



AAER's

Asian College of Science and Commerce

Affiliated to SPPU and Approved by Govt of Maharashtra Accredited by NAAC with B+ Grade



Course Outcomes

The examination format consists of continuous assessment, which accounts for 30 marks for internal evaluation and 70 marks for external evaluation.

Class: M.Sc. I Organic Chemistry (Semester-I)

Sr. No	Subject	Course Outcome
1	Organic Chemistry-II	MOT and will be able to extend this in predicting reaction mechanism and stereochemistry of electrocyclic reactions.
		The concepts in free radical reactions, mechanism and the stereo chemical outcomes
		he basic principle of spectroscopic methods and their applications in structure elucidation of organic compounds using given spectroscopic data or spectra.
		Demonstrate a comprehensive understanding of the fundamental principles of physical chemistry, including thermodynamics, kinetics, quantum mechanics, and spectroscopy
2	Physical Chemistry-I	Apply mathematical concepts and problem-solving techniques to solve quantitative problems in physical chemistry, including calculations involving equilibrium constants, reaction rates, and molecular properties
		Analyze and interpret experimental data obtained from various physical chemistry laboratory techniques, such as spectroscopy, chromatography, and calorimetry Explain the underlying theories and mechanisms behind chemical phenomena, such as chemical equilibrium, phase transitions, and molecular interactions
		Critically evaluate scientific literature and research articles in physical chemistry, and effectively communicate findings through written reports and oral presentations
		Student should visualize/ imagine molecules in 3 dimensions.
3	Inorganic Chemistry	To understand the concept of symmetry and able to pass various symmetry elements through the molecule.
		Understand the concept and point group and apply it to molecules.
		To apply the concept of point group for determining optical activity and dipole moment
		Students will be able to explore new areas of research in both chemistry and allied fields of science and technology.
4	General Chemistry	Students will be able to function as a member of an interdisciplinary problem solving team.
		To impart the students thorough idea in the chemistry of carbohydrates, amino acids, proteins and nucleic acids etc.



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Class: M.Sc. I Organic Chemistry (Semester-III)

Sr. No	Subject	Course Outcome
1	Organic Chemistry-II	MOT and will be able to extend this in predicting reaction mechanism and stereochemistry of electrocyclic reactions.
		The concepts in free radical reactions, mechanism and the stereo chemical outcomes
		The basic principle of spectroscopic methods and their applications in structure elucidation of organic compounds using given spectroscopic data or spectra.
2	Physical Chemistry-II	Upon completing the course in Molecular Spectroscopy and Nuclear Chemistry, students will understand the principles and techniques underlying various spectroscopic methods, including infrared, ultraviolet-visible, nuclear magnetic resonance, and mass spectrometry
		They will be proficient in interpreting spectral data to correlate molecular structure, electronic configurations, and molecular dynamics with spectral features, facilitating compound identification and structural elucidation
		Through theoretical knowledge and practical exercises, students will apply spectroscopic methods in chemistry, biochemistry, environmental science, and materials science, contributing to analytical chemistry, molecular biology, and pharmaceutical research.
		They will explore radiation interactions with matter and radiation detection principles, understanding alpha, beta, and gamma radiation interactions and the design and operation of radiation detection instruments
3	Inorganic Chemistry	Student should be able to find out the no of microstates and meaningful term symbols, construction of microstate table for various configuration
		Student able to find out splitting of the free ion terms in weak ligand field and strong ligand field
		Interpretation of electronic spectra for spin allowed oh and td complexes using Orgel diagram.
		Hund's rules for arranging the terms according to energy
4	General Chemistry	Students will be able to explore new areas of research in both chemistry and allied fields of science and technology
		Students will be able to function as a member of an interdisciplinary problem solving team.
		To impart the students thorough idea in the chemistry of carbohydrates, amino acids, proteins and nucleic acids etc.

