

Department of Chemistry (session 2018-2019)

Name of Associate Professor: Shashi Hans

Class: B.Sc. IIIrd Sem (Non-Medical)

Subject: Organic Chemistry

Week 1 (July 16th - July 21st)

Nomenclature of alcohols, physical properties.

Week 2 (July 23rd - July 28th)

Preparation of alcohols from aldehydes, ketones, etc

Week 3 (July 30th - Aug 4th)

Acidic nature of alcohols, Reactions of alcohols.

Week 4 (Aug 6th - Aug 11th)

Reactions of alcohols, Dihydric alcohols.

Week 5 (Aug 13th - Aug 18th)

Chemical reactions of vicinal glycols.

Week 6 (Aug 20th - Aug 25th)

Oxidation cleavage [$\text{Pb}(\text{OAc})_4$ & HIO_4]

Week 7 (Aug 27th - Sep 1st)

Pinacol-Pinacolone Rearrangement.

Week 8 (Sep 3rd - Sep 8th)

Chemical & physical properties of phenols & their preparation.

Week 9 (Sep 10th - Sep 15th)

Reactions of phenols - Electrophillic aromatic substitution,

Week 10 (Sep 17th - Sep 22nd)

Fries Rearrangement, Claisen Rearrangement, Kolbe's rearrangement, Reimer-Tiemann Rearrangement.

Week 11 (Sep 24th - Sep 29th)

Introduction & preparation of epoxides, reaction chemistry of epoxides.

Week 12 (Oct 1st - Oct 6th)

Nomenclature of carboxylic acids, structure & bonding, physical & chemical properties.

Week 13 (Oct 8th - Oct 13th)

Chemical reactions, Hell-Volhard-Zelinsky Reaction, Reduction of carboxylic acids.

Week 14 (Oct 15th - Oct 20th)

Mechanism of decarboxylation, prepⁿ of acid-chlorides, esters, amides & acid-anhydrides.

Week 15 (Oct 22nd - Oct 29th)

Relative stability of acyl derivatives, interconversion of acid derivatives by nucleophillic acyl substitution, Esterification & Hydrolysis.

Week 16 (Oct 29th - Nov 3rd)

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Introduction of UV spectroscopy; Lambert's Beer Law, UV spectra, types of electronic transition Effect of conjugation.

Week 17 (Nov 5th - Nov 17th)

Chromophore, Auxochrome, Bathochromic shift, Hypsochromic shift, Hyperchromic & Hypochromic shift, Woodward-Fieser rules for conjugated dienes, trienes & polyenes.

Week 18 (Nov 19th - Nov 24th)

Woodward-Fieser rules for α, β -unsaturated ketones
Applications of UV-spectroscopy.