

PHYSICAL CHEMISTRY (BS-ADP 8thSemester)

Module Code:	Chem-445
Module title:	UV & Raman Spectroscopy
Name of Scheme:	BS-ADP 8thSemester
Department:	School of Chemistry
Faculty:	Science
Module Type:	Compulsory
Module Rating:	2 credits

OBJECTIVES

Students will learn basic of all types of electronic and Raman spectroscopy and will be able to apply this knowledge in practical applications.

SYLLABUS OUTLINES

Principles of electronic transition. Types of electronic transition. Energies of atomic orbital-with reference of H-atom spectrum electronic angular momentum fine structure of H-atom spectrum. Photoelectron spectroscopy (PES).

Raman Spectra-idea of Raman scattering, Theories of Raman effect Rayleigh scattering Molecular polarizability. Rotational Raman Spectra of linear Molecules. Symmetric top molecules and spherical top molecules Vibrational Raman spectra.

RECOMMENDED BOOKS

1. Molecular spectroscopy by KV Raman, R Gopalan, P S Raghavan, Vijay Nicole imprints Ltd. 2004.
2. Physical Chemistry by Kundu, N and Jain, S.K.S. Chand and Company Ltd. 1984.
3. Fundamentals of chemical kinetics by Logan, S.R, Longman Group Ltd. 1996.
4. Elementary reaction kinetics by Latham.J.L. And Burgess, A.E.3rd Ed., Butterworths, London, 1977.
5. Physical chemistry by Atkins, P.W. 5th Ed., W.H.Freeman and Company, New York, 1994.
6. Physical Chemistry by Alberty, R.A. and Silbey. R.J., John Wiley, New York, 1995.
7. Physical chemistry by Engel, T. and Ried, P., 1st Ed., Pearson Education, Inc. 2006.