

SARDAR PATEL UNIVERSITY
Programme: B.Sc (Chemistry)
Semester: III
Syllabus with effect from: JUNE 2012

Paper Code: US03ECHE04	Total Credit: 2
Title Of Paper: Organic Chemistry	

Unit	Description in detail	Weighting (%)
I	Fundamental Aspects In Organic Chemistry Hybridization, Sigma and pi bonds, Hydrogen bond, Inductive effect, Electronic effect, Resonance effect, Hyperconjugation, Steric effect, Acid and bases, Definition, Structure and stability of free radical, Carbocation, Carbanion and Benzene, Energy profiles	
II	Phenols, Alcohols, Ethers And Epoxides Structure, Nomenclature, Preparation, Physical properties, Salts of phenol, Acidity of phenols, Reactions. Alcohols- Structure, Classification, Nomenclature, Preparation, Physical properties, reactions, Alcohols as acids and bases, Synthesis using alcohols, Formation of 1,2-diols, Analysis of 1,2-diols, Oxidation cleavage of polyhydroxy alcohols. Ethers- Structure, Nomenclature, Preparation, Physical properties, Reactions, Cyclic ethers. Epoxides- Preparation and reactions.	
III	Aldehydes, Ketones, Carboxylic Acids And Their Derivatives Structure, Classification, Nomenclature, Preparation, Physical properties, Nucleophilic addition reactions, Base promoted halogenation of ketones, Acid catalyzed halogenation of ketones. Structure, Nomenclature, Preparation, Physical properties, Salts of carboxylic acids, Acidity of carboxylic acids, Effect of substituents on acidity, Reactions, reactions of acid chloride, Acid anhydrides, Amides and esters. Preparation of malic acid and tartaric acid from maleic acid, preparation of citric acid from glycerol.	
IV	Amines And Diazonium Salts Amines- Structure, Nomenclature, Preparation, Hoffman rearrangement, Physical properties, Salts of amines, Basicity of amines, Effect of substituents on basicity, reactions, Hoffman elimination, Analysis of amines, Phase transfer catalyst. Diazonium salts- Synthesis, reaction and characteristics.	

Basic Text & Reference Books:-

- Organic Chemistry by M. K. Jain and S. C. Jain (Shoban Lal Nagin Chand & Co. Educational Publishers, Jalandhar).
- Organic Chemistry by Robert T. Morrison and Robert T. Boyd (VIth Edition, Prentice Hall of India Pvt. Ltd. New Delhi)
- Organic Chemistry by R. K. Bansal (Tata McGraw – Hill Publishing Co. Ltd. New Delhi)

