CH212	ORGANIC CHEMISTRY	L	T	P	C	Int	Ext
		3	-	-	3.0	30	70

Semester III [Second Year]

COURSE OBJECTIVES:

1. To learn the various factors involved in reactivity of Organic compounds
2. To familiarize about the major organic reactions and their mechanisms
3. To know about the basics of isomerism and stability of Cycloalkanes
4. To learn the synthetic importance of the selective reagents and useful reactions in organic synthesis

COURSE OUTCOMES:

After successful completion of the course, the students are able to

1. Predict the stability and reactivity of organic compounds
2. Understand the mechanisms of different named reactions and predict the products formed
3. Illustrate the optical and geometrical isomers, stability of cycloalkanes
4. Explain the synthetic importance of some reagents and organic reactions

UNIT I [CO:1] **(12)**

Electron displacements in a Molecule & Reaction intermediates:

Polar effects - Inductive effect, Mesomeric effect and electromeric effect, resonance, hyper conjugation, steric hindrance. Reaction Intermediates-Structure & stability of Carbocation, Carbanion and free radicals.

Types of Organic Reactions:

Reaction mechanisms of substitution (SN1 and SN2), Elimination (E1 and E2), Saytzeffs Rule, Addition reactions: Markownikoffs rule and anti-markonikoffs rule.

UNIT II [CO:2] **(12)**

Electrophilic addition Reactions:

Friedel Crafts reaction, Riemer - Tiemann reaction, Beckmann rearrangement reaction.

Nucleophilic addition Reactions:

Aldol condensation, Perkins Reaction - Benzoin condensation, Cannizaro reaction.

UNIT III [CO:3] **(12)**

Stereo Chemistry:

Basics of optical and geometrical isomerisms - Enantiomers, Diastereomers, Meso compounds, Sequence Rules, R and S, E and Z configuration.

Confirmational Analysis:

Confirmations of Ethane, n-butane and cyclohexane. Stability of cyclohexane, Bayer Strain Theory.

UNIT IV [CO:4] **(12)**

Reagents and their Synthetic Importance:

Preparation and applications of Aluminium Chloride, N-Bromosuccinamide, Dicyclo hexyl carbodinamide (DCC), Potassium tertiary butoxide, Grignard reagent, Diazomethane

Some of Organic reactions:

Oxidation: Oxidation of alcohols and carbonyl compounds with suitable examples.Reduction: Reduction of double and triple bonds and carbonyl compounds with suitable examples.

LEARNING RESOURCES:

TEXT BOOK(s):

1. The book of Organic Chemistry B.S.Bahl and Arun Bahl 22nd Edition S.Chand & CO.,Delhi.
2. The book of Organic Chemistry Vol.2 , I.L Finar, 6th Edition , Pearson education

REFERENCE BOOK(s):

1. The book of Organic Chemistry, R.T.Morrison and R.N.Boyd, 6th Edition, PHI, Delhi
2. Principles of Organic Chemistry, M.K Jain, 9th edition.s.Nagin&Co