

SARDAR PATEL UNIVERSITY**Programme: B.Sc (Chemistry)****Semester: VI****Syllabus with effect from: November/December-2013**

Paper Code: US06CCHE01	Total Credit: 3
Title Of Paper: Organic Chemistry	

Unit	Description in detail	Weighting (%)
I	Carbohydrates-I Introduction of monosaccharides, Definition and Classification, (+)-Glucose: an aldohexose, (-)-Fructose: 2-ketohexose, Stereo isomers of (+)-glucose, Oxidation Effect of alkali, Osazone formation Epimers, Kiliani-Fischer synthesis, Ruff degradation, Conversion of an aldose into its epimers, The Fischer proof, Configuration of aldose, Optical families D and L-Tartaric acid, Families of aldose, Absolute configuration, Cyclic structure of D-(+)-glucose, Configuration about C-1, Methylation, Determination of ring size, Conformation. Carbohydrate-II Disaccharides And Polysaccharides Disaccharides, (+)-Maltose, (+)-Cellobiose, (+)-Lactose, (+)-Sucrose, Cyclodextrine, Structure of cellulose, Reaction of cellulose, Basic Text & Reference Books :- ➤ Organic Chemistry by Morrison and Boyd, 6 th ed.	
II	Polynuclear Aromatic Compounds Fused ring aromatic compounds, Nomenclature of naphthalene derivatives, Structure of naphthalene, Reactions of naphthalene, Oxidation of naphthalene, Reduction of naphthalene, Dehydrogenation of hydroaromatic compounds. Aromatization, Nitration and halogenation of naphthalene, Orientation of electrophilic substitution in naphthalene, Friedal-Craft acylation of naphthalene, Sulphonation of naphthalene, Naphthols, Orientation of electrophilic substitution in naphthalene derivatives, Synthesis of naphthalene derivatives by ring closure (Haworth method). Structure of Naphthalene, Nomenclature of anthracene and phenanthrene derivatives, Structure of anthracene and phenanthrene, Reactions of anthracene and phenanthrene, Preparation of anthracene derivative by ring closure. Anthraquinone, Preparation of phenanthrene derivative by ring closure, Carcinogenic hydrocarbon. Arene oxides,	
III	Orbital Symmetry And Pericyclic Reactions Introduction to pericyclic reaction, Characteristics of pericyclic reaction, Molecular orbitals, LCAO method, Bonding and anti-bonding orbitals, Electronic configuration of some molecules, Aromatic character. The Huckel (4n+2) rule, Orbital symmetry and the chemical reaction, Electrocyclic reaction, Cycloaddition reaction, Sigmatropic reaction, Cope rearrangement.	
IV	Dyes And Pigment Introduction, Textile fiber or type of fiber, Dyeing, Fastness properties, Bathochromic and hypsochromic effect, Colour and constitutions, Relation between colour and constitutions including (Witt's theory only), Modern theories of colour and constitution, Pigments, Fluorescent Brightening agents,	



	<p>Non-textile use of Dyestuff, Detail consideration about food colorants and medicinal Dyes. Synthesis and applications of following dyes from cheapest raw materials. Direct Yellow 12, Auramine O, New Magenta, Disperse Orange 13, Disperse Blue 1, Mercurochrome, Saframine T, Astrazon Pink FG, Caledon Jade Green, Tartrazine, Procion Brilliant M5B, Hansa Yellow, Ciba Blue 2B, Crystal Violet, C.I. Disperse Blue</p> <p>Basic Text & Reference Books :-</p> <ul style="list-style-type: none"> ➤ Reaction mechanism in Organic Chemistry by S. M. Mukherji. ➤ Other topics from Organic reaction mechanism by R.K. Bansal, 3rd ed. 	
--	---	--

Books Recommended for Further Reading:

- Hand book of synthetic Dyes and Pigments, Vol.I and II, Synthetic Dyes, By K. M. Shah).
- A text book of organic chemistry by Arun Bahl and B. S. Bahl (16th ed.).
- Reaction mechanism in organic chemistry by S.M.Mukherji and S.P.Singh
- Organic chemistry by S.M.Mukherji, S.P.Singh and R.P.Kapoor., vol. II.

