

BS (4 Years) for Affiliated Colleges



Code	Subject Title	Cr. Hrs	Semester
CHEM-423	Physical Chemistry (Sp. Theory-II)	4	VIII
Year	Discipline		
4	Chemistry		

SYLLABUS OUTLINE:

1. Polymers:

Classification of polymers; kinetics of condensation, addition and co-polymerisation reactions; Molecular mass distribution, determination of molecular masses by different methods. Analysis techniques.

2. Electronic and Raman Spectroscopy:

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.

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

RECOMMENDED BOOKS:

1. Physical Chemistry by Kundu, N and Jain, S.K.S. Chand and Company Ltd. 1984.
2. Fundamentals of chemical kinetics by Logan, S.R, Longman Group Ltd. 1996.
3. Elementary reaction kinetics by Latham.J.L. And Burgess, A.E.3rd Ed., Butterworths, London, 1977.
4. Physical chemistry by Atkins, P.W. 5th Ed., W.H.Freeman and Company, New York, 1994.
5. Physical Chemistry by Alberty, R.A. and Silbey. R.J., John Wiley, New York, 1995.
6. Physical chemistry by Engel, T. and Ried, P., 1st Ed., Pearson Education, Inc. 2006.
7. Hand book of surface and Colloid Chemistry by Birdi, K.S., CRC Press, 1997.
8. Heterogeneous Catalysis: Principles and applications by Bond, G.C., 2nd Ed., Oxford, Clarendon press, 1987.
9. Surfactants and interfacial Phenomena by Rosen, Milton J., John Wiley, New York, 1978.