Semester: I

C-1 Inorganic Chemistry-I

Course outcome

- Students can visualize the interior of atoms and molecules, and thereby predicting properties of matter.
- Students can understand chemical principles related to the composition of matter and concept of molecular identity atoms, molecules and ions.
- Students can understand about structure of simple molecules.
- Students can understand about periodic classification elements.
- Students can understand about some basic concepts & able to know about chemical bonding.

C-2 Physical Chemistry-I

Course outcome

- To impart knowledge of matter-solid, liquid, and gaseous states.
- Students can understand some basic concept & able to separate the some compounds.
- Students can understand about some chemical reaction & understand uses in day today life & properties.
- Students can understand about how to do practical experiments regarding to their syllabus, Students only understand the reaction under go in that practical.

Semester –II

C-3 Organic Chemistry-I

Course Outcome:

- Students can understand about organic compounds & their properties.
- Students can understand about basic organic chemistry.
- Students can understand about organic reactions and mechanisms.
- Students can understand about stereochemistry of cis-trans, E/Z, D/L, R/S designations.
- Students can understand about aliphatic hydrocarbons, SN_1, SN_2 , E_1, E_2 mechanism & properties.

C-4 Physical Chemistry-II

Course outcome

- Students can understand about the kinetic & applications and able to identify the order & find out the rate constant.
- Students can understand about entropy, free energy and Gibbs Helmoltzs equation.
- Students can understand about colligative Properties.

Semester –III

C-5 Inorganic Chemistry-II

Course outcome

- Students can understand about the general principles of metallurgy, and HSAB principles.
- Students able to give the example for the different polymers & organic compounds & their preparations.
- They can understand through the practical experiments of some organic compounds.
- Students can understand about the inert pair effect, allotropy, catenation.
- Students can understand about the VSEPR theory.

Semester -III

C-6 Organic Chemistry-II

Course outcome

- Students can understand about electro chemistry of Halogenated Hydrocarbons SN1, SN2 reactions and their mechanism.
- Students can understand about Reimer- Tieman reaction &Kolbe's- Schmidt reactions.
- To make Students know about Alcohols, Phenols, Ethers and Epoxides & - Tiemann reaction & Kolbes- Schmidt reactions.
- To make Students know about carbonyl compounds and different reactions with mechanism.
- To make Students know about Carboxylic acids and their Derivatives.

C-7 Physical Chemistry-III

Course outcome

- Students can understand about phase equilibria, concept of phase and phase diagram
- Students can understand about water chloroform acetic system.
- Students can understand about water chloroform acetic system.
- Students can understand about Collision theory of rate of a reaction.

Semester -IV

C-8 Inorganic Chemistry-III

Course outcome

- Students can understand about coordination theory, crystal field theory.
- Students can understand about Transition elements, electronic configuration, colour, magnetic and catalytic properties.
- Students can understand about chemistry of Ti, V, Cr, Fe, and Co.
- Students can understand about chemistry of Lanthanides and actinides.

C-9 Organic Chemistry-III

Course outcome

- Students can understand about Nitrogen containing functional groups, important reactions of nitro compounds.
- Students can understand about Diazonium salts, their synthetic applications and preparation
- Students can understand about heterocyclic compounds
- Students can understand about alkaloid, natural occurrence.

C-10 Physical Chemistry-IV

Course outcome

- Students can understand about electrochemistry, Faradays law, chemical cells, application of EMF measurement.
- Students can understand about Debye- Huckel- Onsager equation, Wien effect.
- Students can understand about ionic velocities , mobilities
- Students can understand about basic ideas of electrostatics.

Semester -V

C-11 Organic Chemistry-IV

Course outcome

- Students can understand about organic spectroscopy, UV- Visible spectroscopy, types of electronic transitions
- Students can understand about IR Spectroscopy: Fundamental and non-fundamental molecular vibrations
- Students can understand about NMR & Mass spectroscopy and their applications.
- Students can understand about carbohydrates, occurrence, monosaccharides, polysaccharides.

C-12 Physical Chemistry-V

Course outcome

- Students can understand about Schrodinger & its applications equations to particle in of 1D and 3D box.
- Students can understand about LACO-MO treatment of $H_2^{+\cdot}$
- Students can understand about Raman spectroscopy.
- Students can understand about Franck-Condon principle, fluorescence, and phosphorescence.
- Students can understand about Laws of photochemistry.

Semester -VI

C-13 Inorganic Chemistry-IV

Course outcome

- Students can understand about classifications of organometallic compounds & concepts of hapticity.

- Students can understand about mono and binuclear carbonyls of 3d series & preparations of Zeise's salt.
- Students can understand about catalysis by organometallic compounds& theoretical principles in qualitative analysis of H_2S scheme.
- Students can understand about thermodynamic & kinetic aspects and reaction mechanism of metal complexes.

C-14 Organic Chemistry-V

Course outcome

- Students can understand about pharmaceutical compounds
- Students can understand about Adenine, Guanine, cytosine, Uracil and thiamine
- Students can understand about Amino acids , peptides and proteins
- Students can understand about Lipids and their properties.

DSE-I Polymer Chemistry (5th Sem)

Course outcome

- Students can understand about Introduction and history of Polymeric materials.
- Students can understand about polymerization.
- Students can understand about Determination of molecular weight.
- Uses of polymer
- Identify the repeat units of particular polymers and specify the isomeric structures which can exist for those repeat units.

DSE-II Green Chemistry (5th Sem)

- Students can understand about the ultimate aim of green chemistry is to entirely cut down the stream of chemicals pouring into the environment.
- Students can understand about the produce cost-competitive chemical products and process that attain the highest level of the pollution prevention hierarchy by reducing pollution at its source.

DSE-III Industrial Chemicals and Environment (6th Sem)

Course outcome

- Students can understand about the large scale production uses storage and hazard in handling the industrial gases.
- Students can understand about the biochemical system of carbon, air pollution, and water pollution.
- Students can understand about the industrial waste management and disposal of nuclear waste, nuclear disaster and its management.

DSE-IV Project (6th Sem)

GENERIC ELECTIVE

Semester -III

Paper-I (Inorganic Chemistry-I & Organic Chemistry-I)

Course outcome

- Understanding about the concepts of Bohr's theory, de-Broglie's relation, Heisenberg Uncertainty principle and Schrodinger equation.
- Explaining the Bohr model of the hydrogen atom.
- To interpret VSEPR theory and polarity.
- Understanding bond strength and lattice energies.
- Understanding about the fundamental of organic chemistry.
- Understanding that physical effect and their applications.
- Understanding that some reactive intermediate.
- Understanding about the conformations of ethane, butane cyclohexane and concept of chirality.
- Understanding that geometrical and optical isomerism.
- Understanding about the preparation and reactions of aliphatic hydrocarbons.

Semester -IV

Paper-II (Physical Chemistry-I & Organic Chemistry-II)

Course outcome

- Understanding about the laws of Thermodynamics.
- Description about equilibrium systems
- Making calculations with reaction quotients and equilibrium constants
- Application of Le Châtelier's principle to predict the response of a stressed equilibrium system
- To calculate changes in equilibriums concentrations or pressures
- Understanding about the preparation and reactions of Aromatic hydrocarbons.
- Interpretation about the reactions and properties of alcohols and phenols.
- Interpretation about the concept of Nucleophilic Substitution reactions.