

<b>PROGRAMME NAME</b>	<b>BSc. HONOURS IN CHEMISTRY</b>
<b>PROGRAMME SPECIFIC OUTCOME</b>	Chemistry core course study imparts advanced knowledge in three major branches ( Inorganic, Organic, and Physical) of Chemistry through detailed theoretical and practical classes. It aims to equip the students of this course to attain further study in this subject at the post-graduate level.

<b>HONOURS COURSE OUTCOMES</b>			
<b>SEMESTER</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>COURSE OUTCOME</b>
I	CC-1	Organic Chemistry-I (Theo):: Basics of Organic Chemistry Organic Chemistry -I (Prac): Basics of Organic Chemistry	In this course students get the basic idea about Valence Bond Theory, MO Theory, Physical Properties of Organic Molecules. This course also deals with General Treatment of Reaction Mechanism and Stereochemistry. In Practical Paper Students are taught how to determine Boiling Points of a liq, how to identify a Single Compound and how to separate pure compound from a mixture.
I	CC-2	Physical Chemistry-I (Theo) Physical Chemistry-I (Prac)	This Course deals with the theories and applications of some classical Physical Chemistry portions which covers Kinetic theory, real gas, classical thermodynamics and chemical kinetics. In Practical classes the students become acquainted with experiments on different reaction kinetics, solubility product and pH.
I	AECC-1	COMPULSORY ENVS	AECC-1 is a compulsory general paper of 1st year undergraduate student. In this paper We teaches the fundamentals of environmental studies.This paper introduces the fundamental principles and concept of environmental science , ecology and related interdisciplinary subject such as policy , law ,Economics, pollution control , resources management etc.
II	CC-3	Inorganic Chemistry-I (Theo) Inorganic Chemistry-I (Prac)	In this course students acquired basic ideas about atomic structure, periodic table, chemical periodicity, acid base chemistry and redox chemistry in theoretical part and in practical they have got ideas about redox titrimetric analysis using permanganate and dichromate.

II	CC-4	Organic Chemistry-II (Theo) Organic Chemistry-II (Prac)	This Course deals with Stereochemistry, Reaction Thermodynamics, Reaction Kinetics, Concept of Organic Acids and Bases and idea about Substitution and Elimination Reactions. Practical Paper deals with Methods of different Organic Preparations and Purification of them.
II	AECC-2	COMMUNICATIVE ENGLISH/MIL (BENGALI/FRENC)	COURSE OUTCOME GIVEN SHEET CONTAINING IN ENGLISH, BENGALI, FRENCH AECC-2 (SEMESTER-2)
III	CC-5	Physical Chemistry-II (Theo) Physical Chemistry-II (Prac)	In this course the students have a comprehensive understanding of the physical aspects of different transport phenomena, some physical applications of classical thermodynamics and foundation of quantum mechanics: its passage towards quantum chemistry. In laboratory, the students become familiar with experiments on conductance, equilibrium and viscosity.
III	CC-6	Inorganic Chemistry-II (Theo) Inorganic Chemistry- II (Prac)	In this course students have got an advanced idea about radioactivity and chemical bonding from ionic, covalent, hydrogen bonding, weak chemical forces and metallic bonding. In practical classes they have developed a hand on experience of iodometry and iodimetry.
III	CC-7	Organic Chemistry-III (Theo) Organic Chemistry-III (Prac)	This Course gives the students the detailed knowledge of Chemistry of Alkenes and Alkynes, Aromatic Substitution, Chemistry of Carbonyl Compounds and Organometallics. In Practical Paper Students are taught the Qualitative Analysis of Single Solid Organic compounds, determination of Melting papers and Preparation of derivatives.
III	SEC-1	Basic Analytical Chemistry	Basic Analytical Chemistry aims to impart knowledge in the analysis of experimental data and results. It enables students to learn analysis of soil, water,

			food products, cosmetics and chromatographic techniques including ion-exchange chromatography.
IV	CC-8	Physical Chemistry-III (Theo) Physical Chemistry-III (Prac)	Application of Thermodynamics in colligative properties and phase, electrical properties of molecules including electrochemical cells and aspects of quantum chemistry are the main essence of this course. The practical portion covers experiments on potentiometric titrations, phase diagram and effect of ionic strength on kinetics and solubility.
IV	CC-9	Inorganic Chemistry-III (Theo) Inorganic Chemistry-III (Prac)	Here students have got a comprehensive idea about basic reaction chemistry of 's' and 'p' block elements with elementary metallurgy and coordination chemistry in theory and have acquired experimental knowledge on complexometric titration and inorganic coordination complex syntheses in practical.
IV	CC-10	Organic Chemistry-IV (Theo) Organic Chemistry-IV (Prac)	In this course we teach some aspects of Nitrogen Compounds, Molecular Rearrangements, The Logic of Organic Synthesis and Organic Spectroscopy. The Practical Paper deals with different Estimation Processes.
IV	SEC-2	Pharmaceuticals Chemistry	Pharmaceuticals Chemistry aims to impart knowledge in drug discovery, its designing including retrosynthetic analysis. A preliminary idea in different types of drugs like antibiotic, antileprosy, antifungal agents are provided including aerobic and anaerobic fermentation processes of some antibiotics, amino acids and vitamins.
V	CC-11	Inorganic Chemistry-IV (Theo) Inorganic Chemistry-IV (Prac)	In this course students have acquired an advanced idea about structural aspects of coordination complexes with their magnetic and spectral properties. Introductory knowledge on lanthanoids and actinoids have also provided in theory. In practical a hand on

			experience on gravimetry, chromatography and spectroscopy have provided.
V	CC-12	Organic Chemistry-V (Theo) Organic Chemistry-V (Prac)	This Course aims to impart knowledge on Carbocycles and heterocycles, Cyclic Stereochemistry, Pericyclic Reactions, Carbohydrates, Biomolecules and Alkaloids, Terpenoids. the practical Paper gives the idea of spectroscopic analysis of Organic Molecules and Some Chromatographic Separations.
V	DSE-1	Advanced Physical Chemistry (Theo) Advanced Physical Chemistry (Prac)	In this course we teach some aspects of advanced physical chemistry topics that include crystal structure, specific heat of solids, classical Statistical thermodynamics, polymers and polarization. In the practical portion the students are familiar with computer programming, its application based on numerical methods with special emphasis on chemical problems.
V	DSE-2	Analytical methods in chemistry (Theo) Analytical methods in chemistry (Prac)	Qualitative and quantitative aspects of analysis are the main aspects of this course. The students have a comprehensive understanding of various methods and techniques of analysis and separation in this course. The practical portion deals with the use of spectrophotometric method in chemical analysis and separation technique by chromatographic and solvent extraction method.
VI	CC-13	Inorganic Chemistry-V (Theo) Inorganic Chemistry-V (Prac)	In this course the students have a comprehensive understanding on bioinorganic chemistry, organometallic chemistry and reaction kinetics with mechanism in theory. In practical students become familiar with inorganic qualitative analysis of salts.
VI	CC-14	Physical Chemistry-IV (Theo) Physical Chemistry-IV (Prac)	In this course the students have a comprehensive understanding on

			molecular spectroscopy, photophysical properties and photochemistry, surface phenomena including colloids and adsorption. The practical portion covers experiments on spectrophotometry, determination of surface tension and CMC of surfactants.
VI	DSE-3	Green Chemistry (Theo.) Green Chemistry (Prac)	In Green Chemistry, basic knowledge in designing Greener processes, Green solvents, Sonochemical processes, Microwave assisted reactions, development of Green analytical processes, Ultrasound Chemistry etc. are taught. Some representative Green reactions are also carried out in Practical classes.
VI	DSE-4	Dissertation followed by power point presentation	Dissertation through power point presentation is aimed to encourage the students to explore Chemistry beyond their curriculum and develop their skill as an orator. Teachers act as mentors to a group of students(mentee) - discuss their selected topics, helping the students in literature survey and its presentation process.