

ORGANIC CHEMISTRY (BS-ADP 6th Semester)

Module Code:	Chem-326
Module title:	Spectroscopy
Name of Scheme:	BS-ADP 6th Semester
Department:	School of Chemistry
Faculty:	Science
Module Type:	Compulsory
Module Rating:	2 Credits

OBJECTIVES:

To acquire knowledge of the instrumentation, working and applications of UV/Visible and IR spectroscopy and role of these techniques for the characterization of organic compounds.

SYLLABUS OUTLINES:

1. Spectroscopy

a. Infra-Red (IR) Spectroscopy

Electromagnetic radiations: IR; modes of vibration, sampling techniques, Vibration frequencies of different functional groups, factors influencing the vibration frequencies and applications of IR spectroscopy.

b. Ultra-Violet (UV) and Visible Spectroscopy

Ultraviolet (UV) or electronic spectroscopy: electronic transitions; factors influencing the λ_{\max} values, Woodward-Fieser rules for calculations of λ_{\max} . Applications of UV-Vis. Spectroscopy.

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. A Text-Book of Organic Chemistry by M. Younas, ILMI, Pakistan.
4. Organic Chemistry, (5th Ed.) by S.H. Pine, McGraw Hill, New York, USA, 1987.
5. Organic Chemistry, (6th Ed.) by Francis A. Carey, McGraw Hill, USA, 2005.
6. Organic Chemistry, (6th Ed.) by R.T. Morrison, R.N. Boyd and R.K. Boyd, Benjamin Cummings, 1992.
7. Modern Synthetic Reactions, (2nd Ed.) by H.O. House, W.A. Benjamin Inc., Menlo Park, CA.
8. Principals in Organic Synthesis, by R.O.C. Norman and M.J. Coxon, Chapman and Hall, 1993.
9. Organic Chemistry, by Jonathan Clayden, Nick Greeves and Stuart Warren, Oxford University Press, 2000.