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DATE	CURICULUM (BSc III SEM)
24 July to 15 Aug 16 Aug to 31 Aug	**ORGANIC CHEMISTRY** Section-A 1. Alcohols Monohydric alcohols nomenclature, methods of formation by reduction of aldehydes, ketones, carboxylic acids and esters. Hydrogen bonding. Acidic nature. Reactions of alcohols. Dihydric alcohols — nomenclature, methods of formation, chemical reactions of vicinal glycols, oxidative cleavage [Pb(OAc)4 and HIO4] and pinacol-pinacolone rearrangement. 2. Epoxides Synthesis of epoxides. Acid and base-catalyzed ring opening of epoxides, orientation of epoxide ring opening, reactions of Grignard and organolithium reagents with epoxides
01 Sept to 15 Sept	Section-B Phenols Nomenclature, structure and bonding. Preparation of phenols, physical properties and acidic character. Comparative acidic strengths of alcohols and phenols, resonance stabilization of phenoxide ion. Reactions of phenols — electrophilic aromatic substitution, Mechanisms of Fries rearrangement, Claisen rearrangement, Reimer-Tiemann reaction, Kolbe's reaction and Schotten and Baumann reactions.
16 Sept to 30 Sept	Section-C Ultraviole t (UV) absorption spectroscopy Absorption laws (Beer-Lambert law), molar absorptivity, presentation and analysis of UV spectra, types of electronic transitions, effect of conjugation. Concept of chromophore and auxochrome. Bathochromic, hypsochromic, hyperchromic and hypochromic shifts. UV spectra of conjugated enes and enones,Woodward- Fieser rules, calculation of max of simple conjugated dienes and , -unsaturated ketones. Applications o f UV Spectroscopy in structure elucidation of simple organic compounds.
01 oct to 31 oct	Section-D Carboxylic Acids & Acid Derivatives Nomenclatu re of Carboxylic acids, structure and bonding, physical properties, acidity of carboxylic acids, effects of substituents on acid strength. Preparation of carboxylic acids. Reactions of carboxylic acids. Hell-Volhard-Zelinsky reaction. Reduction of carboxylic acids. Mechanism of decarboxylation. Structure, nomenclature and preparation of acid chlorides, esters, amides and acid anhydrides. Relative stability of acyl derivatives. Physical properties, interconvers ion of acid derivatives by nucleophilic acyl substitution. Mechanisms of esterification and hydrolysis (acidic and basic).

01 Nov to 10 Nov	**INORGANIC CHEMISTRY** Section-A Chemistry of Elements of Ist transition series: Definition of transition elements, position in the periodic table, General characteristics & properites of Ist transition elements,. Structures & properties of some compounds of transition elements – TiO_2, $VOCl_2$, $FeCl_3$, $CuCl_2$ and $Ni(CO)_4$
10 Nov to 20 Nov	Section-B Chemistry of Elements of IInd & IIIrd transition series General characteristics and properties of the IInd and IIIrd trans ition elements Comparison of properties of 3d elements with 4d & 5d elements with reference only to ionic radii, oxidation state, magnetic and Spectral properties and stereochemistry
21 Nov to Last	REVISION