

M.Sc. Semester-III
Organic Chemistry Paper –V
Photo Chemistry
CHNN-605 (B)
(Subject Elective)

Unit-1: Photochemistry & Photochemistry of Alkenes: 50% (15 Hours)

Introduction of Electromagnetic Radiant with Matter, Law of Photochemistry, Fate of Excited Molecule, Types of Excitations, Transfer of Excitation Energy, Quantum Yield / Quantum Efficiency, Photolytic Cleavage, The fate of Excited Molecule, Physical and Chemical Process, Intermolecular Reactions of the Olefinic Bond, Geometrical Isomerism, Cyclisation Reactions, Rearrangement of 1,4 and 1,5 dienes.

Unit-2: Photochemistry of Carbonyl & Aromatic Compounds

50% (15 Hours)

Norrish Type-1 α -Cleavage Reaction, Norrish Type-2 Reaction, Intermolecular Reactions of Carbonyl Compounds Saturated Cyclic and Acyclic, β - γ , unsaturated and α - β , Unsaturated Compounds, Cyclohexanones, Intermolecular Cycloaddition Reactions Dimerization and Oxetane Formation, Isomerization, Additions and Substitutions, Di- π Methane Rearrangement.

Basic Text & Reference Books:

1. Fundamentals of Photochemistry K.K. Rohatgi-Mukherjee, Wiley Eastern
2. Essentials of Molecular Photochemistry Agillbertandj Baggott Blackwell Scientific
3. Molecular Photochemistry N.J Turro W A Benjamin.
4. Introductory Photochemistry ACox andTCamp McGraw-Hill
5. Photochemistry, R.P Kundall and A.Gillbert Thomson Nelson
6. Organic Photochemistry J. Coxon and Balton Cambridge University Press.
7. Environmental Chemistry H Kaur Pragati 8th Edition 2014 ISBN:978-93-5140-060-8
8. Vogel's Textbook of Practical Organic Chemistry, 5th edition, B. S. Furniss, A. J. Hannaford, P. W. G. Smith, A. R. Tatchell (Pearson Education)
9. Comprehensive Practical Organic Chemistry: Preparation and Quantitative analysis, V.K. Ahluwalia, Renu Aggarwal (Universities Press)