR), etc.</p> <p>3. Distillation and Reflux: Difference and usefulness</p> <p>4. Benzoic Acid, $\text{C}_6\text{H}_5\text{COOH}$: from methyl benzene, detail procedure, working-out methods, recrystallisation, T_m of benzoic acid, test (chemical and IR)</p> <p>5. Acetanilide, $\text{C}_6\text{H}_5\text{NHCOCH}_3$ from aniline, ($\text{C}_6\text{H}_5\text{NH}_2$), apparatus, detail procedure, identification (by T_m), recrystallisation, etc.</p> <p>6. Cyclohexene from cyclohexanol: An example of elimination reaction, apparatus, detail procedure, test of cyclohexene, IR.</p> <p>7. Ethylethanoate, $\text{CH}_3\text{CO}_2\text{C}_2\text{H}_5$: from ethanoic acid and ethanol (an example of esterification reaction), apparatus detail procedure, separation, test(s).</p>	<p>Edexcel A2 CHEMISTRY Book</p> <p>Chemistry --R N Ramsden</p>



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