

SEM I

COURSE CODE	COURSE NAME	OBJECTIVES	COURSE OUTCOMES
USZO101 (course 1)	Wonders of Animal world, Biodiversity and its Conservation	To take learners through a captivating journey of hoarded wealth of marvellous animal world, understand biodiversity and its conservation.	Curiosity will be ignited in the mind of learners, to know more about the fascinating world of animals. To orient learners about rich heritage of Biodiversity of India and make them understand significance of its conservation To teach learners about innovative and novel work of scientists/philosopher/entrepreneurs in the field of biological sciences
USZO102 (Course 2)	Instrumentation and animal biotechnology	To make learners aware of risks involved in handling of different hazardous chemicals, sensitive (electrical/electronic) instruments and acquaint learners to the modern developments and concepts of Zoology highlighting their applications aiming for the benefit of human being. To provide all learners a complete insight about the structure and train them with operational skills of different instruments required in Zoology.	Learners would work safely in the laboratory and avoid occurrence of accidents (mishaps) which will boost their scholastic performance and economy in use of materials/chemicals during practical sessions. Learners would understand recent advances in the subject and their applications for the betterment of mankind; and that the young minds would be tuned to think out of the box. Students will be skilled to select and operate suitable instruments for the studies of different components of Zoology of this course and also of higher classes including research

SEMII

USZO201 (Course: 3)	Ecology and wild life management.	To facilitate the students the learning of Ecology and wild life management.	Learners will understand about nature of animal population, specific factors affecting its growth and its impact on the population of other life form. Learners will grasp the concept of interdependence and interaction of physical, chemical and biological factors in the environment and will lead to better understanding about implications of loss of fauna specifically on human being, erupting spur of desire for conservation of all flora and fauna
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USZO202	Nutrition,public health and hygiene	To make learners understand the importance of nutrition, public health and hygiene	<p>Healthy dietary habits would be inculcated in the life style of learners.</p> <p>To impart knowledge about source, quantum and need for conservation of fast depleting water resource and essentials of maintaining proper sanitation, hygiene and optimizing use of electronic gadgets.</p> <p>Learners will be able to promptly recognize stress related problems at initial stages and would be able to adopt relevant solutions which would lead to psychologically strong mind set promoting positive attitude important for academics and would be able to acquire knowledge of cause, symptoms and precautions of infectious diseases.</p>
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SEM III

COURSE CODE	COURSE NAME	OBJECTIVES	COURSE OUTCOMES
USZO301	Fundamentals of genetics,chromosomes and heredity, nucleic acids	<p>To introduce basic terms of genetics and develop conceptual clarity of Mendelian principles.</p> <p>To familiarize the learners with the structure, types and classification of chromosomes.</p> <p>To introduce the concept of sex determination and its types, sex influenced and sex-limited genes. To introduce the learner to the classical experiments proving DNA as the genetic material.</p> <p>To familiarize the learner with the concept of gene expression and regulation.</p>	<p>Learner will understand the importance of nucleic acids as genetic material.</p> <p>Learner would comprehend and appreciate the regulation of gene expressions</p>
USZO302	Nutrition and excretion respiration and circulation control and coordination of life processes,	To introduce the concepts of physiology of nutrition, excretion and osmoregulation	Learner would understand the increasing complexity of nutritional, excretory and osmoregulatory physiology in evolutionary

	locomotion and reproduction		<p>hierarchy.</p> <p>Learner would be able to correlate the habit and habitat with nutritional, excretory and osmoregulatory structures.</p> <p>Learner would understand the process of control and coordination by nervous and endocrine regulation</p>
USZOE303A ELECTIVE 1	Ethology Parasitology Economic zoology	<p>To equip learner with knowledge of animals interaction with one another and their environment.</p> <p>To enable the learner to understand different behavioural patterns.</p> <p>To acquaint the learner with the concepts of parasitism and its relationship in the environment</p>	<p>Learner would gain insight into different types of animal behaviour and their role in biological adaptations.</p> <p>Learner would understand the general epidemiological aspects of parasites that affect humans and take simple preventive measures for the same.</p>
SEM IV			
USZO401	Origin and evolution of life population genetics and evolution, scientific attitude	<p>To impart scientific knowledge about how life originated on our planet To develop an understanding of genetic variability To inculcate scientific temperament in the learner</p>	<p>Learner will gain insights into the origin of life.</p> <p>Learner will analyse and critically view the different theories of evolution. Learner would understand the forces that cause evolutionary changes in natural populations The learner would develop qualities such as critical thinking and analysis</p>
USZO402	Cell biology endomembrane system biomolecules	<p>To study the structural and functional organization of cell with an emphasis on nucleus, plasma membrane and cytoskeleton To give learner insight into the structure of biomolecules and their role in sustenance of life.</p>	<p>The learner will realize the importance of biomolecules and their clinical significance Learner would acquire insight into the composition of the transport mechanisms adopted by the cell and its organelles for its maintenance and composition of cell.</p>

USZOE403A ELECTIVE 1	Comparative embryology aspects of human reproduction pollution and its effect on organisms	To acquaint the learner with key concepts of embryology	Learner will be able to understand and compare the different types of eggs and sperms
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SEM I			
COURSE CODE	COURSE NAME	OBJECTIVES	COURSE OUTCOMES
USBO101	Paper I – Plant Diversity1	To acquaint the learner about structure, lifecycle and systematic position of algae, fungi and bryophyta	Students will understand the diversity among algae and fungi. Learner will understand the economic importance of algae and fungi
USBO102	Paper II – Form and Function1	To impart scientific knowledge about cell biology, ecology and genetics	Learner will understand the structure of plant cell, energy pyramids, phenotype, genotype and multiple alleles etc.
SEM II			
USBO201	Paper I -- Plant Diversity1	To study about Pteridophytes, Gymnosperms And Angiosperms	Learner will understand Structure life cycle, systematic position and alternation of generations in <i>Nephrolepis</i> , Structure life cycle systematic position and alternation of generations in <i>Cycas</i> , types of compound leaves and Inflorescence.
USBO202	Form and Function 1	To acquaint the learner with the knowledge about anatomy, physiology and medical botany	Learner will understand Simple tissues, complex tissues, Primary structure of dicot and monocot root, stem and leaf Photosynthesis, Concept of primary and secondary metabolites, Grandma's pouch etc

SEM III

COURSE CODE	COURSE NAME	OBJECTIVES	COURSE OUTCOMES
USBO301	Plant DiversitY II	To impart learners knowledge about Thallophyta- Algae like (Dictyota,Sargassum) Bryophyta and angiosperms,Morphology of Flowering Plants and Angiosperms	Students will understand General Characters of Division : Phaeophyta. Learners will have General Account of Class Anthocerotae and Musci. Learner will understand Morphology of Flowering Plants
USBO302	Form and Function II	To equip the learners with knowledge about Instrumentation Techniques(chromatography,microscopy).Cell Biology, Cytogenetics etc	Students will understand the Principle and working of Light and electron microscope,Chromatography Principles and techniques in paper and thin layer chromatography,Ultra Structure and functions of the cell organelles,Variation in Chromosome structure,Variation in Chromosome Number Origin,Extranuclear Genetics
USBO303	CURRENT TRENDS IN PLANT SCIENCES I	To familiarize the learners with the concept of Pharmacognosy and Phytochemistry,Forestry,Economic Botany and Molecular Biology	Students will understand Pharmacoepoia, types of forest, forestry applications Students will understand replication,protein synthesis

SEM IV

USBO401	PLANT DIVERSITY II	To impart learners knowledge about Thallophyta- Fungi, plant pathology and lichens. To familiarize the learners with the Pteridophyta, Paleobotany and gymnosperms	Students will understand: General characters of Ascomycetae. Structure, life cycle and systematic position of <i>Erysiphe and Xylaria</i> Classification,Structure,Method of Reproduction, Economic Importance and Ecological Significance of Lichens. Salient features and classification of Pteridophyta and gymnosperms.
USBO402	FORM AND FUNCTION II	To impart learners knowledge about Anatomy, Plant Physiology, Plant Biochemistry and Ecology and Environmental Botany	Students will understand respiration, photorespiration, secondary growth in monocot system, biogeochemical cycles, concept of environmental factors and Community ecology.
USBO403	CURRENT TRENDS IN PLANT SCIENCES I	To familiarize the learners with the concept of Horticulture and Gardening, Biotechnology, Biostatistics and Bioinformatics.	Students will understand types of gardens, plant tissue culture. Students will develop idea about information technology, data retrieval tools, bioinformatics programme in india etc.

SEM-I

SEM-I			
Course code	Course name	Course objective	Course outcome
USPH101	Classical Physics	To equip the students with the knowledge about concepts of classical physics such as Newton's laws. To acquaint students with quantitative problem solving skills in all the topics covered.	Students will understand Newton's laws and apply them in calculations of the motion of simple systems. Students can Use the free body diagrams to analyze the forces on the object Students will understand the concepts of friction and the concepts of elasticity, fluid mechanics and be able to perform calculations using them. Students will apply the laws of thermodynamics to formulate the relations necessary to analyze a thermodynamic process.
USPH102	Modern Physics	To make the learners being able to comprehend to concepts of modern physics such as structure of nuclei, basic properties of nuclei, radioactivity, quantum theory and interaction between particles and matter.	Students will Understand nuclear properties and nuclear behavior. Students will Understand the type isotopes and their applications. Students will get to know the quantum mechanical concepts
SEM II			
USPH201	Mathematical Physics	To impart the students with the knowledge about vector algebra, differential equation, superposition of collinear harmonic oscillation.	Students will be able to Understand the basic mathematical concepts and apply them in physical situations. Will develop quantitative problem solving skills in the topics covered

USPH202	Electricity and Electronics	To acquaint the students with the knowledge about alternating current theory, circuit theorems. To give them an idea about Electrostatics and magnetostatics	Students will be able to Understand the basic concepts of Electricity and Electronics as well being able to apply them in physical situations.
SEM III			
USPH301	Mechanics and thermodynamics	To impart them with knowledge about concepts of mechanics, properties of matter & to apply them to problems. To comprehend them the basic concepts of thermodynamics & its applications in physical situation. To make them learn about situations in low temperature.	Students will be able to Understand the concepts of Compound pendulum, centre of mass, oscillations. Review of zeroth and first law of thermodynamics Third law of thermodynamics Steam engine, Different methods of liquefaction of gases etc.
USPH302	Vector calculus, Analog Electronics	To equip them with the basic concepts of mathematical physics and their applications in physical situations. To familiarize them with Basic laws of electrodynamics and be able to perform calculations using them. To inform them the basics of transistor biasing, operational amplifiers, their applications	Students will be able to get to the depth of the concepts of Vector Calculus, Analog Electronics, Oscillators and Operational Amplifiers.
USPH303	Applied Physics - I	To impart knowledge to students about acoustics, lasers, fibre-optics, Biophysics, Materials – properties and applications	Students will be exposed to contextual real life situations Students will appreciate the role of Physics in 'interdisciplinary areas related to materials, Bio Physics, Acoustics etc. The learner will understand the scope of the subject in Industry

			& Research. Experimental learning opportunities will foster creative thinking & a spirit of inquiry.
SEM IV			
USPH401	Optics and Digital Electronics	To impart students with the knowledge about Optics and Digital Electronics, Polarization and diffraction etc.	Students will understand the diffraction and polarization processes as well as applications of them in physical situations. Students will get to know the applications of interference in design and working of interferometers. The resolving power of different optical instruments as well as the working of digital circuits will be understood.
USPH402	Quantum Physics	To acquaint the students with postulates of quantum mechanics, Schrodinger wave equation and applications of Schrodinger steady state equation	Students will understand the postulates of quantum mechanics and its importance in explaining significant phenomena in Physics.
USPH403	Applied Physics II	To equip them with knowledge about Introduction to Geophysics, geo-environmental sciences, Microprocess and Radiation physics .	Students will Understand the concepts of mechanics & properties of matter as well as apply them to problems.
SEM V			
USPH501	Mathematical, Thermal and Statistical Physics	To introduce the students with the detailed concept of Probability, Complex functions and differential	The students are expected to learn some mathematical techniques required to

		equations, Classical statistics, Quantum Statistics and Statistical thermodynamics.	understand the physical phenomena at the undergraduate level and get exposure to important ideas of statistical mechanics.
USPH502	Solid State Physics	To equip the learners with the knowledge about Crystal Physics, Electrical properties of metals, Band Theory of Solids and Conduction in Semiconductors, Diode Theory and superconductivity	The students will understand the basics of crystallography, electrical properties of metals, band theory of solids, demarcation among the types of materials, semiconductor Physics and superconductivity. Students will understand the basic concepts of Fermi probability distribution function, density of states, conduction in semiconductors and BCS theory of superconductivity.
USPH503:	Atomic and Molecular Physics	To impart learners with the knowledge about Hydrogen atom, Spin -orbit coupling, Total angular momentum, Vector atom model, Molecular spectra, ESR and NMR.	The students will understand the application of quantum mechanics in atomic physics, importance of electron spin, symmetric and anti-symmetric wave functions, vector atom model, effect of magnetic field on atoms and its application. Students will Learn Molecular physics and its applications.
USPH504	Electrodynamics	To familiarize the learners with the concept of Electrostatics, Electrostatics in Matter and Magnetostatics, Magnetostatics in Matter and Electrodynamics	Students will understand the laws of electrodynamics and will be able to perform calculations using them.

		Electromagnetic Waves etc.	
USACEI501	Analog Circuits, Instruments and Consumer Appliances	To equip the learners with the knowledge about Transducers, Sensors, Optoelectronics Devices, Signal conditioning, SMPS Measuring Instruments, Data Acquisition and Conversion, Modern Techniques and Consumer Appliances.	Students will be acquainted with the measuring instruments used in laboratory. Get the insight of the modern medical instruments in principle, which are used in day to day life. Students will understand the construction, working and uses of different types of transducers.
SEMVI			
USPH601	Classical Mechanics	To introduce the students with the concepts of Central Force, Lagrange's equations, Fluid Motion, Rigid body rotation and Non Linear Mechanics	Students will understand to different aspects of classical mechanics. They would understand the kinds of motions that can occur under a central potential and their applications to planetary orbits. The students should also appreciate the effect of moving coordinate system, rectilinear as well as rotating.
USPH602	Electronics	To introduce the students with the concepts of MOSFET, SCR, UJT, Differential Amplifier using transistor, Transistor Multivibrators, Logic families, Digital Communication Techniques.	Students will understand the basics of semiconductor devices, their applications, Students will understand the basic concepts of timing pulse generation and regulated power supplies.
USPH603	Nuclear Physics	To introduce the students with exploring the fundamentals of nuclear matter as well as considering some of the important applications of nuclear physics include decay modes – (alpha, beta & gamma decay), nuclear models (liquid	Students will understand the fundamental principles and concepts governing classical nuclear and particle physics.

		drop model, introduction to shell model), applications of Nuclear Physics in the field of particle accelerators ,energy generation, nuclear forces and elementary particles.	
USPH604	Special Theory of Relativity	To introduce learners with special theory of relativity, relativistic kinematics – I, Relativistic Kinematics – II, Geometric Representation of Space-Time, Relativistic Dynamics, Relativity and Electromagnetism	Students will understand the essence of special relativity which revolutionized the concept of physics in the last century by unifying space and time, mass and energy, electricity and magnetism. Student will understand the significance of Michelson Morley experiment and failure of the existing theories to explain the null result.
USACEI602	Digital Electronics, Microprocessor, Microcontroller and OOP	To introduce learners with concepts Digital Electronics, Advanced 8085 Programming and 8255(PPI), introduction to microcontrollers and Basic Concepts of Object Oriented Programming and C++.	Students will understand sensors and transducers, Signal conditioning, data acquisition systems and measuring instruments used in the laboratory. Students will be exposed to know, in principle, the modern techniques in the field of medical science. Students will learn PCB designing and working of consumer electronic devices. Students will develop logic circuit design and implementation. Students will know advanced programming skills and interfacing basic building blocks of

			<p>microcontrollers. Students will know the terminologies like embedded, CISK and RISK processors. Students will master Programming and interfacing skills of microprocessor and microcontrollers. To develop object oriented programming skills and programming in C++. Students will develop various experimental skills.</p>
SEM I			
USMT101	Calculus I	To equip them with the ability to recognize linear, quadratic, power, polynomial, algebraic, rational, trigonometric, exponential, hyperbolic and logarithmic functions	<p>Students will be able to apply rules of limits to calculate limits. Students will be able to use differential calculus to solve optimization problems. Students will be able to use the first derivative to find intervals where a function is increasing or decreasing. Students will be able to use the second derivative to determine concavity and find inflection points.</p>
USMT102	Algebra I	To develop the ability to calculate greatest common divisor(GCD), Prove elementary theorems concerning rank of a matrix. Identify when a linear transformation is injective, surjective and bijective.	<p>Students will be able to find out the relationship between roots and coefficients with the aid of polynomials. Students will know the relationship between two functions.</p>
SEM II			
USMT201	Calculus II	To give the learners knowledge about fundamental	The learners will know the fundamental

		theorem of calculus and be able to use it for evaluating definite integrals and derivatives of integrals with variable limits of integration	theorem of calculus and will be able to use it for evaluating definite integrals and derivatives of integrals with variable limits of integration.
USMT202	Algebra II	To enable the learners to find algebraic and geometric representations of vectors in R^n and their operations, including addition, scalar multiplication and dot product. To make them recognize and use basic properties of subspaces and vector spaces	Students will understand algebraic and geometric representations of vectors in R^n and their operations, including addition, scalar multiplication and dot product and will be to recognize as well as use basic properties of subspaces and vector spaces.
SEM I			
USCH101	PAPER I	To introduce the concept of Chemical Thermodynamics, Chemical calculations Atomic structure, Periodic Table and periodicity, Basics of Organic Chemistry: Classification and Nomenclature of Organic Compounds, Bonding and Structure of organic compounds, Fundamentals of organic reaction mechanism,	Students will understand thermodynamic system, chemical calculations, atomic structure, Bohrs theory, Rutherford model, fundamentals of organic reaction mechanism.
USCH102	PAPER II	To equip the learners with concepts of Chemical Kinetics, Liquid state, Comparative chemistry of Main Group Elements state and Stereochemistry I	Students will understand the rates of reaction, order of reaction, liquid states, main group elements, properties of second period elements, Fischer Projection, Newman and Sawhorse Projection formulae etc.
SEM II			
USCH201	PAPER I	To introduce them with the knowledge about Gaseous state, Chemical Equilibrium and thermodynamic	Student will know about Gaseous state, Ideal gas laws, kinetic theory of gases,

		parameters, concept of qualitative analysis, acid base theories, and Chemistry of Aliphatic Hydrocarbons	Maxwell-Boltzmann's distribution of velocities Chemical Equilibrium and thermodynamic parameters, Concept of Qualitative Analysis, precipitation equilibria, Acid Base Theories, and Chemistry of Aliphatic Hydrocarbons
USCH202	PAPER II	To equip the learners with knowledge about Ionic equilibria, Molecular Spectroscopy, Solid State Chemistry, Chemical bond and Reactivity, Oxidation Reduction Chemistry, Stereochemistry II: Cycloalkanes and Conformational Analysis Aromatic hydrocarbons	Strong, moderate and weak Chemical Bonding weak electrolytes, degree of ionization, Electromagnetic radiation, electromagnetic spectrum, Types of chemical bond, Reduction potentials half reactions; balancing redox equations, Aromaticity: Hückel's rule anti-aromaticity, aromatic character of arenes, cyclic carbocations/carbanions and heterocyclic compounds with suitable examples.
SEM III			
USCH301	PAPER I	To introduce the learners with Chemical Thermodynamics-II, Electrochemistry, Chemical Bonding, Reactions and reactivity of halogenated hydrocarbons, alcohols, phenols and epoxides.	Learners will understand the Chemical Thermodynamics-II, Electrochemistry Chemical Bonding, Reactions and reactivity of halogenated hydrocarbons, alcohols, phenols and epoxides.
USCH 302	PAPER II	To equip the learner with Chemical Kinetics-II, Solutions, Selected topics on p block elements and Carbonyl Compounds	Students will understand the Chemical Kinetics-II, Solutions, p block elements and Carbonyl Compounds
USCH 303	PAPER III	To familiarize the learners	Students will learn

		with Introductory concepts of Analytical Chemistry and Statistical Treatment of analytical data-I, Classical Methods of Analysis, Instrumental Methods-I .	concepts of Analytical Chemistry such as Classical and Non Classical Methods of Analysis; their types and importance. Students will develop ability to select proper titrimetric method Students will be able to Identify a suitable gravimetric method Students will come to know the various instrumental methods of analysis and their advantages.
SEM IV			
USCH401	PAPER I	To give knowledge to Students about Electrochemistry-II, Phase Equilibria, Comparative Chemistry of the transition metals ,Carboxylic acids and their derivatives and Sulphonic acids	Students will learn about Electrochemical conventions, Reversible and irreversible cells, equilibrium constant from EMF data, Phase diagrams, Origin of colour for transition metals and their compounds and magnetic properties of transition metal compounds.
USCH402	PAPER II	To give learners an idea about Solid State, Catalysis, Ions in aqueous medium, Nitrogen containing compounds and heterocyclic compounds:	Learners will be able to recapitulate of laws of crystallography and types of crystals, types of catalysis, catalytic activity, specificity and selectivity, inhibitors, catalyst poisoning and deactivation, uses and environmental chemistry of volatile oxides and oxo-acids, Diazonium and Heterocyclic compd.

USCH403	PAPER III	To provide knowledge to learners about Separation Techniques in Analytical Chemistry, to equip them with ability for Statistical Treatment of analytical data.	Learners will understand the nature of chemical reactions that influence potential of a given cell. They will get familiar with the various types of electrodes as well as understand need and importance of pH , the applications of the various instrumental methods, nature of indeterminate errors, randomness of such errors and its distribution around a correct or acceptable result, computation of confidence limits and confidence interval
SEM V			
USCH501	Physical chemistry	To introduce students with concepts such as molecular spectroscopy, chemical thermodynamics, nuclear chemistry, surface chemistry	Students will understand importance Rotational Spectrum, Vibrational spectrum, Vibrational-Rotational spectrum of diatomic molecule, Colligative properties Detection and Measurement of Radioactivity, Electrical Properties, Colloidal electrolytes, surfactants
USCH502	Inorganic chemistry	To familiarize students with concepts such as Molecular Symmetry, Chemical bonding, solid state chemistry, chemistry of inner transition elements, Chemistry of Non-aqueous solvents, Comparative Chemistry of Group 15, 16 and group 17	Students will understand importance of symmetry in chemistry, molecular Orbital theory for heteronuclear diatomic molecules and polyatomic species, Structures of Solids, Chemistry of

			Lanthanides
USCH503	Organic chemistry	To introduce students with concepts such as mechanism of organic reactions, Stereochemistry I, Heterocyclic chemistry, IUPAC nomenclature, Synthesis of organic compounds, UV – Visible and Mass spectrometry and natural products.	Students will understand the basic terms & concepts of bond fission, reaction intermediates, electrophiles & nucleophiles, ligand, base, electrophilicity vs. acidity & nucleophilicity vs. basicity, Molecular chirality and elements of symmetry: Mirror plane symmetry, inversion center. IUPAC Systematic nomenclature of the following classes of compounds: bicyclic compounds, Biphenyls, Cummulenes with upto 3 double bonds, Quinolines and isoquinolines. Students will understand electromagnetic spectrum, units of wavelength and frequency. UV – visible spectroscopy, Mass spectrometry

USCH504	Analytical chemistry	To introduce students with concepts such as to Quality Concepts, Chemical calculations and Sampling, Classical method of Analysis, Optical Methods, Methods of separation.	Students will understand the basic terms & concepts of importance of chemical standard and certified reference materials, different types of sampling method, redox titration, uses of EDTA as indicator, the atomic spectroscopy, flame emission spectroscopy, HPLC, instrumentation, application, HPTLC, types of detectors, advantage and disadvantage with application and comparison of TLC and HPTLC.
USACDD501	Drugs and Dyes	To introduce students with drugs, route of administration, CNS, Analgesic, Antipyretics, Anti-inflammatory Drugs, Antihistaminic Drugs, Cardiovascular drugs Antidiabetic Agents, Antiparkinsonism Drugs, Introduction to the dye-stuff Industry and Colour as well as Chemical Constitution of Dyes	Students will learn about requirements of an ideal drug, routes of drug administration, CNS, synthesis of tramadol, aceclofenac, cetirizine, Atenolol, Levodopa, Ambroxol, Introduction to the dye-stuff Industry, Unit process and preparation of Dye Intermediates
SEM VI			
USCH601	Physical chemistry	To introduce students with concepts such as applied electrochemistry, Classification of cells,	Students will learn about Activity and Activity Coefficient, Decomposition Potential and Overvoltage, Method of determining molar masses of polymers, Quantum mechanics, NMR and ESR spectrum of Hand D
USCH602	Inorganic chemistry	To equip students with knowledge about theories of the metal-ligand bond, M.O.T Theory for coordination compounds,	Students will learn about limitations of V.B.T theory, C.F.T, Construction of ligand group orbitals,

		organometallic chemistry, Metallurgy, Chemistry of Group 18	Inert and labile complexes, chemical reactions of organometallic compounds Introduction to Bioinorganic Chemistry.
USCH603	organic chemistry	To provide knowledge to students about stereoselectivity and stereospecificity, Molecular Rearrangements, IR, PMR, UV-VIS, Mass and NMR	Students will learn about concepts of stereochemistry along with application, proteins, amino acids, Molecular Rearrangements, Spectroscopy, Polymers and their types.
USCH604	Analytical chemistry	To familiarize students with electro analytical techniques, gas chromatography, ion-exchange, food and cosmetics analysis and thermal methods and analytical method validation	Students will learn about Polarography, Instrumentation: Block diagram and components, types of columns, GSC and GLC, Food processing and preservation, Thermogravimetric Analysis and validation Parameters
USACDD601	Drugs and Dyes	To introduce students with Drug Discovery, Design and Development, Chemotherapeutic Agents, Classification of Dyes based on Chemical constitution and synthesis of Selected Dyes and Non-textile uses of dyes	Students will learn about Antibiotics and antivirals, antimalarials, anthelmintics and antiFungal agents, anti-neoplastic drugs, nano particles in Medicinal Chemistry, Nitro Dye, Nitroso, azo dye synthesis, Biomedical uses of dyes, Dyes used in food and cosmetics and Dyestuff Industry - Indian Perspective

