

## SCIENCE

<b>PROGRAMME : B.Sc. Botany</b>		
<b>SEMESTER I</b>		
Plant diversity I	USBO1O1	CO 1 On completion of the course, students are able to Understand the diversity among Algae, Fungi and Bryophytes
Form and function I	USBO1O2	CO 1 Students will understand the nature of cell and cell organelle, ecological aspects and Mendelian and Non Mendelian Genetics
<b>SEMESTER II</b>		
Plant diversity I	USBO2O1	CO 1 Students are able to Understand the morphological diversity among Pteridophytes, Gymnosperms and Angiosperms
Form and function I	USBO2O2	CO 1 Learners get basic ideas about plant anatomy, process of Photosynthesis. Students will learn concept of primary and secondary metabolites and earn knowledge about medicinal plants.
<b>SEMESTER III</b>		
Plant diversity II	USBO3O1	CO 1 To studying in depth about fungi algal. Bryophyta and Angiosperms.
Form and function II	USBO3O2	CO 1 Students know basics in microscopy and separation techniques. Cell biology gives knowledge about cell organelles, importance their function.
Current trends in plant sciences I	USBO3O3	CO 1 Forestry and Economic botany enable students about utilization of plants in life. Students are aware about current trends in Pharmacognosy and molecular biology.
<b>SEMESTER IV</b>		

Plant diversity II	USBO4O1	CO 1 To give knowledge about fungi, plant diseases, Pteridophytes and gymnosperms.
Form and function II	USBO4O2	CO 1 Students are able to learn about Anatomy, physiology of plants and aspects of ecology and environment.
Current trends in plant sciences I	USBO4O3	CO 1 Students will learn about garden types, plant tissue culture , rDNA technology and Biostatistics
<b>SEMESTER – V</b>		
Plant diversity III	USBO5O1	CO 1 Understand the concept, principle of sterilization, culture of bacteria and fungi, plant pathology, morphology and structure of algae.
Plant diversity IV	USBO5O2	CO 1 This paper gives brief idea about fossil plants, anatomy, palynology and flowering plants.
Form and function III	USBO5O3	CO 1 On completion of the course, students are able to understand the process of translation in eukaryotes, membrane transport in plants, plant succession and production of secondary metabolite via plant tissue culture
Current trends in plant sciences II	USBO5O4	CO 1 On completion of the course, students are able to understand the traditional plants used by tribes as medicines. Phamacognosy and medicinal botany provide knowledge of monograph of drugs with reference to their biological sources, distribution and characters
Horticulture And Gardening –I	USACHO501	CO 1 On completion of the course, students are able to improve their skill in horticulture and garden practices
<b>SEMESTER - VI</b>		
Plant diversity III	USBO6O1	CO 1 To studying in depth knowledge of general characters, morphology, life cycles and economic importance of Bryophyte, Pteridophytes and Gymnosperms.
Plant diversity IV	USBO6O2	CO 1 Students will learn angiospermic families, ecological anatomy, embryology and biostatistics.
Form and function III	USBO6O3	CO 1 On completion of the course, students are able to understand structure and properties of biomolecules, physiology of nitrogen metabolism, genetic disorders.
Current trends in plant sciences II	USBO6O4	CO 1 Understand fundamentals of plant biotechnology. Gain the knowledge about economic botany and phytogeography.

Horticulture And Gardening –Ii	USACHO5 02	CO 1 On the completion of this course students understand the principles of gardening, floriculture and commercial production of fruits, vegetables, medicinal and aromatic plants
<b>The level of attainment of B.Sc. Botany programme:- 88.23 %</b>		

**PROGRAMME :B.Sc. Chemistry**

**SEMESTER I**

Physical/Organic  
/Inorganic  
Chemistry: PAPER  
-I

USCH101

The students will gain knowledge about-

CO 1 Thermodynamics with respect to basic terms, laws and thermochemistry.

CO 2 Expressing concentrations of solutions with respect to volume base and weight base.

CO 3. Describe the periodic table and basic concepts of atomic structure

CO 4. Basic concepts in bonding, structures and reaction mechanism.

Physical/Organic /Inorganic Chemistry: PAPER –II	USCH102	CO 1.Kinetics of reaction and determination of order of reaction by different methods. CO 2. Characteristic properties of liquid states CO 3. Students will get sound knowledge of main group element CO 4. Basics in stereochemistry
<b>SEMESTER II</b>		
Physical/Organic /Inorganic Chemistry : PAPER –I	USCH201	The students will gain knowledge about- CO 1. Characteristics properties of Gaseous state CO 2. Basics concept of Chemical Equilibria CO 3. Basic concepts of Acid-Base Theory and concept of qualitative analysis CO 4. Basic concepts in chemistry of hydrocarbons
Physical/Organic /Inorganic Chemistry : PAPER –II	USCH202	CO 1 Basic concepts in Ionic Equilibria, Molecular Spectroscopy CO 2 Concept of Solid State Chemistry CO 3. Basic concepts in Chemical Bonding and Reactivity CO 4. Concept of Solid tate Chemistry CO 5. Concept of stereochemistry and Aromatic Hydrocarbons
<b>SEMESTER III</b>		
Physical/Organic /Inorganic Chemistry : PAPER –I	USCH 301	On completion of the course learners will be able to understand, CO 1. Basic Concept of Thermodynamics CO 2. The bonding and structure of Inorganic Molecules. CO 3.Nomenclature, Synthesis and reactions of Halogenated Organic Compound
Physical/Organic /Inorganic Chemistry : PAPER –II	USCH 302	The course enables the learners will be able to understand, CO 1. The Chemistry of P-block elements and study of B,Si,Ge and N containing compounds CO 2. Kinetics of reactions. CO 3.Nomenclature, Synthesis and reactions of Carbonyl Compound
Analytical Chemistry PAPER –III	USCH 303	Learners are able to get vital knowledge about , CO 1. The basics of Analytical Chemistry, Sampling CO 2. Classical and Instrumental Methods
<b>SEMESTER IV</b>		

PAPER –I Physical/Organic /Inorganic Chemistry	USCH 401	The course enables the students to understand, CO 1 the transition element series and concept in bonding Co-ordination Chemistry CO 2 Different types of electrodes, Ph Determination and numerical methods regarding Equilibrium Constant, Chemical Cells CO 3 Chemistry of Carboxylic Acid, Sulphonic Acids and their derivatives
PAPER –II: Physical/Organic /Inorganic Chemistry	USCH 402	Learners are able to get vital knowledge about , CO 1 Identify and describe the types of Crystals w.r.t Laws of Crystallography and XRD methods Diff. Types of Catalytic methods with its mechanism and Kinetics CO 2 Chemical Behaviours and Role of ions and their movements in aqueous environment CO 3 The Course study will get the sound knowledge of Nitrogen containing compounds and Heterocyclic compounds
PAPER –III: Analytical Chemistry	USCH 403	Learners are expert in CO 1 Various Separation techniques, solvent extraction, Instrumental methods CO 2 Different measures of Dispersion Methods
<b>SEMESTER - V</b>		
PAPER –I Physical Chemistry	USCH501	On completion of the course learners will be able to, CO 1. Understand different type of spectroscopic methods and their use. CO 2. Molar mass determination using colligative properties, CO 3. Theories of reaction rates and their classification, CO 4. Radioactivity, Nuclear reactions, applications of radioisotopes and nuclear reactors, CO 5. Stability and uses of colloidal and properties and uses of surfactants
PAPER –II Inorganic Chemistry	USCH502	On completion of the course learners will be able to, CO 1. Basic concept of molecular symmetry with respect to symmetry elements symmetry operations and point groups. CO 2. Bonding in polyatomic species. CO 3. Structure of solids w.r.t. packing lattice in space. CO 4. Chemistry of inner transition elements and non aqueous solvents. CO 5. comparative chemistry of group 16 and 17.
PAPER –III Organic Chemistry	USCH503	On completion of the course learners will be able to, CO 1. Understand acyl nucleophilic substitution mechanism and stereochemistry of compounds.

		CO 2.Understand advantages and disadvantages of agrochemicals, biopesticides like neem oil and karanja oil. CO 3.Understand importance of green chemistry.
PAPER –IV Analytical Chemistry	USCH504	On completion of the course learners will be able to, CO 1.Understand the concept of quality, quality control and quality assurance and the techniques of sampling for solids liquids and gases, CO 2.Understand the method of analysis by instrumental method like GC, HPLC, Flame photometry, AAS, UV Visible Spectrophotometer. CO 3.Understand electroanalytical methods like voltammetry and amperometry.
Applied Components: Drugs & Dyes: PAPER –V	USACDD501	On completion of the course learners will be able to, CO1. Study different types of dyes and pigments. CO2. get knowledge about the drugs
<b>SEMESTER - VI</b>		
PAPER –I Physical Chemistry	USCH601	On completion of the course learners will be able to, CO 1. Activity, classifications of cell, EMF measurements and their applications, Concept of overvoltage, electroplating. CO 2. Classification of polymers, LEP's, antioxidants and stabilizers, CO 3. Classical and Quantum mechanics, Operator concepts and their terms, CO 4. Renewable energy sources, Solar energy, Hydrogen, NMR and ESR spectroscopy.
PAPER –II Inorganic Chemistry	USCH602	On completion of the course learners will be able to, CO 1. Bonding in complexes on basis of CFT CO 2.stability of complexes and factors affecting thermodynamic stability CO 3. types of substitution reaction and mechanism CO 4. Concept of electronic spectra CO 5. Organometallic compounds of main group elements CO 6. Phenomenon of catalysis CO 7. Extraction of metals by using different metallurgical techniques CO 8. Chemistry of group 18 elements of bioinorganic chemistry.
PAPER –III Organic Chemistry	USCH603	On completion of the course learners will be able to, CO 1. Understand stereoselectivity and stereospecificity of addition and substitution reactions, CO 2. Determine structure of organic compounds by spectroscopic techniques.

PAPER –IV Analytical Chemistry	USCH604	On completion of the course learners will be able to, CO 1.Understand the technique of food processing and preservation, analysis food products and detect adulterant present in it, CO 2.Understand the principles, instrumentation and applications of thermogravimetric methods like TGA, DTA, DSC etc.
Applied Components: Drugs & Dyes: PAPER –V	USACDD6 01	On completion of the course learners will be able to, CO 1. Study different types of dyes and pigments. CO 2. get knowledge about the drugs
<b>The level of attainment of B.Sc. Chemistry programme:- 98.70%</b>		



<b>PROGRAMME : B.Sc. Physics</b>		
<b>SEMESTER I</b>		
Classical Physics PAPER –I :	USPH-101	CO1. Understand Newton's laws and apply them in calculations of the motion of simple systems. CO2. Use the free body diagrams to analyse the forces on the object. CO3. Understand the concepts of friction and the concepts of elasticity, fluid mechanics and be able to perform calculations using them. CO4. Understand the concepts of lens system and interference. CO5. Apply the laws of thermodynamics to formulate the relations necessary to analyze a thermodynamic process.
Modern Physics: PAPER –II	USPH-102	CO1. Understand nuclear properties and nuclear behaviour. CO2. Understand the type isotopes and their applications.
<b>SEMESTER II</b>		
Mathematical Physics PAPER –I	USPH-201	CO1. Understand the basic mathematical concepts and applications of them in physical situations. CO2. Demonstrate quantitative problem solving skills in all the topics covered.
Electricity and Electronics	USPH-202	CO1. Understand the basic electronics concepts and applications of electronics in real world. CO2. Exploring different branches of electronics such as Power, analog and digital electronics

PAPER –II		CO3. Understanding of AC and DC Voltages and current
<b>SEMESTER III</b>		
Mechanics and thermodynamics PAPER –I	USPH-301	CO1. Understand the concepts of mechanics & properties of matter & to apply them to problems. CO2. Comprehend the basic concepts of thermodynamics & its applications in physical situation.
Vector calculus, Analog Electronics PAPER –II	USPH-302	CO1. Understand the basic concepts of mathematical physics and their applications in physical situations. CO2. Understand the basic laws of electrodynamics and be able to perform calculations using them. CO3. Understand the basics of transistor biasing, operational amplifiers, their applications CO4. Understand the basic concepts of oscillators and be able to perform calculations using them.
Applied Physics –I : PAPER –III	USPH-303	CO1. Students will be exposed to contextual real life situations. CO2. Students will appreciate the role of Physics in 'interdisciplinary areas related to materials, Bio Physics, Acoustics etc. CO3. The learner will understand the scope of the subject in Industry & Research.
<b>SEMESTER IV</b>		
Optics and Digital Electronics: PAPER –I	USPH-401	CO1 Understand the diffraction and polarization processes and applications of them in physical situations. CO2. Understand the resolving power of different optical instruments. CO3. Understand the working of digital circuits
Quantum Mechanics: PAPER –II	USPH-402	CO1. Understand the postulates of quantum mechanics and to understand its importance in explaining significant phenomena in Physics.
Applied Physics-II: PAPER –III	USPH-403	CO1. Understand the concepts of mechanics & properties of matter & to apply them to problems. CO2. Learn about situations in low temperature.
<b>SEMESTER - V</b>		
Mathematical Methods in Physics and Thermal and Statistical Physics: PAPER –I	USPH-501	CO1. From this course, the students are expected to learn some mathematical techniques required to understand the physical phenomena at the undergraduate level and get exposure to important ideas of statistical mechanics.
Solid State Physics: PAPER –II	USPH-502	CO1. Understand the basics of crystallography, Electrical properties of metals, Band Theory of solids, demarcation among the types of materials, Semiconductor Physics and Superconductivity. CO2. Understand the basic concepts of Fermi probability distribution function,

		CO3. Density of states, conduction in semiconductors and BCS theory of superconductivity.
Atomic and Molecular Physics: PAPER –III	USPH-503	CO1. The application of quantum mechanics in atomic physics CO2. The importance of electron spin, symmetric and antisymmetric wave functions and vector atom model CO3. Effect of magnetic field on atoms and its application
Electrodynamics : PAPER –IV	USPH-504	CO1. Understand the laws of electrodynamics and be able to perform calculations using them. CO2. Understand Maxwell’s electrodynamics and its relation to relativity CO3. Understand how optical laws can be derived from electromagnetic principles.
Analog Circuits, Instruments And Consumer Appliances	USACEI-501	CO1. Understand the difference between a transducer and a sensor. CO2. Understand the construction, working and uses of different types of transducers. CO3. Understand the concept of signal conditioning, devices used and their operations. CO4. Get acquainted with the measuring instruments used in laboratory. CO5. Get the insight of the modern medical instruments in principle, which are used in day to day life. CO6. Analyze/design and implement combinational logic circuits. CO7. Develop assembly language programming skills and real time applications of microprocessor.
<b>SEMESTER - VI</b>		
Classical Mechanics: PAPER –I	USPH601	CO1. This course will introduce the students to different aspects of classical mechanics. CO2. 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. CO3. The students are expected to learn the concepts needed for the important formalism of Lagrange’s equations and derive the equations using D’Alembert’s principle etc
Electronics: PAPER –II	USPH602	CO1. Understand the basics of semiconductor devices and their applications. CO2. Understand the basic concepts of operational amplifier: its prototype and applications as instrumentation amplifier, active filters, comparators and waveform generation. CO3. Understand the basic concepts of timing pulse generation and regulated power supplies

Nuclear Physics: PAPER –III	USPH603	CO1. fundamental principles and concepts governing classical nuclear and particle physics CO2. knowledge of their applications interactions of ionizing radiation with matter CO3. Knowledge on elementary particles will help students to understand the fundamental constituents of matter, antimatter and other research oriented topics.
Special Theory of Relativity: PAPER –IV	USPH604	CO1. Understand the significance of Michelson Morley experiment and failure of the existing theories to explain the null result CO2. Understand the importance of postulates of special relativity, Lorentz transformation equations, Absolutism and relativity, CO3. Understand the transformation equations for: Space and time, velocity, frequency, mass, momentum, force, Energy, Charge and current density, electric and magnetic fields.
Digital Electronics, Microprocessor, Microcontroller And OOP	USACEI601	CO1. Illustrate how to interface the I/O peripheral (PPI) with 8085 microprocessor CO2. Understand architecture, silent features, instruction set, programming and interfacing of 8051 microcontroller. CO3. Develop the programming skills in programming Language C++.
<b>The level of attainment of B.Sc. Physics programme:- 94.11%</b>		

<b>PROGRAMME : B. Sc. Zoology</b>		
<b>SEMESTER - I</b>		
Wonders Of Animal World, Biodiversity And Its Conservation	USZO 101	<p>CO1. The curiosity will be ignited in the minds of learners to know more about the fascinating world of animals which would enhance their interest and love for the subject of Zoology.</p> <p>CO2. Learners would appreciate treasure of biodiversity its importance and would contribute their best for its conservation.</p> <p>CO3. Minds of learners would be impulse to think differently and would be encourage ipso facto to their original crude ideas from the field of biological science</p>
Laboratory Safety And Units Of Measurement	USZO 102	<p>CO1. Learners would work safely in the laboratory and avoid and avoid occurrence of accidents which will boost their scholastic performance and economy in the use of materials and chemicals during practical session</p> <p>CO2. Learners would understand recent advance in the subject and their application for betterment of mankind and that the young minds would be turns to think out of the box.</p> <p>CO3. Learner will be skilled to select and operate suitable instruments for the studies of different componts of Zoology of this course and also of higher classes including research</p>

<b>SEMESTER - II</b>		
Ecology And Wildlife Management	USZO 201	<p>CO1: Learners will learn about nature of human population , specific factors affecting its growth and its impact on the population of other life forms</p> <p>CO2: Students will grasp the concept of interdependence and interaction of physical ,chemical and biological factors in the environment .</p> <p>CO3: It will leads to better understanding about implications of loss of fauna on human being erupting spur of desire for conservation of all fauna and flora</p> <p>CO4: Learner would be motivated to choose their career in the field of wildlife of conservation , Research, photography and ecotourism</p>
Nutrition,Public Health And Hygiene	USZO 202	<p>CO1: Healthy dietary habits would be inculcated in the lifestyle of learners preventing risk of developing health hazards in younger generations due to faulty eating habits.</p> <p>CO2: Promoting optimum conservation of water, Encouragement for maintain personal hygiene. Optimum use of electronic gadgets, avoiding addiction, thus facilitating to achieve the goals of healthy young India in true sense.</p> <p>CO3: Learner will be able to promptly recognised tress related problems at initial stage and would be able to adopt related solution which would lead to psychological stronger mind-set, promoting promoting Positive attitude.</p> <p>CO4: Acquiring knowledge about cause symptoms and precautions about infectious diseases to help students to prevent frequent sickness not only for them but also for their family members.</p>
<b>SEMESTER - III</b>		
Fundamentals Of Genetics, Chromosomes Heredity And Nucleic Acids	USZO 301	<p>CO1: Understand and apply the principles of inheritance, concept of multiple allele's linkage and crossing over</p> <p>CO2: Learner will understand importance of nucleic acid as a genetic materials</p> <p>CO3: Learner would comprehend and appreciate the regulation of gene expression</p> <p>CO4: Learners would understand the structure and types of chromosome , mechanism of sex determination</p> <p>CO5: Learners would be able to correlate the disorders link to a particular sex chromosomes.</p>
Animal Physiology	USZO 302	<p>CO1: Learners should understand the increasing complexity of nutritional, excretory and osmoregulatory physiology in evolutionary hierarchy</p> <p>CO2: learner would be able to correlate the habit and habitat with nutritional, excretory and osmoregulatory structure in different classes of organism</p>

		<p>CO3: Learner would understand increasing complexity of respiratory, and Circulatory physiology in evolutionary hierarchy</p> <p>CO4: Learners would understand the process of control and coordination by nervous and endocrine regulation.</p> <p>CO5: Learners would be amazed by various locomotory structure found in the animal kingdom</p> <p>CO6: Learners would be acquainted with various reproductive strategies present in the animals</p>
Applied Zoology	USZO303	<p>CO1: Learners would gain insight into different types of animal's behaviours and their role in biological adaptation</p> <p>CO2: Learners would be sensitised to be feelings which are instrumental in social behaviour.</p> <p>CO3: learners should understand the general epidemiological aspect of parasite that affect humans and takes simple preventive measures for the same</p> <p>CO4: Learner would be competent the lifecycle of specific parasite the symptoms of diseases and its treatments .</p> <p>CO5: Learner would gain knowledge of animals useful to mankind and means to make the most of it</p> <p>CO6: Learner would learn the modern technique in animal husbandry and peruse entrepreneurship as a career .</p>
<b>SEMESTER - IV</b>		
Origin And Evolution Of Life , Population Genetics ,Scientif Attitude, Methodology Scientific Writing And Ethics Inscientific Research	USZO 401	<p>CO1: Learner would gain insights into the origin of life</p> <p>CO2:Leraner would analyse and critically view the different theory of evolution</p> <p>CO3: Learner would understand the force that cause evolutionary changes in the natural population and mechanism of speciation's.</p> <p>CO4: The learner would develop quality such as critical thinking, skill of scientific communication and analysis and to understand the ethical aspects of Research.</p>
Cell Biology, Endomembrane System And Biomolecules	USZO 402	<p>CO1: Learners would acquire insights into the composition of the transport system adopted by the cell and organelle for its maintaince and composition of the cell</p> <p>CO2: Learners would appreciate the intricacy of endomembrane system</p> <p>CO3: Learners would understand the interlinking of endomembrane system for functioning of the cell</p>

		CO4: Learners would realise the importance of biomolecules and their clinical significance.
Comparative Embryology Aspect Of Human Reproduction And Effects On Organism	USZO 403	CO1: Learners understood and compare different types of eggs and sperms. CO2: Learners would be understand human reproductive physiology CO3: Learners would become familiar with advance in ART and related ethical issues. CO4: Learners would be sensitised about the adverse effect of pollution and measure to control it
<b>SEMESTER - V</b>		
Taxonomy Of Invertebrates	USZO 501	CO1: Learners would be apprehended the basis of classification and modern classification up to class of the lower invertebrate animals CO2: Learners would be familiarise with classification put phylum Nematode along with their examples CO3: Learners would get an idea of higher groups of invertebrate animals life, their classification and their peculiar aspects. CO4: Learners would get an idea of general characteristics and detail l of invertebrate animal system
Haematology And Immunology	USZO 502	CO1: Learners comphrended basic haematology and identified various component of haem ostatic system CO2: Learners become familiar with the terminology used and diagnostic test performed in a pathological laboratories CO3: Learners acquainted diagnostic approach in haematological disorders CO4: Learners better equipped for further pathological course or working in a diagnostic laboratory CO5: Learners comprehended the types of immunity and the components of the immune system . CO6: The learners realised the significance role of immune system in giving resistance against disease.
Histology, Toxicology, Pathology And Biostatistics	USZO 503	CO1: Learners appreciated the well plan organization of tissues and cells in the organ system CO2: Learners developed broad understanding in different areas of toxicology CO3: Learners developed critical thinking and assist student in preparation for employment in pharmaceutical and related areas CO4: Learners become familiar with various medical terminology pertaining to pathological condition of the body cause due to disease CO5: Learners. able to collect , organised and analysed data using parametric and non-parametric tests and also setup hypothesis and verified the same limits of significance



Anatomy And Developmental Biology	USZO 504	CO1: Learners understood importance of various types of epidermal and dermal derivatives along with their functions CO2: Learners understood the structure ,types and functions of human skeleton . CO3: Learners understood the long limb muscles its arrangement and their role in body movements
Applied Components	USACFBIO601	CO1: Learners understood and learn about the use of sea safety, navigational equipments and oceanographic instruments CO2: Learners understood basic physical, chemical and biological oceanography  CO3: Learners understood boat building techniques and design of engines used in mechanized boats CO4: Learners acquainted breeding techniques and skills for culture of major carps CO5: Learners understood breeding techniques, hatchery and management of finfish and shell fishes
<b>SEMESTER - VI</b>		
Taxonomy Of Vertebrates	USZO 601	CO1: Learners got the idea of origins of chordates , its taxonomy up to the class with reference to phylogeny with reference to phylogeny and their special features CO2: Learners understood the characteristic feature and examples of class reptile aves and mammals CO3: Learners got idea of vertebrate animal life after studding one representative animal Shark
Physiology And Tissue Culture	USZO 602	CO1: Learners understood fundamental structure action and kinetics CO2: Learners appreciated the enzyme assay procedure and therapeutic applications of enzymes . CO3: Learners comphrended the adaptive response of the animals to environmental changes for their survival. CO4: Learners understood the types and secretion of endocrine glands and their functions CO5: Learners appreciated the significance of tissue culture as a tool in a specialised area of research and its application in various industries.
Genetics And Bioinformatics	USZO 603	CO1: Learners understood an insights into the intricacies of chemicals and molecular processes that affect genetic materials. CO2: Learners appreciated the enzyme assay procedure and therapeutic applications of enzymes . CO3: Learners understood significance of molecular biology as a basis for the study of other areas of biology and biochemistry CO4: Learners understood related areas in relatively new field in genetic engineering and biotechnology.

		CO5: Learners acquainted the vast array of techniques used to manipulate genes which can be applied in numerous fields like medicine research etc for human benefits.
Environmental Biology Zoopharmacognosy	USZO 604	CO1: Learners understood the different factors affecting environment its impact and environment management law CO2: Learners understood various methods for wildlife conservation CO3: Learners understood knowledge of overcome the issues related to wildlife conservation . CO4: Learners acquainted how and why different animals species are distributed around the globe
Applied Components	USACFBIO601	CO1: Learners understood deep sea and coastal fishes CO2: Learners understood commercial potential and know about the major landing centres of the fishes CO3: Learners understood basics of nutritional requirements at various developmental stages of fish and crustaceans  CO4: Learners should oriented towards understanding causes, pathogenicity, prophylaxis and preventive measures of various fish diseases and physiological disorders  CO5: : Learners understood fish by-products and value-added products  CO6: : Learners understood good manufacturing practices while manufacturing the various products
<b>The level of attainment of B.Sc. Zoology programme :- 77.77%</b>		
<b>The level of attainment of B.Sc. Zoology programme :- 100%</b>		

<b>PROGRAMME : B. Sc. Mathematics</b>		
<b>SEMESTER – I</b>		
Calculus - I PAPER –I	USMT101	CO1. Learners understood basic concept of real number system. CO2. Learners understood concept of sequences and it's properties. CO3. Learners understood limit and continuity of one variable
Algebra-I PAPER –II	USMT102	CO1. Learners understood properties of l.c.m. and g.c.d.. Also they earn properties of Congruences. CO2. Learners understood concept of functions and equivalence relations. CO3. Learners understood algebra and properties of polynomials.
<b>SEMESTER – II</b>		
Calculus - II PAPER –I	USMT201	CO1. Learners understood basic concept of series and it's properties. CO2. Learners understood algebra of continuous functions and properties of continuous functions. CO3. Learners understood the applications of Differentiation.
Algebra-II PAPER –II	USMT202	CO1. Learners understood system of linear equations and matrices. CO2. Learners understood concept of vector space, subspace and it's properties.

		CO3. Learners understood concept of basis of a vector space. Also they learn properties of linear CO4. transformation.
<b>SEMESTER – III</b>		
Calculus –III	USMT301	On completion of the course learners will be able to understand, CO1. Functions of 2 and 3 variables. CO2. Differentiation of 2 variables and it's properties. CO3. Applications of Differentiation.

Algebra -III	USMT302	The course enables the learners will be able to understand, CO1. Linear transformations and matrices. CO2. properties of Determinants. CO3. properties of Inner product spaces, Cauchy-Schwartz inequality and Triangle inequality.
Discrete Mathematics	USMT303	Learners are able to get knowledge about , CO1. Permutations and recurrence relations and it's types. CO2. Pigeonhole principle and it's applications. CO3. Advanced counting.
SEMESTER – IV		
Calculus -IV	USMT401	The course enables the students to understand, CO1. The properties of Riemann integration. CO2. Indefinite and improper CO3. Integrals. CO4. Applications of definite CO5. Integrals, properties of beta and gamma functions.
Algebra -IV	USMT402	Learners are able to understand, CO1. Groups, Subgroups and it's properties. CO2. Cyclic Groups, cyclic Subgroups and it's properties. CO3. Langrange's theorem and group homomorphism.
Ordinary Differential Equations	USMT 403	Learners are expected to learn CO1.Set up Mathematical models of real world problems and obtain solutions for the same. CO2.Exact differential equations and various types, second order linear differential equations, series method of solution, linear partial differential equations. CO3.Linear system of ordinary differential equations.

**The level of attainment of B.Sc. Mathematics programme :- 90.47 %**