



Course Outcomes

Department of Chemistry	
USCH101	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none">• Compute Concentration in various forms.• Summarizes atomic structure evolution.• Explain Periodic Properties.• Elaborate IUPAC rules of naming of organic compounds.• Discuss reaction mechanism.
USCH102	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none">• Predict properties of liquids.• Count the rate of reaction.• Explain the properties of main group elements.• State environmental properties of Oxides and Oxyacids of N & S.• Convert molecule in different projection formulae.• Infer reasons optical of activity.
USCH201	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none">• Discuss the laws of gases.• Determine Equilibrium and thermodynamic parameters.• Explain concepts of qualitative analysis.• Outline Acid Base Theories.• Illustrate Carbon-Carbon sigma and pi bonding.• Explain reactions of alkene and alkynes.
USCH202	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none">• Estimate pH of buffer solutions.• Relate interaction between matter with electromagnetic radiation.• Outline chemical bonding and reactivity.• Describe redox chemistry.• Design three dimensional models of molecules.• Summarizes chemistry of aromatic compounds.
USCHP1	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none">• Estimate strength of commercial acid.• Examine percentage composition of mixtures.• Design double indicator titration.• Infer purification technique.• Apply chromatographic technique.• Operate qualitative identification technique of organic compounds.
USCH301	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none">• Discuss partial molar properties.• Summarizes conductivity and resistivity.

	<ul style="list-style-type: none"> • Outline non directional and directional bonding. • Apply molecular orbital theory. • Illustrate reactivity of halogenated hydrocarbon. • Differentiate between alcohols phenol and epoxides.
USCH302	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none"> • Predict theories of reaction kinetics. • Discuss Nernst distribution law. • Understand chemistry of p block elements. • Classify silicon and germanium w.r.t. their reactivity. • Generalize nucleophilic addition reaction mechanism. • Examine reactivity of active methylene compounds.
USCH303	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none"> • Discuss the role of analytical chemistry in various fields. • Apply method of sampling and statistical treatment of data. • Demonstrate classical methods of analysis. • Identify suitable gravimetric or volumetric method. • Summarizes various instrumental methods of analysis. • Appreciate basic terms in spectroscopy.
USCH401	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none"> • Distinguish between reversible and irreversible cell. • Understand phase equilibria. • Compare transition metal chemistry. • Evaluate qualitative tests for transition metal ions. • Outline properties of coordination compounds. • Explain reactivity of carboxylic and sulphonic acids.
USCH402	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none"> • Appreciate terms in crystallography. • Explain the concepts of catalysis. • Design the behaviour of ions in aqueous medium. • Demonstrate uses of environmental chemistry. • Show the chemistry of nitrogen containing heterocycles. • Prepare and use of diazonium salts.
USCH403	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none"> • Outline the types of separation methods. • Apply solvent extraction technique. • Utilise statistical method of data analysis. • Appreciate nature need and importance of pH. • Computation of confidence limit and confidence interval. • Utilize conductometric titration.
USCHP2	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none"> • Judge the Ostwald's dilution law. • Estimate hardness of water. • Prepare organic compounds. • Use of pH to locate the end point of acid base titration. • Analyse inorganic salts qualitatively by semi micro method. • Operate conductometer and potentiometer.
USCH501	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none"> • Discuss colligative properties of dilute solutions.

	<ul style="list-style-type: none"> • Apply phase rule to two component system. • Analyse types of adsorption isotherm. • Explain Catalyst poisoning and deactivation. • Develop Concentration Cell. • Utilise EMF measurement. • Distinguish types of polymers. • Summarise laws of crystallography.
USCH502	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none"> • Explain concept of Point groups. • Apply molecular orbital theory. • Discuss structures of solids. • Calculate limiting radius coordination no 4. • Illustrate lanthanide series. • Rewrite actinide chemistry. • Elaborate chemistry of non-aqueous solvents. • Classify solvents.
USCH503	<p>Upon completion of this course the students will be able to:</p> <ul style="list-style-type: none"> • Generalize the reaction mechanism. • Rewrite name reaction. • Predict Molecular Chirality. • Apply stereochemistry t addition reactions.
Department of Mathematics	
Calculus I	<p>After completion of the course students will able to:</p> <ul style="list-style-type: none"> • Define different types of sequence, subsequences, upper and lower limits of a sequence, convergent & divergent sequence . • Verify the given sequence in convergent and divergent by using behavior of Monotonic sequence. • Prove Cauchy's first limit theorem, Cesaro's theorem, Cauchy's Second limit theorem. • Determine the limit, continuity and differentiability of functions • Apply the sequence criteria for continuity and explain the types of discontinuities.
Algebra-I	<p>After completion of the course students will able to:</p> <ul style="list-style-type: none"> • Define the set, subset, union of set, intersection of set, De-Morgan's laws, relation and cartesian product of two sets. • Define statements of well-ordering property, Binomial theorem, Pascal triangle and fundamental theorem of arithmetic. • Define of function and its properties, equivalence relation and properties. • Explain Congruence is an equivalence relation on Z, Residue classes and partition of Z, Addition modulo n, Multiplication modulo n, examples.
Calculus II	<p>After completion of the course students will able to:</p> <ul style="list-style-type: none"> • Explain Series of real numbers, necessary condition for convergence and different types of tests for series convergence.. • Acquire ability explain the continuity of a function at a point and on a set, differentiate the concept of continuity and uniform continuity. • Acquire ability to state Rolle's theorem, Lagrange's and Cauchy's mean value theorems.

Linear Algebra	<p>After completion of the course students will able to:</p> <ul style="list-style-type: none"> • Explain parametric equation of lines and planes, system of homogeneous and non-homogeneous linear equations. • Explain Matrix operations; solve system of linear equations in matrix form. • Define real vector space, subspace, Basis of vector space and linear transformation.
Calculus- III	<p>After completion of the course students will able to:</p> <ul style="list-style-type: none"> • Acquire ability to explain functions of several variables, distance between two points, open ball in \mathbb{R}^n, definition of an open subset of \mathbb{R}^n. • Acquire ability to explain directional derivatives, partial derivatives and Mean value theorem for derivatives of scalar fields. • Acquire ability to explain second order Taylor's formula for scalar fields, Hessian matrix, Maxima, minima and saddle points, Second derivative test for extrema of functions of two variables.
Algebra- III	<p>After completion of the course students will able to:</p> <ul style="list-style-type: none"> • Explain linear transformations, Kernel and image of a linear transformation, Rank nullity, Linear isomorphism. • Explain determinant as an n-linear skew-symmetric function, Linear dependence and independence of vectors in \mathbb{R}^n using determinants, Existence and uniqueness of determinant function via permutations. • Acquire ability to define general inner product on a vector space over \mathbb{R}^n, norm of a vector in an inner product space. • Acquire ability to explain Gramschmidt orthogonalisation process and examples.
Discrete mathematics	<p>After completion of the course students will able to:</p> <ul style="list-style-type: none"> • Describe Group of Permutation (S_n, A_n) and its properties. • Describe Recurrence Relations, different types of recurrence relations. • Apply the techniques to solve counting problems, homogeneous as well as non homogeneous recurrence relations by using iterative methods
Calculus- IV	<p>After completion of the course students will able to:</p> <ul style="list-style-type: none"> • Acquire ability to define functions of several variables, limit, continuity and differentiability. • Acquire ability upper/lower Riemann sums and properties, definition of Riemann integral on a closed and bounded interval. • Acquire ability to define Fundamental theorems of calculus, Mean value theorem, Integration by parts, Leibnitz rule, Improper integrals, absolute convergence of improper integrals, comparison, Abel's and Dirichlet's tests. • Define β and Γ functions and their properties. • Explain directional derivatives and partial derivatives and mean value theorem for derivatives of scalar fields.
Algebra-IV	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Define Groups, Subgroups, normal subgroups, quotient groups and index of a subgroup. • Find cycles and transpositions of a given permutations. • Prove Lagrange's theorem, Euler's theorem and Fermat's theorem. • Define cyclic groups and Prove a group has no proper subgroup if it is cyclic group of prime order. • Define homomorphism, kernel of a homomorphism, isomorphism. • Prove Canley's theorem, the fundamental theorem of homomorphism for

	groups.
Ordinary Differential Equations	<p>After completion of the course students will able to:</p> <ul style="list-style-type: none"> • Explain order, degree and defination of the differential equation. • Apply the techniques to solve homogenous, Non-homogenous, exact and non-exact differential equations. • Explain homogeneous and non-homogeneous second order linear differential equations and Linear System of ODEs. • Apply the techniques to solve the homogeneous equation with constant coefficient's and Linear System of ODEs.
Multivariable Calculus II	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Explain basic properties of double and triple integrals proved using the Fubini's theorem. • Explain Basic properties of line integrals, path-additive and behavior of line integrals under a change of parameters. • Explain Parameterized surfaces, area of such surfaces, definition of curl and divergence of a vector fields.
Linear Algebra	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Acquire ability to explain quotient Spaces and orthogonal linear transformation. • Acquire ability to apply the Cayley–Hamilton theorem. • Define diagonalisation of matrix, geometric multiplicity and Algebraic multiplicity of eigen values. • Apply the technique to diagonalizable matrices.
Metric Spaces and Real Analysis	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Acquire ability to explain metric spaces and point set topology in metric space. • Acquire ability to explain sequences, subsequence and its convergence in a metric space. • Define compact metric space, sequentially compactness property, Heine-Borel property and Bolzano-Weierstrass property. • Acquire ability to explain continuous functions on metric spaces, connected sets and sequence and series of functions.
Numerical Analysis-I	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Define errors analysis, transcendental & Polynomial Equations, Taylor's series example, significant digits and numerical stability. • Acquire ability to solve the examples using Newton-Raphson method, Secant method, Regula-Falsi method, Iteration Method. • Acquire ability to solve the examples using muller method, Chebyshev method, Multipoint iteration method, Bairstrow method, Methods for multiple roots. • Solve system of equation by matrix representation of linear system of equations and explain various methods.
Complex Analysis	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Explain De Moivre's formula, theorems on limits limit, continuity and differentiability. • Acquire ability to explain and apply Cauchy Integral Formula, Taylors theorem for analytic function. • Acquire ability to explain Complex power series, Laurent series and isolated

	singularities.
Algebra	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Explain Groups, normal subgroups, Quotient group, and Cayley's theorem. • Explain Ring, sub-ring, normal ring, commutative ring, integral domain, division ring, isomorphism theorems for rings. • Acquire ability to explain maximal ideal & prime ideal, Polynomial rings, Eisensteins criterion for irreducibility, maximal ideals, irreducible polynomials.
Operations Research	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Explain Formation of L.P.P and Graphical Method. • Acquire ability to solve L.P.P using simplex method and Big-M method. • Explain transportation Problem, finding initial basic feasible solution by North-West corner method, and optimal solution by MODI method. • Acquire ability to explain queuing systems, elements of queuing model, role of exponential distribution. Pure birth and death models, self- service model, machine-servicing model.
Department of Zoology	
USZO101	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Curiosity will be ignited in the mind of learners, to know more about the fascinating world of animals which would enhance their interest and love for the subject of Zoology. • Learners would appreciate treasure of Biodiversity, its importance and hence would contribute their best for its conservation. • Minds of learners would be impulsed to think differently and would be encouraged ipso facto to their original crude ideas from the field of biological sciences.
USZO102	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • 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
USZO201	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • This unit would allow learners to study 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. • Learners would be inspired to choose career options in the field of wild life

	conservation, research, photography and ecotourism.
USZO202	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Healthy dietary habits would be inculcated in the life style of learners in order to prevent risk of developing health hazards in younger generation due to faulty eating habits • Promoting optimum conservation of water, encouragement for maintaining adequate personal hygiene, optimum use of electronic gadgets, avoiding addiction, thus facilitating achievement of the goal of healthy young India in true sense. • 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.
USZO301	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Understand and apply the principles of inheritance. • Understand the concept of multiple alleles, linkage and crossing over. • Learners would understand the structure and types of chromosomes. • Learners would understand mechanisms of sex determination. • Learners would be able to correlate the disorders linked to a particular sex chromosome • Learner would understand the importance of nucleic acids as genetic material. • The learners would understand and appreciate the regulation of gene expressions
USZO302	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Learners would understand the increasing complexity of nutritional, excretory and osmoregulatory physiology in evolutionary hierarchy. • Learners would be able to correlate the habit and habitat with nutritional, excretory and osmoregulatory structures. • Learners would understand the increasing complexity of respiratory and circulatory physiology in evolutionary hierarchy. • Learners would be able to correlate the habit and habitat with respiratory and circulatory structures. • Learners would understand the process of control and coordination by nervous and endocrine regulation. • Learners would be fascinated by various locomotory structures found in the animal kingdom. • Learners would be acquainted with various reproductive strategies present in animals.
USZOE303A	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Learners will become familiar with the enthralling animal world. • Learners will appreciate the use of unique abilities of animals in development of technology • Learners would gain an insight into different types of animal behavior and their role in adaptation. • Learners would become sensitized to protect and manage biodiversity in a

	<p>sensible and sustainable manner.</p> <ul style="list-style-type: none"> • Learner will understand the science of vermin composting and dairy. • Learner will appreciate and respect domestic pets through proper care.
USZO401	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Learner will gain insight about origin of life. • Learner will ponder and critically view the different theories of evolution. • Learner would understand the forces that cause evolutionary changes in natural populations • Learner would comprehend the mechanisms of speciation • Learner will be able to distinguish between microevolution, macroevolution and mega evolution • The learner shall develop qualities such as critical thinking and analysis • The learner will imbibe the skills of scientific communication and he/she will understand the ethical aspects of research
USZO402	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Learner would acquire insight of transport mechanisms for the maintenance and composition of cell. • Learner would appreciate the intricacy of endomembrane system. • Learner would understand the interlinking of endomembrane system for functioning of cell. • The learner will realize the importance of biomolecules and their clinical significance.
USZOE403A	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Learner will be able to understand and compare the different pre-embryonic stages • Learner will be able to appreciate the functional aspects of extra embryonic membranes and classify the different types of placentae. • Learners will able to understand human reproductive physiology • Learners will become familiar with advances in ART and related ethical issues. • The learner will develop qualities such as critical thinking and analysis. • The learner will develop the skills of scientific communication. • Learner will understand the ethical aspects of research
USZO501	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Learners will develop conceptual clarity with regard to the anatomy of animals at different levels. Learners shall comprehend the evolutionary perspective of each level of organisation. • Learners will know the importance of the significance and advantages of each level organisation. • Learners will understand that scientific classification of animals is based on certain characteristics they have in common. Learners will be able to recall characteristics features and examples of each phylum. Learners will be familiar with protozoan and helminth parasites. • Learners will get an idea of higher groups of invertebrate animal life and their classification. • Learners will get an idea of general characteristics and details of invertebrate animal systems.

<p>USZO502</p>	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Learners would be able to realize the fundamental concepts in haematology. • Learners will be familiar with different terminologies and diagnostic tests performed in a pathological laboratory. Learners will be better equipped for taking any further pathological course or working in a diagnostic laboratory. • Learners would comprehend the types of immunity and the components of immune system. Learners would realize the significant role of immune system in giving resistance against diseases • Learners would understand immune related pathologies. Learners would understand the principle and applications of vaccines. Learners would develop basic understanding of immunology of organ transplantation and cancer treatment.
<p>USZO503</p>	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • The course will prepare learners to recognize the significance of molecular biology as a basis for the study of other areas of biology and biochemistry. Moreover, it will also assist them in understanding related areas in relatively new fields of genetic engineering and biotechnology. • The learners will get acquainted with the vast array of techniques used to tamper genes which can be applied in numerous fields like medicine, research, etc. for human benefit. • The learners will become aware of the impact of changes occurring at gene level on human health and its diagnosis. • The course will prepare learners to understand significance of cell culture as a tool in specialized areas of research and its applications in industries like biotechnology, in fields such as in vitro fertilization and replacement of animals in medical and toxicology experiments.
<p>USZO504</p>	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Learners will be able to understand the importance of epidermal and dermal derivatives and their functions. • Learners will be able to understand the types & secretions of endocrine glands and their functions. • Learners will be able to understand the structure, types and functions of human skeleton. • Learners will be able to understand the processes involved in embryonic development and its application.
<p>USZO601</p>	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Learners will get an idea of basic morphological and physiological details of minor phyla and protochordates. Study of phylogeny will help learners to understand the evolutionary relationships between organisms. • Learners will be able to identify classes of fish and amphibians by their anatomical features. Learners will be able to compare and contrast characters of fishes and amphibians. Learners will be able to describe evolutionary trends implied by their classification. • Learners will understand that scientific classification of animals is based on certain characteristics they have in common. Learners will be able to recall characteristic features and examples of each class of Reptilia, Aves and Mammalia.

	<ul style="list-style-type: none"> • Learners will get an idea of vertebrate animal life and its classification.
USZO602	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Learners must be able to understand basics of enzyme structure and function. Learners must comprehend variations in enzyme activity and kinetics. Learners must appreciate the enzyme assay procedures and the therapeutic application of enzymes. • Learners would be able to understand the concept of positive and negative feedback mechanisms. Learners would comprehend the adaptive responses of animals to environmental changes • Learners would appreciate the well planned organization of tissues and cells in the organ systems • Learners will gain knowledge of various infective agents and diseases caused by them. Learners will be familiar with various medical terminology pertaining to pathological condition of the body caused due to disease.
USZO603	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • The learners will become acquainted with how and why different animal species are distributed around the globe. • The course will prepare learners to develop broad understanding of the different areas and significance of toxicology. Moreover, it will also develop critical thinking and assist students in preparation for employment in pharmaceutical industry and related areas. • The learners will be able to collect, organize and analyze data using parametric and non- parametric tests. They will also be able to set up a hypothesis and verify the same using limits of significance. • The learners will become aware of the computational point of view of studying the genomes.
USZO604	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Learners will be able to understand the different factors affecting environment, its impact and laws governing environmental management. • Learners will be able to understand the wildlife habitat projects for animal protection. • Learners will be able to understand paradigms of discovery and commercialization of biological resources and knowledge gained by self medication by animals. • Learners will be able to understand the role of useful and harmful insects in human life.
Department of Botany	
Plant Diversity (USBO101)	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Observe and study General characteristics of Chlorophyta. • Impart knowledge of Structure, life cycle and systematic position of Nostoc and Spirogyra. • Enumerate economic importance of Algae. • Study General Characteristics of Phycomycetes. • Impart knowledge of Structure, life cycle and systematic position of

	<p>Rhizopus and Aspergillus.</p> <ul style="list-style-type: none"> • Enumerate economic importance of Fungi. • Study mode of nutrition in Fungi. • Describe General characteristics of Hepateceae. • Have knowledge of Structure, life cycle and systematic position of Riccia.
<p>Form and Function (USBO102)</p>	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Characterize general structure of cell wall and plasma membrane of plant cell. • Study of ultra-structure of and functions of Endoplasmic reticulum and Chloroplast. • Get clarify about energy pyramids and flow of energy in an ecosystem. • Acquire knowledge of Types of Ecosystems. • Specify and Explain words phenotype and genotype. • Study of Mendelian Genetics. • Elaborate test cross and back cross. • Explain mechanism of Epistatic and non-epistatic gene interactions. • Clarify Multiple alleles with suitable examples.
<p>Plant Diversity (USBO201)</p>	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Make clear about structure, lifecycle, systematic position and alternation of generation of in Nephrolepis. • Throw light upon stellar evolution. • Describe structure, lifecycle, systematic position and alternation of generation of in Cycas. • Enumerate economic importance of Gymnosperms. • Have detail knowledge of leaf. • Analyze and distinguish detail study of inflorescence. • Compare and study plant families: Malvaceae and Amaryllidaceae.
<p>Form and Function (USBO202)</p>	<p>After completion of the course students will able to:-</p> <ul style="list-style-type: none"> • Observe and compare simple and complex plant tissues. • Get clarify about Primary structure of Dicot and Monocot root stem and leaf. • Inculcate knowledge of epidermal tissue system of plants. • Understand photosynthesis in detail. • Learn the concept of primary and secondary metabolites. • Relate grandma's pouch with respect to plant source, part used, active constituent and medicinal uses of certain plants.
<p>Department of Physics</p>	
<p>Classical Physics (USPH101)</p>	<p>On successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> • Understand Newton's law and apply them in calculations of the motion of simple systems. • Use of free body diagram to analyze the forces on the object. • Understand the concept of friction and the concept of elasticity, fluid mechanics and be able to perform calculations using them. • Understand the concepts of lens system and interface. • Apply the laws of thermodynamics to formulate the relations necessary to

	<p>analyze a thermodynamic process.</p> <ul style="list-style-type: none"> • Demonstrate quantitative problem solving skills in all the topics covered.
Modern Physics (USPH102)	<p>After successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> • Understand nuclear properties and nuclear behavior. • Understand the type isotopes and their applications. • Demonstrate and understand the quantum mechanical concepts. • Demonstrate quantitative problem solving skills in all the topics covered.
Mathematical Physics (USPH201)	<p>On successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> • Understand the basic mathematical concepts and applications of them in physical situations. • Demonstrate quantitative problem solving skills in all the topics covered.
Electricity and Electronics (USPH202)	<p>On successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> • Understand the basic AC circuits and AC bridges. • Understand the Circuit theorems & digital electronics circuits. • Understand the electrostatics and magnetostatics concepts and laws.
Practical I (USPHP1)	<p>On successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> • To demonstrate their practical skills. • To understand and practice the skills while doing physics practical. • To understand the use of apparatus and their use without fear. • To correlate their physics theory concepts through practical. • Understand the concepts of errors and their estimation.
Practical II (USPHP2)	<p>On successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> • To understand and practice the skills while doing physics practical. • To understand the use of apparatus and their use without fear. • To correlate their physics theory concepts through practical. • Understand the concepts of errors and their estimation.
Department of Environmental Science	
Applied Environmental Sciences (USACEVS501)	<p>On successful completion of this course student will be able to:</p> <ul style="list-style-type: none"> • Interrelationship between various components of environment. The knowledge of pollutants to undertake research projects/studies. • Critical and creative during the designing, manufacturing and utilization of chemical products, which would reduce or eliminate the use or generation of hazardous substances • Alternative energy resources and hence follow the 4 R's (Reduce, Reuse, Recycle & Reinvent). • Develop skills in instrumentation used for the study and analysis of various substances related to the environment • Facilitator both will develop conceptual clarity on pollution control and green environmental auditing, besides gaining knowledge about these programmes in the Indian scenario. • Exposed to the various areas and facets of industrial consultancy, and shall also develop competency and confidence to explore it. • Importance of various norms required for MPCB permits and procedure for liaison.
Environmental management (USACEVS601)	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Knowledge about environmental testing and monitoring laboratories, • Study and comprehend the treatment practices applied for domestic waste

	<p>water and industrial effluents.</p> <ul style="list-style-type: none"> • Equipped with the knowledge of some alternatives to conventional resources. • Examine and assess the outcome of the framework of current biodiversity hotspots and biosphere reserves and inspect the positive and negative aspects of it. • The future challenges that ecotourism can generate for biodiversity conservation. • Identify and evaluate the effects of the different sources of greenhouse substances, climate change and global warming and also anthropogenic activities and development on environment. • Inculcate ethical values and responsibilities towards protection of environment. • Equipped to implement goals of environment protection
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Department of Commerce & Accountancy

<p style="text-align: center;">Accountancy & Financial Management</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Recognize and understand ethical issues related to the Accounting profession. • Prepare financial statements in accordance with Generally Accepted Accounting Principles. • Employ critical thinking skills to analyze financial data as well as the effects of differing financial accounting Methods on the financial statements. • Effectively define the needs of the various users of accounting data and demonstrate the ability to communicate such data effectively, as well as the ability to provide knowledgeable recommendations. • Recognize circumstances providing for increased exposure to fraud and define preventative internal control Measures. • Demonstrate an understanding of current auditing standards and acceptable practices, as well as the impact of audit risk on the engagement. • Understand the audit process from the engagement planning stage through completion of the audit, as well as the rendering of an audit opinion via the various report Options. • Apply cost accounting methods to evaluate and project business performance. • Demonstrate an understanding of the taxation of Individual income. • Apply appropriate judgment derived from knowledge of accounting theory, to financial analysis and decision making. • The student will experience real-world learning and Application of skills via their internship.
<p style="text-align: center;">Introduction to Business</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To study the basic concept of business. • To provide the conceptual background of types & patterns of Entrepreneurship. • To develop Entrepreneurial competencies among students.
<p style="text-align: center;">Business Economics</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To Identify the main characteristics of different market types such as perfectly competitive and monopoly markets. Describe the nature of

	<p>competitive behavior in those markets, analyzing and predicting price and output outcomes in the different markets.</p> <ul style="list-style-type: none"> • To explain models of firm behavior in choosing output, price, and how to produce. • To Use examples to illustrate key concepts such as the role of demand and supply factors in determining market outcomes, the effects of government intervention on market outcomes, the existence of strategic situations in the economy, different types of markets. • To apply economic models of individual behavior and markets to describe the main features of actual markets, and to explain outcomes in actual markets, including prices and output levels, and business performance and profitability. • To know The concept of scarcity and marginal analysis.
<p>Business Communication</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To understand the process of communication and the principles of effective communication in business. • To study the nature, importance and the scope of business communication. • To understand the various methods and type of communication. • To study various types of business letters, reports and develop skills to draft letters and reports. • To acquaint with modern methods of communication and their uses.
<p>Environmental Studies</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Master core concepts and methods from ecological and physical sciences and their application in environmental problem solving. • Master core concepts and methods from economic, political, and social analysis as they pertain to the design and evaluation of environmental policies and institutions. • Apply systems concepts and methodologies to analyze and understand interactions between social and environmental processes. • Understand the transnational character of environmental problems and ways of addressing them, including interactions across local to global scales. • Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world. • Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems. • Appreciate that one can apply systems concepts and methodologies to analyze and understand interactions between social and environmental processes.
<p>Mathematics & statistics</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Apply knowledge and the methods of reasoning characteristic of mathematics, statistics, and other formal systems to solve complex problems. • To explain the concepts of mutual funds and shares. • To study the linear programming. • To study the basic statistical concepts like measurement of central tendency, measurement of dispersion. • To study the probability concept.
<p>Foundation Course</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To study the cultural diversity of Indian Society. • To communicate effectively in speech, both as a speaker and listener.

	<ul style="list-style-type: none"> • To engage in effective critical inquiry by defining problems, gathering and evaluating evidence, and determining the adequacy of argumentative discourse. • To think creatively about complex problems to produce, evaluate, and implement innovative possible solutions, often as one member of a team. • To analyze ethical issues in personal, professional, and civic life and produce reasoned evaluations of competing value systems and ethical claims. • To apply knowledge of cultural differences to matters of local, regional, national, and international importance, including political, economic, and environmental issues. • To apply knowledge and the methods characteristic of scientific inquiry to think critically about and solve theoretical and practical problems about physical structures and processes. • To apply knowledge and methods characteristic of visual and performing arts to explain and appreciate the significance of aesthetic products and creative activities. • To apply knowledge and the methods of inquiry characteristic of literature and other humanities disciplines to interpret and produce texts expressive of the human condition. • To apply knowledge and the methods of inquiry characteristic of the social sciences to explain and evaluate human behavior and institutions.
<p style="text-align: center;">Accountancy and Financial Management</p>	<p style="text-align: center;">After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Enabling the students to understand the types of company, Company accounts, features of Shares and Debentures. • Develop an understanding about redemption of Shares and Debenture and its types. • Enable the students to understand partnership account from admission to dissolution.
<p style="text-align: center;">Business Law</p>	<p style="text-align: center;">After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To Describe how law is created, applied and enforced in India • To Outline the impact of contract law, company law and trade practices law upon commerce; • To Identify common legal issues which are found in select business transactions; • To Analyze potential legal consequences in specific business situations evaluate when and how lawyers are to be briefed to assist with business transactions • To explain the nature and role of law in society. • To Describe the sources of Indian law • To Explain and apply the principles of contract law in business situations • To Explain and apply statutory consumer protection legislation; • To understand the basic principles of Company law. • To summarize basic contract law and explain advanced contract concepts such as the Statute of Frauds, assignment, delegation, performance and discharge, breach of contract and remedies.
<p style="text-align: center;">Commerce – III & Commerce – IV</p>	<p style="text-align: center;">After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To equip the students with the basic idea and introduction on organizational behavior as a concept • To give a light on the concept and difference theories on motivation • Explain and helps the students to gain more knowledge on Group Behavior

	<ul style="list-style-type: none"> • To introduce the concept of leadership • Understand the concept of conflict management • To provide idea about motivation, importance of communication and Principles of coordination. • To give an idea about organisation structure and different types of organisation • To understand Materials Management and its importance CO-II To analysis Materials demand forecasting ,replenishment Stock – MRP-EBQ – EOQ – Other inventory control CO-IV • To give an idea about fundamentals of financial services and players in financial sectors • To create an awareness about merchant banking, issue management, capital markets and role of SEBI • To make them understand about different types of insurance and IRDA Act.
Auditing	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To study the basic concept of auditing. • To study an objective, importance and types of auditing. • To explain auditing techniques and planning. • To enumerate tools of auditing. • To study internal control of auditing. • To study the concepts of test checking, audit sampling, audit working paper. • To explain vouching and verification of auditing.
Introduction to Management Accounting	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To enlighten the students thought and knowledge on management Accounting • Helps to give proper idea on financial statement analysis in practical point of view • To provide introduction to Financial Management • To create an awareness about capital structure and theories of capital structure • To make them understand the cost of capital in wide aspects • To enable them to understand working capital management
Financial Accounting	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To give an exposure to the company final accounts • Make the students understand about internal reconstruction • Preparing financial statements in accordance with appropriate standards. • Enable the students to understand about amalgamation , absorption and external reconstruction • Enable the students to gain an idea of liquidation of companies
Cost Accounting	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To develop the know-how and concept of marginal costing with practical problems. • To provide knowledge about budget control keeping in mind the scope of the concept. • Aimed to familiarize the concept of cost accounting. • Helps to gather knowledge on preparation of cost sheet in its practical point of view.

	<ul style="list-style-type: none"> • To facilitate the idea and meaning of material control with pricing methods. • To understand Functions and Importance of store keeping and material handling. • Develop the knowledge about remuneration and incentives. • To introduce the concept of overhead cost.
Direct Taxation	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To introduce the basic concept of Income Tax • In order to familiarize the different know-how and heads of income with its components • It helps to build an idea about income from house property as a concept • It give more idea about the income from business or profession • Make the students familiarizes with the concept of depreciation and its provisions • To develop an idea about capital gain among students • To enlighten the concept of income from other source
Computer system & Applications	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To introduce the students about basics of MS-Office. • To provide practical knowledge exposure MS-Excel. • To provide practical knowledge exposure MS- Power Point. • To develop the competence of database management. • Understand the concept of E-Commerce and describe the opportunities and challenges offered by E-Commerce. • Understand the categories of E-Commerce and understand the different applications of E- Commerce.
Commerce-V and Commerce-VI	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To aiming to enable the students in Human Resources Management. • To introduce the students about placement and training. • To facilitate the knowledge about performance appraisal and different methods. • To provide an idea about HRD, its concepts and its functions. • To enable the students to understand training and development and various life skills. • To develop competence in HRD • To develop an idea about marketing and its functions. • To enhance the students on consumer behavior. • To familiarize students about product and its classifications. • To make them understand pricing policies. • To introduce the concept of sales forecast. • To develop knowledge about different marketing strategies.
Indirect Taxation	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To develop the knowledge about GST Need for GST Dual GST Model • It enables the students to understand various Definitions • Make the students familiarizes with the concept of Scope of Supply, Non taxable Supplies Composite and Mixed Supplies Composition Levy. • To develop the practical knowledge about Levy and Collection of tax, Time, Place and Value of Supply

Department of Economics

<p>Principles of Economics</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Aware about fundamental concepts of economics. • Able to understand consumer behavior. • Able to understand theory of production and investment analysis. • Aware about various forms of market. • Able to understand price determination of factor. •
<p>Micro Economics</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • This course is designed to expose the students to the basic principles of microeconomic theory. • The emphasis will be on the development of analytical thinking with the help of statistical tools among the students and develop the skill of application of microeconomics concepts to analyze the real life situations.
<p>Indian Economy: Contemporary Concerns</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • This paper will cover the material in the Economic Survey of the Government of India for that academic year. • After the publication of the Economic Survey, the Board of Studies on Economics will
<p>Macro Economics</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • This paper is designed to build on the understanding of basic macroeconomic identity. • The objective is to enable the student to understand how interest rate and income level is determined in a closed economy and how policy may affect these outcomes.
<p>Micro Economics III ECOMIE501</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • The course is designed to provide sound understanding in microeconomic theory. • Since students have been taught perfect competition; this course focuses on three aspects, which are the study of imperfect competition, general equilibrium and welfare Economics.
<p>Economics of Development ECODEV502</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • This course is designed to inculcate diverse concepts related to economic growth and development by giving special emphasis on structural issues related to the process of development. • In order to create an awareness on policy options, the pressing problems on the path of development such as inequality, poverty and technological aspects are dealt in.
<p>Economics of Agriculture and Cooperation ECOEACB503</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • This paper provides an overview of the role of agriculture in the economic development of the country and the salient features associated to agricultural productivity and agricultural labor. • Able to learn credit, agricultural marketing as well as the global problems existing in the marketing are dealt in. • Students can acquire understanding about the features of agricultural policy and the agrarian crisis as well as the problems and challenges in the field of

	agriculture and cooperation.
Macro Economics III ECOMA601	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • This course introduces the students to formal modeling of a macroeconomic theory with analytical tools. • It focuses on goods market with fixed exchange rate, the money market, uncovered interest rate parity and the benefits and costs of fixed and flexible exchange rates.
International Economics ECOINT602	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • This course develops a systematic exposition of models which explain the composition, direction, and consequences of international trade, and the determinants and effects of trade policy. • It then builds on the models of open economy macroeconomics focusing on national policies as well as international monetary systems. • It concludes with an analytical account of the causes and consequences of the rapid expansion of international financial flows in recent years.
Agricultural Economics and Co-operation ECOEACB603	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • The paper is designed to provide various aspects related to the principles of co-operation and co-operative organizations in the globalized economy. • The essentials of cooperative finance are dealt in with reference to the latest trends.
Department of Marathi	
Marathi I	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Understanding the interrelation between literature and society. • Explaining the nature of language and literature. • Obtaining the skills of literary criticism. • Imbuing the essay writing skills. • Illustrating the nature of literary forms like one-act-play, travelogue and short story.
Marathi II	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Introduction of the medieval Marathi language and literature. • Introduction of the contemporary literary works. • Acquiring the skill of translation. • Explanation of the need and significance of editing.
Poetry	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Acquaintance with oriental poetry. • Understanding the nature and features of poetry. • Creating the skill of critical appreciation of a poem. • Developing the poetic devices and their usages.
Linguistics	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Getting acquainted with modern linguistics. • Understanding origin, nature and function of language. • Getting information about phonetics. • Enhancing the interest in Marathi language.
Medieval Marathi Literature	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Introduction of the historical survey of medieval Marathi literature.

	<ul style="list-style-type: none"> • Introduction of the literary forms in medieval literature. • Explanation of the trends and structure of medieval Marathi literature. • B.A.III Utility and Creativity of Marathi Language: • Understanding the formal and informal language. • Developing various language skills. • Getting motivation for creative writing. • Understanding the technique of mass communication.
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Department of English

Communication Skills in English	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To write clearly, coherently and effectively about various genres of literature. • To recognize the culture and context of the work of literature. • To develop sensitivity to nature and fellow human beings.
Introduction to Literature	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To recognize the culture and context of the work of literature. • To develop sensitivity to nature and fellow human beings. • To acquaint students with the characteristics of various literary genres. • To develop analytical skills and critical thinking through close reading of literary texts. • To cultivate appreciation of language as an artistic medium and to help them understand the importance of forms, elements and style that shape literary works.
Indian Literature in English	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To introduce learners to the uniqueness of Indian Literature in English. • To acquaint learners to the pluralistic dimensions of Indian Literature in English. • To help them understand the different genres of Indian Literature in English. • To familiarize learners with different perspectives of approaching this literature. • To make learners aware of prominent Indian Writers in English.
American Literature	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To acquaint the learners of literature with the various genres and literary terms of twentieth century American Literature. • To sensitize them to the themes and styles of American Literature. • To introduce them to the socio-cultural milieu of twentieth century America through literary texts. • To enhance their understanding of American, African American and Multicultural sensibilities by introducing them to the literary works representing them. • To facilitate cross-cultural perspectives and discussions on American Literature.
16th to 18th Century English Literature	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To introduce students to English Literature of the 16th, 17th and 18thcenturies. • To show them how background influences shaped the writer’s thinking.

	<ul style="list-style-type: none"> • To present them to the literary masters who dominated the scene. • To familiarize students with different writing styles that each age adopted.
Literary Criticism	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To introduce the learners to important critical terms. • To make them aware of the nature and function of literature and criticism. • To impart the technique of close reading of literary texts. • To enable them to understand various literary theories and critical approaches. • To familiarize the learners with the tenets of practical criticism.
GRAMMAR AND ART OF WRITING	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • To develop amongst learners an insight into the process of word formation and transformation. • To develop amongst them an insight into the sounds, stress patterns and intonations in the English language to improve their speaking skills • To develop among them an insight into the structure of the English language and to provide knowledge of the rules of grammar. • To help them learn grammatical analysis and description and the skills of sentence transformation. • To introduce the mechanics of writing for effective writing for various domains.

Department of History

History of Modern India (1857-1947)	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Understand background Growth of Political Awakening. • Understand Nationalism. • Identify concept of Gandhian Movements. • Classification of Towards Independence and Partition.
History of Modern India: Society and Economy	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Understand present existing social, political, religious and economic conditions of the people. • Identify concept of Education, Press and Transport • Classification of Impact of the British Rule on Indian Economy. • Nationalism and Social Groups.
Landmarks in World History, 1300 A.D.-1945 A.D.	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Understand background Beginning of Modern Age. • Classification of Age of Revolutions. • Classification development of Democracy. • Acquire knowledge about 20th century world.
Ancient India from Earliest Times to 1000 A.D.	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Understand survey about the sources, Hararpan cilivilazation, Vedic and age, Rise of new religious. • Describe Prehistory and Protohistory • Aware about Rise of territorial states, The Mouryan Empire, Gupta age and Vakatakas • Understand about Vardhan Empire, Contribution towards culture, literature,

	<p>trade and maritime activities</p> <ul style="list-style-type: none"> • Aware about how to growth of education in the changing society of earliest times to 1206 AD, position of women, and the arabs and turks in various and impact.
History of Medieval India	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Understanding of Delhi Sultanate. • Analyse Mughal rule administrations, art, and architecture. • Identify cultural synthesis. • Analyse Medieval South India. • Maps- important centres in Delhi Sultanate, Mughal Empire under Akbar and Aurangzeb.
History of Modern Maharashtra & Contemporary India	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Socio- Economic Awakening • Political Developments in Maharashtra (1885-1960) • Understanding of Salient Features of Indian Constitution • Analyse Indian Economy • Identify Challenges within the Nation
Introduction to Archaeology, Museology and Archival Science	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Promote the education of the public in archaeology • Advance and assist archaeological research • Understanding of Museology • Understand background Archival Science • Identify Management of Archives
Department of Geography	
Introduction to Climatology	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Definition, nature, scope and branches of climatology • Understand Concept and elements of weather and climate • Describe Composition and structure of atmosphere • Analyze Isolation : Vertical and horizontal distribution of temperature • Understand Air pressure: Influencing factors – Tricellular model • Describe Horizontal distribution of air pressure • Classify Wind: Types of winds – global, regional and local • To Explain Upper air circulation – jet stream (concept, origin and effects)\ • Understand Humidity: Types - absolute, relative and specific • Explain Condensation and its forms • Understand Precipitation and its types • Classify Global distribution of rainfall • Classify Cyclones: tropical and temperate
Physical Geography of India	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Understand India: Location , extent and significance • Classify India: Major physiographic divisions and their formation • Understand Mountainous region of India • Understand North Indian plains • Classify Drainage System in India (Himalayan and Peninsular drainage system) • Classify Major Himalayan rivers of India

	<ul style="list-style-type: none"> • Classify Major Peninsular Rivers of India • Explain Major lakes of India • Understand Seasons in India • Distribution of rainfall in India • Classification of soils of India • Problems associated with soils and its remedies in India • Classification of Forest in India. • Importance of Forest in Indian context. • Understand Deforestation and measures of forests conservation in India.
<p style="text-align: center;">Agriculture Geography of India</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Definition, nature and scope of agricultural geography Approaches: regional approach, systematic approach, commodity approach, recent approaches. • Importance of agriculture in Indian economy • Understand Factors influencing agriculture in India • Understand India a agro-product exporting country • Explain Salient features of Indian agriculture. • Understand Types of farming in India • Classify Major crops of India • Classify Major crops of India • Explain Problems associated with Indian agriculture • Understand Green Revolution in India. • Components of Green Revolution • Understand Positive impacts of Green Revolution • Understand Negative impacts of Green Revolution • Explain Need for sustainable agriculture in India • Understand Agriculture in drought prone region and watershed management • Explain White revolution and livestock resources • Understand Genetic engineering, tissue culture and horticulture
<p style="text-align: center;">Introduction to Oceanography</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Explain Origin and Development of Oceanography • Understand Oceanography : meaning, definition, nature and scope • Classify Branches of oceanography: physical chemical and biological • Understand Major Oceans and its characteristic features • Classify Vertical and horizontal distribution of ocean temperature • Understand Factors affecting salinity of ocean water • Explain Vertical and horizontal distribution of oceanic salinity • Understand Waves- Formation and types • Explain Tsunami and their effects on coast • Concept and types of Tides • Understand Equilibrium theory of Tides • Understand Coral reefs and their importance • Understand Marine Ecosystem • Understand Map filling : Related to Oceanography • Explain Reading and Interpretation of navigation charts and bathymetric maps.
<p style="text-align: center;">Geography</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Understand Settlement geography: definitions, nature and scope • Classify Settlement types, their characteristics and differences

<p>of Settlements</p>	<ul style="list-style-type: none"> • Explain Factors influencing growth and distribution of settlements • Classify Origin and growth of settlements - evolution of rural settlements • Understand Site and situation of rural settlements • Classification of rural settlements on the basis of population and patterns • Distribution and density of rural settlements in India • Understand Structure of house and building materials in India • Classify Regional variations in rural settlement patterns in India • Understand Morphology of rural settlement in India • Hierarchy of urban Settlement: rank size rule and primate city • Understand Ashok Dutts’s models of South Asian city: port city and bazaar city • Explain Morphology of urban settlements in India • Understand Urban problems in Indian cities • Understand Smart city: Concept, need and implementation in India
<p>Geography Of Maharashtra</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Understand Location, extent and boundaries • Explain Administrative setup and divisions • Explain Relief and climat • Understand Drainage system • Classify Power resources • Understand Population growth • Distribution –urban-rural and population density • Understand Structure of population : Age-sex • UnderstandOccupational structure of population • Classify Major industrial regions • Understand Role of transport in industrial development • Explain Industrial issues and policies • Classify Trade and transport
<p>Geography of Maharashtra Tools and Techniques in Geography for Spatial Analysis-I</p>	<p>After successful completion of this course students will able to:</p> <ul style="list-style-type: none"> • Understand Basic Concepts – Definition, scale, direction, azimuth, graticule, great circle, true meridian, types of projections, choice of projections. • Classify Zenithal Polar Projections – Equal Area, Equidistant • Explain Cylindrical Projections - Equal Area, Equidistant • Draw Conical Projections - One standard parallel, two standard parallel • Understand Basic elements of map and calculation or identification of relief, direction, bearing and distance • Study of settlements – size, pattern, utilities (one full toposheet of plains and urban region each) • Study of transport network (one full toposheet of plains and urban area each) • Prepare of a district thematic maps with actual data- Dot and Pictogram • Prepare district thematic maps with actual data- Choropleth and Isopleth • Prepare district thematic maps with actual data- Located bar, located circle • Prepare datasheet in SPSS. • Calculate central tendency and standard deviation using SPSS.
