Class: **XI**

Organic Chemistry

Week	Day	Chapter	Page	Content	Reference (Book)
1	Wednesday Thursday	Hydrocarbons : Alkanes			
				1. Nomenclature (Open-chain and Cyclic) 2. Skeletal Structure 3. Preparation 4.Reformation 5. Combustion 6. Halogenation : Free-radical Substitution (Mechanism) 7. Petroleum : Octane Number, Pollutants from octane-burn, cause of acid-rain, TEL, knocking of engines, Fractionation, etc.	Edexcel AS CHEMISTRY Book
		Hydrocarbons : Alkenes			
				1. Nomenclature (Open-chain and Cyclic) 2. Homologous series 3. Skeletal Structure 4. Preparation (from alcohols and halides) 5. Isomerism (specially geometrical isomerism : *cis-trans* and *E-Z*) 6. Reactions : Addition reaction : (i) Addition of H_2, HX H_2O, X_2, aq $KMnO_4$, etc. 7. Test of alkenes 8. Simple Mechanism of Addition reactions (Ex: $CH_2{=}CH_2 + Br_2$, $CH_2{=}CH_2$ + HBr) 9. Polymerisation: *Polyethene, polypropene, PVC, polystyrene, rubber, Persplex, Teflon, ploychloroethene, etc.* 10. Infra-red (IR) Spectroscopy of Alkenes (bands for C=C at 1600 cm^{-1})	
		Halogeno Alkanes (RX)			
2	Wednesday			1. General formula 2. Nomenclature 3. Isomerism 4. Skeletal Structure 5. Preparation from i) alkanes, (ii) alkenes, (iii) alcohols 6. Reactions : reduction, hydrolysis(substitution) elimination 7. Simple Mechanism of Substitution Reaction (S_N1 and S_N2 mechanism)	

		Alcohols (R-OH)			
2	Thursday			1. General formula 2. Nomenclature 3. Isomerism 4. Skeletal Structure 5. Classification : 1^0, 2^0, and 3^0 alcohols 6. Functional Group 7. Test of Alcohols ($ROH+PCl_5\rightarrow$, oxdn with $K_2Cr_2O_7$) 8. Preparation : from alkenes, halides, esters. *Fermentation*, etc. 9. Physical Properties: Boiling temperature (T_b), solubility in water (hydrogen-bonding) 10. Reactions : Oxidation, reduction, dehydration, esterificaton 11. Rectified Spirit, Absolute Alcohol 12. Mechanism of Hydrolysis : ($RX+ NaOH(aq)\rightarrow$: S_N1 and S_N2) 13. Infra-red (IR) Spectroscopy of Alcohols (broad bands for O-H at 3600-3400 cm^{-1})	
		Carboxylic Acids, R-(C=O)-O-H			
3	Wednesday and Thursday			1. General Formula 2. Nomenclature 3. Laboratory test for carboxyl group 4. Physical property : acidity, solubility in water 5. Preparation (from alcohols) 6. Reaction : Acidity, pH value, decarboxylation of, esterification, amide formation, amino acids, neutralisation reaction, with metals 7. Vinegar. 8. 13. Infra-red (IR) Spectroscopy of Carboxylic Acids 9. Optical Activity in Carboxylic Acids [lactic acid, CH_3-CH(OH)-COOH], amino acids 10. Fatty acids, etc 11. Fats, Oils, and Soap (Na/K-salts of fatty acids) 12. Condensation Polymers of dioic acids (with diols) 13. Infra-red (IR) Spectroscopy of Carboxylic Acids (bands for >C=O and O-H)	

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