

COURSE OUTCOME:

Sl No	Course Title	Course Code	Course Outcome
1	Inorganic Chemistry	C-101	To develop the basic knowledge of chemistry in relation to atomic structure, bonding, periodicity etc Expected Learner Outcome: Students will gain an understanding of i) Sign of wave function, counter boundary and probability diagrams etc. ii) Variations of orbital energy with atomic number. iii) Properties of elements, atomic radii, ionic radii, size effect of ionic bond, solvation energy, covalent character of ionic bond, redox equations, principle involved in volumetric analysis etc.
2	Physical Chemistry	C-102	To emphasize on different states of matter & their mechanical treatment. Expected Learner Outcome: Students will gain an understanding of i) Kinetic molecular model of a gas, behaviour of real gases etc ii) Effect of addition of various solute on surface tension and viscosity. Cleansing action of detergents. iii) Nature of solid state, elementary idea of symmetry. iv) Idea of solubility and solubility product of sparingly soluble salts
3	Physical Chemistry	C-102-LAB	To emphasize on different states of matter & their mechanical treatment.
4	Organic Chemistry	C-201	To develop preliminary knowledge in basic organic chemistry, Hydrocarbons, stereochemistry & conformational analysis. Expected Learner Outcome: Students will gain an understanding of --- i) Knowledge of basic organic chemistry, definition, classification of stereoisomerism, optical activity, absolute and relative configuration etc. ii) Knowledge of elimination reaction, electrophilic and nucleophilic addition. iii) Relative stability of cyclic hydrocarbon,

5	Physical Chemistry	C-202	<p>To develop a strong knowledge on chemical thermodynamics, their mathematical expression & application.</p> <p>Expected Learner Outcome: Students will gain an understanding of</p> <ul style="list-style-type: none"> i. The application of mathematical tools to calculate thermodynamic properties ii. The concept of free energy change and spontaneity. iii. Thermodynamics derivation of relation between Gibbs free energy of reaction and reaction quotient. iv. Derive relation between the four colligative properties using chemical potential (Thermodynamics derivation)
6	Inorganic Chemistry	C-301	<p>To make the student familiar with the chemistry of s, p block elements, noble gases, inorganic polymers & metallurgy.</p> <p>Expected Learner Outcome: Students will gain an understanding of ---</p> <ul style="list-style-type: none"> i. Predict the purification of metal, study of compounds with emphasis on structure, bonding, preparation and properties. ii. Real world applications, shapes etc of noble gas. iii. Structural aspects and applications of inorganic polymer
7	Organic Chemistry	C-302	<p>To develop preliminary knowledge on the synthesis, properties of organic compounds of Halogen & oxygen containing Functional groups.</p> <p>Expected Learner Outcome: Students will gain an understanding of ---</p> <ul style="list-style-type: none"> i. The prediction of mechanism for organic reactions ii. How to design synthesis of organic molecule. iii. The reactivity and stability of organic molecule based on structure iv. An idea of alcohols, phenols, carbonyl compounds, acids and their derivatives etc
8	Physical Chemistry	C-303	<p>To acquaint students in details on phase equilibria, chemical kinetics, catalysis and</p>

			<p>surface chemistry.</p> <p>Expected Learner Outcome: Students will gain an understanding of ---</p> <p>i) Types of catalysis, Michaelis – Menten mechanism, mechanism of catalysed reaction at solid state.</p> <p>ii) Steady - state approximation in reaction mechanism.</p> <p>iii) Concept of phases, phase diagrams for systems of solid- liquid equilibria involving eutectic, congruent and incongruent mp, solid solution etc</p>
9	Inorganic Chemistry	C-401	<p>To develop a vivid knowledge on coordination chemistry and its application extended to biological system.</p> <p>Expected Learner Outcome: Students will gain an understanding of ---</p> <p>i) Predicting metal ion present in biological systems</p> <p>ii) Use of chelating agents in medicine.</p> <p>iii) Quantitative aspect of ligand field and MO theory, stability of various oxidation states and emf of transition elements</p>
10	Organic Chemistry	C-402	<p>To develop the knowledge on the preparation and properties of different classes nitrogen containing compounds. Emphasis is given to heterocyclic compounds of both synthetic and natural origin .</p> <p>Expected Learner Outcome: Students will gain an understanding of</p> <p>i) Reaction for preparation of Heterocyclic compounds, polynuclear hydrocarbons</p> <p>ii) Reaction and mechanism of substitution in heterocyclic compounds.</p> <p>iii) Methods of structure elucidation of terpenoids</p>
11	Physical Chemistry	C-403	<p>To develop the basic knowledge on electrochemistry, various laws governing electro chemical process and their application.</p> <p>Expected Learner Outcome: Students will gain an understanding of ---</p> <p>i) Quantitative aspects of Faraday's laws of</p>

			<p>electrolysis</p> <p>ii) Application of conductance measurement</p> <p>iii) Electrical and magnetic properties of atoms and molecules</p>
12	Organic Chemistry	C-501	<p>Outcomes : To acquire knowledge in organic synthesis, retro synthesis, and to understand biochemistry</p> <p>Expected Learner Outcome: Students will gain an understanding of ---</p> <p>i) The chemical basis for biological phenomena and cellular structure.</p> <p>ii) The chemical properties of amino acids co factors and sugar.</p> <p>iii) Enzyme kinetics, chemical logic of metabolism</p> <p>iv) Health, disease and modern medicine are all rooted in biological chemistry.</p>
13	Physical Chemistry	C-502	<p>To make the students familiar with the various aspects of photo chemistry and quantum chemistry</p> <p>Expected Learner Outcome: Students will gain an understanding of</p> <p>i) The difference between classical and quantum mechanics</p> <p>ii) Qualitative treatment of hydrogen atom and hydrogen like ions.</p> <p>iii) How to interpret spectra</p> <p>iv) Role of photochemical reaction in biochemical processes</p>