



PROGRAM AND COURSE OUTCOMES

DEPARTMENT OF CHEMISTRY



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BSc CHEMISTRY

Program Outcomes

- To understand basic facts and concepts in Chemistry.
- To develop the ability for applying the principles of Chemistry.
- To appreciate the achievements in Chemistry and to know the role of chemistry in nature and in society.
- To familiarize the emerging areas of chemistry and their applications in various spheres of chemical sciences and to apprise the students of its relevance in future studies.
- To develop skills in the proper handling of instruments and chemicals.
- To be exposed to the different processes used in industries and their applications.
- To make the students eco friendly by creating in a sense of environmental awareness in them.
- To make the students aware of the applications of chemistry in day to day life.

Course Outcomes

Semester	Course	Course Outcome
1	Theoretical and inorganic chemistry I	<ul style="list-style-type: none">• Understand basic concepts in chemistry.• Understand laboratory hygiene and safety measures.
2	Theoretical and inorganic chemistry II	<ul style="list-style-type: none">• To understand basic concepts and theories of quantum mechanics.
3	Physical Chemistry - I	<ul style="list-style-type: none">• To understand properties of gaseous state and how it links to thermodynamic systems.• To understand the concepts of thermodynamics and its relation to statistical thermodynamics.
4	Organic Chemistry - I	<ul style="list-style-type: none">• To apply the concept of stereochemistry to different compounds.• To understand the basic concepts of reaction mechanism.• To analyse the mechanism of chemical reaction and to analyse the stability of different aromatic systems.
5	Inorganic Chemistry - III	<ul style="list-style-type: none">• To understand the principles behind quantitative and qualitative analysis• To understand basic processes of metallurgy and to analyse the merit of different alloys.• To understand the applications of different inorganic polymers.• To analyse different polluting agents.• To apply the principles of solid waste management.

5	Organic Chemistry - II	<ul style="list-style-type: none"> To understand the difference between alcohols and phenols. To understand the importance of ethers and epoxides. To apply the organometallic compounds in preparation of different functional groups.
5	Physical Chemistry - II	<ul style="list-style-type: none"> To apply the concept of kinetics, catalysis and photochemistry to various chemical and physical processes. To characterize different molecules using spectral methods.
6	Inorganic Chemistry - IV	<ul style="list-style-type: none"> To understand the principles behind different instrumental methods. To distinguish between lanthanides and actinides. To distinguish geometries of coordination compounds.
6	Organic Chemistry – III	<ul style="list-style-type: none"> To elucidate structure of simple organic compounds using spectral techniques. To understand the basic structure and tests for carbohydrate. To understand the basic structure of DNA, alkaloids and terpenes.
6	Physical Chemistry – III	<ul style="list-style-type: none"> To understand basic concepts of electrochemistry. To realize the importance of colligative properties.
6	Advanced and applied Chemistry	<ul style="list-style-type: none"> To understand the importance of nanomaterials, green chemistry To understand the importance and uses of computational calculations in molecular design. To realize the extent of chemistry in happiness index and life expectancy.
6	Polymer Chemistry	<ul style="list-style-type: none"> To understand various classification of polymers. To understand the important characteristics of polymers. To appreciate the importance of processing techniques.
6	Organic chemistry practical	<ul style="list-style-type: none"> To enable students to develop analytical skills in organic qualitative analysis. To analyse and characterize simple organic functional groups.
6	Inorganic chemistry practical II	<ul style="list-style-type: none"> To enable students to develop analytical skills in inorganic quantitative analysis
6	Inorganic chemistry practical - III	<ul style="list-style-type: none"> To enable the students to develop skills in inorganic qualitative analysis.

		<ul style="list-style-type: none"> To understand the principles behind inorganic mixture analysis and to apply it in qualitative analysis
6	Physical Chemistry practical	<ul style="list-style-type: none"> To enable the students to develop analytical skills in determining physical constants. To develop skill in setting up a experimental methods to determine the physical properties.
	Project work	<ul style="list-style-type: none"> To understand the scientific methods of research project. To apply the scientific method in life situations. To analyse scientific problems systematically.
	Industrial visit	<ul style="list-style-type: none"> Identify the applications of chemistry in industry.