

BS (4 Years) for Affiliated Colleges



Code	Subject Title	Cr. Hrs	Semester
CHEM-429	Organic Chemistry (Sp. Theory-II)	4	VIII
Year	Discipline		
4	Chemistry		

SYLLABUS OUTLINE:

1. Reactive Intermediates:

Carbenes, nitrenes, and Arynes, structure and evidence for formation, general reactions and synthetic applications

2. Organic Synthesis:

An outline of the recent developments in organic syntheses involving boron, phosphorus, silicon reagents, reaction conditions and methods; phase transfer catalysis involving quaternary ammonium, phosphonium salts and crown ethers, solid phase synthesis, Introduction to protective groups, protection of hydroxyl, amino, carbonyl and carboxylic groups, reactions involving the introduction and removal of some common protective groups and synthetic applications. Introduction to disconnection approach.

3. Pericyclic reactions:

Introduction, Woodward-Hoffmann rules and molecular orbital theory; cycloaddition, electrocyclic and sigmatropic rearrangement and group transfer reactions.

RECOMMENDED BOOKS:

1. Organic Chemistry, Volume I (6th ed.) & II (5th ed.) by I.L. Finar, Pearson Education (Singapore) Pte Ltd, 2008.
2. March's Advanced Organic Chemistry: Reactions, Mechanisms, and Structure, 6th ed. by Michael B. Smith, Jerry March, Wiley, 2007.
3. Organic Chemistry, 5th ed.; by S. H. Pine, McGraw Hill: New York, 1987.
4. Organic Chemistry 6th ed. by Francis A. Carey, McGraw Hill, 2005.
5. Organic Chemistry 6th ed, by R. T. Morrison, R. N. Boyd, and R. K. Boyd, Benjamin Cummings, 1992,.
6. Phase-transfer catalysis: fundamentals, applications, and industrial perspectives by C. M. Starks, C.L. Liotta and M. Halpern, Chapman & Hall, 1994.
7. Principles in Organic Synthesis by R.O.C Norman & J. M. Coxon, Chapman and Hall, 1993.
8. Organic Chemistry by Jonathan Clayden, Nick Greeves, Stuart Warren, Oxford University Press 2000.
9. Electrocyclic Reactions by F. L. Ansari, R. Qureshi, M. L. Qureshi, 1999, Wiley-VCH.
10. Reactive Intermediates in Organic chemistry, N. S. Isaac, John Wiley and Sons, 1974.
11. Work book for Organic Synthesis, The disconnection approach, Stuart Warren, John Wiley and Sons, 1994,.
12. Organic Synthesis, The disconnection approach, Stuart Warren, 1993, John Wiley and Sons 1993.

13. Designing Organic Synthesis, A Programmed Introduction to synthon approach, S. Warren, John Willey and Son, 1992.
14. Guide book to Organic Syntheses, R. K. Mackie, D. M. Smith, Longman Group Limited, 1982.