

**SARDAR PATEL UNIVERSITY**  
**Programme: B.Sc (Chemistry)**  
**Semester: V**  
**Syllabus with effect from: June-2013**

<b>Paper Code: US05CCHE02</b>	<b>Total Credit: 3</b>
<b>Title Of Paper: Organic Chemistry</b>	

Unit	Description in detail	Weighting (%)
I	<p><b>Reaction Mechanism</b>            Baeyer Villiger oxidation, Hofmann – Loeffler reaction, Mannich reaction, Curtius–Schmidt rearrangement, Benzilic acid rearrangement, Sommler rearrangement, Birch reduction, Favorskii rearrangement, Benzoin condensation, Beckmann rearrangement, Wittig reaction, Perkin reaction.</p> <p><b>Basic Text &amp; Reference Books :-</b></p> <ul style="list-style-type: none"> <li>➤ Reaction mechanism in Organic Chemistry by S. M. Mukherji.</li> <li>➤ Organic reaction mechanism by R.K. Bansal, 3<sup>rd</sup> ed.</li> <li>➤ Org. Chem., Vol II, by I.L. Finar.</li> <li>➤ Principles of Org. synthesis, by ROC Norman.</li> <li>➤ Reaction mechanism in Organic Chemistry S. M. Mukherji and S. P. Singh.</li> </ul>	
II	<p><b>Drug</b>            Introduction, Classification of drugs. Introduction and classification of following selected class of drugs. Hypnotics, sedative and anticonvulsants, Histamine and antihistaminic agents, Hematological agents, Antipyretic and analgesics, Mode of action of antipyretic drug. Anthelmintics Antimalarial, Antiseptic, Sulphanilamides, Mechanism of action of sulpha drug. Antitubercular and antileprosy drugs.</p> <p>Synthesis and uses of following drugs (i) Nirvanol (ii) Thiobarbitone (iii) Phenobarbitone (iv) Dimenhydrinate (v) Chlorcyclizine hydrochloride (vi) Novalgin (vii) Phenylbutazone (viii) Hetrazan (ix) Miracil-D (x) Chloroquine (xi) Primaquine (xii) Vioform, (xiii) Sulphamethazine, (xiv) Sulphafurazole (xv) Marfanil (xvi) PAS (xvii) Acedapsone (xviii) Warfarin (xix) Chlorpheniramine Meleate.</p> <p><b>Basic Text &amp; Reference Books :-</b></p> <ul style="list-style-type: none"> <li>➤ Synthetic Drugs 6<sup>th</sup> ed. by Gurdeep R. Chatwal.</li> <li>➤ Medicinal chemistry 3<sup>rd</sup> ed. by Ashutosh Kar.</li> </ul>	
III	<p><b>Terpenoids</b>            General introduction including nomenclature, General properties of terpenoids, Isolation, Isoprene rule, Classification of terpenoids, General methods for the determination of structure of terpenoids. Introduction, isolation and constitution of Citral, <math>\alpha</math>- terpineol, Geraniol, Nerol, Linalool.</p> <p><b>Basic Text &amp; Reference Books :-</b></p> <ul style="list-style-type: none"> <li>➤ Organic chemistry of natural products by Gurdeep Chatwal, Vol. II.</li> </ul>	
IV	<p><b>Hormones</b>            Introduction, including difference between Hormones and Vitamins, Sex</p>	



<p>hormones. Introduction, constitution and Hughes's <i>et al</i> synthesis of Oestrone, Introduction, constitution and synthesis of Testosterone. Adrenaocortical hormones.</p> <p><b><math>\alpha</math>, <math>\beta</math>-Unsaturated Carbonyl Compounds</b></p> <p>Structure and properties, Preparation, Interaction of functional group, Electrophilic addition, Nucleophilic addition, Comparison of nucleophilic and electrophilic addition Michael addition, Synthesis of acids and esters via 2-oxazolines.</p> <p><b>Basic Text &amp; Reference Books :-</b></p> <ul style="list-style-type: none"><li>➤ Organic chemistry of natural products by Gurdeep Chatwal, Vol. II. 5<sup>th</sup> Edition.</li></ul>	
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