Course Title: Organic Synthesis II

Semester- VIII
Course Code: CH-476
Credit Hours: 3-0
Prerequisite: Nil

Course Objectives

1. Students will acquire knowledge and understanding to design protocols for synthesis of small to medium sized organic compounds and be able to carry out retrosynthetic analysis,and propose alternative routes to synthesize a compound.

Course Contents

2. Principles and importance of organic synthesis, Introduction to retrosynthesis and disconnection approach, synthesis of aromatic compounds; one and two group carbon C-X disconnections, donor and acceptor synthons, C-C disconnections and 1,2-, 1,3-, 1,4-, 1,5- and 1,6- difunctionalized compounds, synthesis of cyclic compounds (3-6 membered), chemo-, regio-stereoselectivity.

Course Outcomes

3. After successful completion of this course, students will be able to do retrosyntheticanalysis of different organic molecules and to propose the alternative synthetic routes of simple organic compounds.

4. Text book

b. Warren, S. and Wyatt, P., Workbook for Organic Synthesis: The DisconnectionApproach, 2nd ed., John-Wiley & Sons, Inc., (2010).

5. Recommended Books:

a. Fox, M. A. and Whitsell, J. K., Organic Chemistry, 3rd ed., Jones & BartlettPublishers (1997).
b. Clayden, J., Greeves, N., and Warren, S., Organic Chemistry, 2nd ed., OxfordUniversity Press, New York, (2012).
c. Loudon, M., Organic Chemistry, 5th ed., Roberts Company Publishers, (2009).
d. Smith, J. G., Organic Chemistry, 3rd ed., McGraw-Hill, (2010).
e. Norman, R. O. C. and Coxon, J. M., Principles of Organic Synthesis, 3rd ed., CRCPress, (1993).71