

ORGANIC CHEMISTRY (BS-ADP 7th Semester)

Module Code:	Chem-421
Module title:	NMR Spectroscopy
Name of Scheme:	BS-ADP 7th Semester
Department:	School of Chemistry
Faculty:	Science
Module Type:	Compulsory
Module Rating:	2 credits

SYLLABUS OUTLINES:

1. Nuclear Magnetic Resonance (NMR) Spectroscopy

NMR: Basic principles, theory, spin flipping, nuclear precession and absorption of electromagnetic radiation, spin relaxation, basic introduction of 1-D (¹H and ¹³C) NMR spectroscopy, chemical shifts and integration curve, instrumentation, spin-spin splitting and coupling constants. Structure elucidation of small and substituted aromatic compounds.

RECOMMENDED BOOKS:

1. Organic Spectroscopy and Chromatography, by M. Younas. Ilmi kitab khana, kabir street, urdu bazar, Lahore.
2. Organic Chemistry, (4th-7th Ed) by Paula Yurkanis Bruice, Pearson Education (Singapore) Pvt. Ltd. 2004-2015.
3. Introduction to Spectroscopy by Donald L. Pavia, Gary M. Lampman, George S. Kriz, (2nd – 5th Ed). Saunders Golden Sunburst Series, 1996-2018.
4. Organic Chemistry, Vol. I (6th Ed.) and II (5th Ed.) by I.L. Finar, Pearson Education (Singapore) Pvt. Ltd. 2008.
5. Organic Chemistry, (5th Ed.) by S.H. Pine, McGraw Hill, New York, USA, 1987.
6. Organic Chemistry, (6th Ed.) by Francis A. Carey, McGraw Hill, USA, 2005.
7. Organic Chemistry, by Jonathan Clayden, Nick Greeves and Stuart Warren, Oxford University Press, 2000.
8. Basic One and Two-Dimensional NMR Spectroscopy by Jack K. Beconsall (4th Ed). Wiley-VCH verlag GmbH & Co. KGaA, 2005.