ANALYTICAL CHEMISTRY (BS-ADP 8th Semester)

Module Code:	**Chem-466**
Module title:	**CompoundAnalysis**
Name of Scheme:	**BS-ADP 8th Semester**
Department:	**School of Chemistry**
Faculty:	**Science**
Module Type:	**Compulsory**
Module Rating:	**2 credits**

OBJECTIVES:

This course in about the advanced spectroscopic techniques. The students will learn the advanced structural elucidation techniques. They will be able to determine the structure of various molecules on the basis of their NMR and mass spectrometric data. The use of laser spectroscopy for the purpose of analysis will also be studied in this course

SYLLABUS OUTLINE:

1. Nuclear Magnetic Resonance Spectroscopy:

Basic principles; properties of nuclei, Chemical shifts; Spin-Spin coupling; Pulsed Fourier Transform NMR Spectrometry; Identification of structural features; Use of NMR imaging in medicine; Analytical applications of NMR spectroscopy.

2. Mass Spectrometry:

Principle, sample for mass spectrometer, sample introduction system, ionization source, mass analyzers, detections system, qualitative analysis, quantitative analysis, applications, confirmation of synthesis products, isotopes incorporation, structure elucidation, hyphenated mass-spectrometric techniques.

RECOMMENDED BOOKS:

1. New Instrumental Methods in Electro Chemistry by Faul-Delabay, Inter Science Publisher, London, N.Y.
2. Instrumental Methods of Analysis by Hobert H. Willart, Lyle L. Merrit, D. Van Nosrant Company Inc. N.Y. London.
3. Principles of Polarography by J. Herosky& J. Kuta, Academic PressN.Y. (1968).
4. Analytical chemistry by Kellner, J.M. Mermet, Wiley-VCH Verlag GmbH & Co. KGaA.
5. A text book of analytical chemistry by Y-Anjaneyulu, K-chamdarekhar, ValiManickam, Pharma book syndicate.