

### **Course Outcome : Department of Chemistry**

The chemistry course curriculum for the undergraduates includes the main areas of chemistry: organic, inorganic, physical, cosmetics, pesticide, green and fuel chemistry. The purpose of the program is to provide the key knowledge base and laboratory resources to prepare students for careers as professionals in the field of chemistry. The department of chemistry works towards the development of a firm foundation in the fundamentals and application of current chemical and scientific theories. The students are taught how to design and carry out scientific experiments as well as accurately record and analyze the results of such experiments. The course is so designed that the students understand the central role of chemistry in our society and become potent enough to explore new areas of research both in chemistry and in allied fields of research and technology.

### **Specific course outcome:**

#### **Course: Atomic Structure, Bonding, General Organic Chemistry and Aliphatic Hydrocarbons (UCHTC-101)**

The students are taught to predict atomic structure, chemical bonding and molecular geometry based on accepted models.

#### **Course: Chemical Energetics, Equilibria and Functional Organic Chemistry (UCHCTC-201)**

The course lays an emphasis on physical and functional organic chemistry. The students are provided an insight to the kinetic aspects of chemical reactions, reaction equilibria, thermodynamics, nomenclature and classification of organic compounds and named organic reactions.

#### **Course: Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry (UCHCTC-301)**

This course has been designed to impart an insight into the basic principles of phase equilibrium, electrochemistry and functional group chemistry. The students will be made to understand the properties of ideal and non ideal solutions, the basic concepts of electrochemistry and its applications. They will also be taught the preparation and reactions of acids and amines along with the classification and structure of common organic compounds.

#### **Course: Coordination Chemistry, States of Matter and Chemical Kinetics (UCHTC-401)**

This course is designed to impart knowledge regarding coordination compounds, various states of matter and kinetics of chemical reactions. In this course the students are expected to learn about the

behaviour of transition and inner transition elements. Students will develop a comprehensive knowledge of kinetic theory of gases, concepts of condensed states of matter and the formation and stability of coordination complexes.

**Course: Spectroscopy, Photochemistry, Organo- metallics and Bioinorganic Chemistry (UCHTC-501)**

This course provides students with a detailed knowledge of the fundamental aspects of the subject while it focuses on the current topics, e.g. metalloenzymes in metabolism and synthesis, technical applications of hydrogenases or metal containing pharmaceuticals. The students are expected to understand the numerous functions of metal ions and inorganic materials in biology.

**Course: Inorganic Materials of Industrial Importance and Organic Spectroscopy (UCHTC-601)**

In this course students will learn the preparation of some industrial inorganic products and the challenges facing their production. Emphasis is laid on the learning the importance of inorganic chemical industry ,their economic impact, individual chemical processes and production challenges. The laboratory component is designed to reinforce the subject matter learnt in lectures and to help students develop practical skills relevant to inorganic chemical industry.