ORGANIC CHEMISTRY (BS-ADP 7th Semester)

Module Code:	**Chem-419**
Module title:	**Reaction Mechanism-III**
Name of Scheme:	**BS-ADP 7th Semester**
Department:	**School of Chemistry**
Faculty:	**Science**
Module Type:	**Compulsory**
Module Rating:	**2 credits**

OBJECTIVES:

To grasp ideas about the mechanisms, basic rules and principles working behind different types of nucleophilic substitutions and elimination reactions.

SYLLABUS OUTLINES:

1. Aliphatic Nucleophilic Substitutions

Mechanism of S_N1, S_N2, S_Ni, S_N1', S_N2' and S_Ni' reactions, kinetics, stereochemical and other evidence; effects of other substrate structure, attacking nucleophile, leaving group and solvent; neighboring group participation (Anchimeric assistance).

2. Elimination Reactions

Mechanism of E_1, E_2, and E_1cB elimination reactions; kinetics and stereochemical studies; applications of thermodynamically and kinetically controlled reactions (Saytzeff and Hoffmann reactions), Effects of substrates, solvent, base, leaving group and temperature on kinetics, competition between elimination and substitution reactions. Pyrolytic eliminations.

RECOMMENDED BOOKS:

1. Organic Chemistry, Vol. I (6th Ed.) and II (5th Ed.) by I.L. Finar, Pearson Education (Singapore) Pvt. Ltd. 2008.
2. March's Advance Organic Chemistry: Reactions, Mechanisms and Structures. (6th Ed.) by M.B. Smith and J. March, Wiley, 2007.
3. Organic Chemistry, (5th Ed.) by S.H. Pine, McGraw Hill, New York, USA, 1987.
4. Organic Chemistry, (6th Ed.) by Francis A. Carey, McGraw Hill, USA, 2005.
5. Organic Chemistry, (6th Ed.) by R.T. Morrison, R.N. Boyd and r.K. Boyd, Benjamin Cummings, 1992.
6. Modern Synthetic Reactions, (2nd Ed.) by H.O. House, W.A. Banjamin Inc., Menlo Park, CA.
7. Principals in Organic Synthesis, by R.O.C. Norman and M.J. Coxon, Chapman and Hall, 1993.
8. Heterocyclic Chemistry, (4th Ed.), by J.A. Joules, K. Mills, Blackwell Publishing, 2000.
9. Heterocyclic Chemistry, (3rd Ed.), by T.L. Gilchrist, Longman, 1997.
10. Organic Chemistry, by Jonathan Clayden, Nick Greeves and Stuart Warren, Oxford University Press, 2000.