

18BP031 PHARMACEUTICAL ORGANIC CHEMISTRY-II

Hours Per Week :

L	T	P	CP	CL
3	1	4	2	4

Total Hours :

L	T	P	WARA	SSH/SHS	CS	SA	S	BS
45	1	60						

SCOPE:

This subject deals with general methods of preparation and reactions of some organic compounds. Reactivity of organic compounds is also studied here. The syllabus emphasizes on mechanisms and orientation of reactions. Chemistry of fats and oils are also included in the syllabus.

COURSE OUTCOMES:

Upon completion of the course, the student will be able to achieve the following outcomes:

COs	Course Outcomes	POs	PSOs
1	write the structure, name and the type of isomerism of the organic compound.	1,4	1,2
2	write the reaction, name the reaction and orientation of reactions.	1	2
3	account for reactivity/stability of compounds.	1	2
4	prepare organic compounds.	1	1,2
5	Apply the knowledge to synthesize various organic compounds.	1,4	1,2

General methods of preparation and reactions of compounds superscripted with asterisk (*) to be explained; To emphasize on definition, types, classification, principles/mechanisms, applications, examples and differences.

UNIT - I **10HOURS**

BENZENE AND ITS DERIVATIVES:

A. Analytical, synthetic and other evidences in the derivation of structure of benzene, Orbital picture, resonance in benzene, aromatic characters, Hackle's rule.

B. Reactions of benzene - nitration, sulphonation, Halogenation- reactivity, Friedel crafts alkylation- reactivity, limitations, Frieda crafts acieration.

C. Substituents, effect of substituents on reactivity and orientation of mono substituted benzene compounds towards electrophonic substitution reaction.

D. Structure and uses of DDT, Saccharin, BHC and Chloramine.

UNIT - II **10HOURS**

PHENOLS: Acidity of phenols, effect of substituents on acidity, qualitative tests, Structure and uses of phenol, cresols, resorcinol, naphthols.

AROMATIC AMINES: Basicity of amines, effect of substituents on Basicity, and synthetic uses of aryl diazonium salts.

AROMATIC ACIDS: Acidity, effect of substituents on acidity and important reactions of benzoic acid.

UNIT - III **10 HOURS**

Fats and Oils : Fatty acids –reactions; Hydrolysis, Hydrogenation, Saponification and Rancidity of oils, Drying oils; Analytical constants – Acid value, Saponification value, Ester value, Iodine value, Acetyl value, Reichert Meisl (RM) value – significance and principle involved in their determination.

UNIT- IV **08HOURS**

Poly nuclear hydrocarbons: Synthesis, reactions; Structure and medicinal uses of Naphthalene, Phenanthrene, Anthracene, Diphenyl methane, Triphenylmethane and their derivatives.

UNIT- V **07HOURS**

CYCLE ALKANES: Stabilities – Baeyer's strain theory, limitation of Baeyer's strain theory, Cousin and Moffitt's modification, Sachsen Mohr's theory (Theory of strain less rings), reactions of cyclopropane and cyclobutane only.

