GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. Semester - 3

Subject Code 230003
Subject Name Pharmaceutical Chemistry-III (Organic)

Sr.No	Course content
1.	Structure and Properties : Introduction to organic chemistry, quantitative analysis of elements, determination of molecular weight and molecular formula, Atomic structure, atomic orbitals, wave equation, molecular orbital theory, molecular orbitals, bonding and antibonding orbitals.
2.	Chemical bonding and Properties : Introduction, covalent bond, hybridization and hybrid orbitals, intermolecular and intramolecular forces, bond dissociation energy, electronegativity, polarity of bonds, polarity of molecules, resonance, hyperconjugation, acids and bases
3.	Reactive intermediates of carbon : Carbocation, carbanion, free radical, carbenes, nitrenes and nitrinium ions, reaction involving these intermediates.
4.	Structure, properties, nomenclature, preparation and reactions of the following class of functional groups Alkanes, alkenes, alkynes, dienes, cycloalkanes, alkyl halides, alcohols, ethers, epoxides.
5.	Electrocyclic cycloaddition and sigmatropic reactions, neighboring group effects, catalysis by transition.

Pharmaceutical Chemistry-III (Organic) – Practicals(230003P)

Systematic qualitative analysis of organic compounds and preparation of their derivatives. (Organic compounds of all types of functional groups)

Reference Books:

1. Organic Chemistry, Robert T. Morrison and Robert N. Boyd, 6th Ed., Pearson Education, 2002.
2. Organic Chemistry, G. Marc Loudon, 4th Ed., Oxford University Press, 2004.
3. Organic Chemistry, Vol I and II by I. L. Finar, 6th Ed., Pearson Education, 2000.
4. Advanced Organic Chemistry, Jerry March, 4th Ed., Wiley India, 2007.
5. Vogel's textbook of practical organic chemistry, 5th Edition, Pearson Education Ltd., 2005
6. "Experimental Organic Chemistry" L. M. Harwood, L. J. Moody, J. M. Percy, 2nd Edition, Blackwell Science, 2005.
7. Techniques and Experiment of Organic Chemistry, Addison Ault, 6th Edition, University Science Books, 1998.
8. Introduction to Organic Laboratory Techniques, A Microscale Approach, Donald L. Pavia, Gary M. Lampman, George S. Kriz, 3rd Edition, Harcourt College Pub., 4th Edition, 2007.