Programme Outcomes

	B. Sc.			
POs	Programme Outcomes			
1	To learn the basic philosophy of science			
2	To understand basic concepts of science subjects like physics, chemistry, mathematics, botany			
	and Zoology			
3	To adopt different measurement techniques in science			
4	To develop the ability of innovation in science			
5	To make awareness about the environment and its sustainability among the students			
6	The study of kinetics of Chemical reactions.			
7	The basic concept of thermodynamics			
8	The Spectroscopic methods.			
9	All the elements, their properties and applications.			
10	Methods of extraction of metals from its ores.			
11	Methods of extraction of metals from its ores.			
12	Toxic elements and their compounds			
13	Nomenclature of inorganic complexes and organic compounds			
14	Preparations, properties of organic and inorganic compounds.			
15	Stereo chemical aspects of organic compounds.			
16	Classical and instrumental methods of chemical analysis			

Programme Specific Outcomes

	B. Sc. Physics		
PSOs	Programme Specific Outcomes		
1	To learn and understand different theories in the physics		
2	To motivate the student for deep and micro study in the subject of physics		
3	To produce interest of higher studies like MSc physics among the undergraduate student		
	which lead to research in the subject of Physics.		
4	To strengthen the students with experimental techniques in physics.		
5	To adopt problem solving methods in physics.		

	B. Sc. Physics			
Class	Course	Course Outcomes		
F.Y.B.Sc. (Sem I)	USPH 101	The systematic and planned curricula from these courses shall motivate and encourage learners to understand basic concepts of Physics. Objectives: To develop analytical abilities towards real world problems To familiarize with current and recent scientific and technological developments To enrich knowledge through problem solving, hands on activities, study visits, projects etc. CLASSICAL PHYSICS Learning Outcomes: On successful completion of this course students will be able to: Understand Newton's laws and apply them in calculations of the motion of simple systems.		
		2. Use the free body diagrams to analyze the forces on the object.		

	USPH 102	3. Understand the concepts of friction and the concepts of elasticity, fluid mechanics and be able to perform calculations using them. 4. Understand the concepts of lens system and interference. 5. Apply the laws of thermodynamics to formulate the relations necessary to analyze a thermodynamic process. 6. Demonstrate quantitative problem solving skills in all the topics covered MODERN PHYSICS Learning Outcomes: After successful completion of this course students will be able to 1. Understand nuclear properties and nuclear behavior. 2. Understand the type isotopes and their applications. 3. Demonstrate and understand the quantum mechanical concepts. 4. Demonstrate quantitative problem solving skills in all the topics covered.
F.Y.B.Sc. (Sem II)	USPH 201	MATHEMATICAL PHYSICS Learning Outcomes: On successful completion of this course students will be able to: 1. Understand the basic mathematical concepts and applications of them in physical situations. 2. Demonstrate quantitative problem solving skills in all the topics covered
	USPH 202	ELECTRICITY AND ELECTRONICS Learning Outcomes: 1. To understand the basic laws of electricity and magnetism. 2. To know the basic components as L-C-R and how to use them for various applications. 3. To understand basic circuit theorems and use of electronic devices for various applications.
S.Y.B.Sc. (Sem III)	USPH 301	Objective: Upon completion of the course, students should have acquired the following knowledge and skills: 1. a thorough quantitative and conceptual understanding of the core areas of physics, including mechanics, , thermodynamics, quantum mechanics, electronics at a level compatible with graduate programs in physics at peer institutions. 2. The ability to analyze and interpret quantitative results, both in the core areas of physics and interdisciplinary areas. 3. The ability to use contemporary experimental apparatus and analysis tools to acquire, analyze and interpret scientific data. 4. The ability to apply the principles of physics to solve new and unfamiliar problems. 5. The ability to communicate scientific results effectively in presentations or posters. Mechanics and thermodynamics Learning Outcomes: On successful completion of this course, students will be able to: i) Understand the concepts of mechanics & properties of matter & to apply them to problems. ii) Comprehend the basic concepts of thermodynamics & its applications in physical situation. iii) Learn about situations in low temperature. iv) Demonstrate tentative problem solving skills in all above areas. Vector calculus, Analog Electronics

		Lagraina Outcomes
		Learning Outcomes:
		On successful completion of this course students will be able to:
		1) Understand the basic concepts of mathematical physics and their
		applications in physical situations.
		2) Understand the basic laws of electrodynamics and be able to
		perform calculations using them.
		3) Understand the basics of transistor biasing, operational
		amplifiers, their applications
		4) Understand the basic concepts of oscillators and be able to
		perform calculations using them.
		5) Demonstrate quantitative problem solving skill in all the topics
		covered.
	USPH 303	Applied Physics - I
	05111303	This paper consists of three modules (units) designed in a way so as
		to offer interdisciplinary & application oriented learning.
		Learning Outcomes:
		On completion of this, it is expected that
		i) Students will be exposed to contextual real life situations.
		ii) Students will appreciate the role of Physics in 'interdisciplinary
		areas related to materials, Bio Physics, Acoustics etc.
		iii) The learner will understand the scope of the subject in Industry
		& Research.
		iv) Experimental learning opportunities will faster creative thinking
		& a spirit of inquiry.
S.Y.B.Sc.	USPH 401	Optics and Digital Electronics
(Sem IV)		Learning Outcomes:
(2000000)		On successful completion of this course students will be able to:
		1) Understand the diffraction and polarization processes and
		applications of them in physical situations.
		2) Understand the applications of interference in design and
		working of interferometers.
		3) Understand the resolving power of different optical instruments.
		• • • • • • • • • • • • • • • • • • • •
		4) Understand the working of digital circuits
		5) Use IC 555 time for various timing applications.
		6) Demonstrate quantitative problem solving skills in all the topics
		covered.
	USPH 402	QUANTUM PHYSICS
		Learning Outcomes :
		On successful completion of this course students will be able to:
		1) Understand the postulates of quantum mechanics and to
		understand its importance in explaining significant phenomena in
		Physics.
		2) Demonstrate quantitative problem solving skills in all the topics
		covered
	USPH 403	Applied Physics II
	55111 105	Learning Outcomes :
		On successful completion of this course, students will be able to :
		i) Understand the concepts of mechanics & properties of matter &
		to apply them to problems.
		ii) Comprehend the basic concepts of thermodynamics & its
		applications in physical situation.
		iii) Learn about situations in low temperature.
		iv) Demonstrate tentative problem solving skills in all above areas.
T.Y.B.Sc.	USPH 501	USPH501: Mathematical, Thermal and Statistical Physics

(Sem V)		Learning outcomes:
(Sell V)		 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. The students are expected to be able to solve simple problems in probability, understand the concept of independent events and work with standard continuous distributions. The students will have idea of the functions of complex variables; solve nonhomogeneous differential equations and partial differential equations using simple methods. The units on statistical mechanics would introduce the students to the concept of microstates, Boltzmann distribution and statistical origins of entropy. It is also expected that the student will understand the difference between different statistics, classical as well as
		quantum.
	USPH 502	USPH502: Solid State Physics Learning Outcomes: On successful completion of this course students will be able to:
		1. Understand the basics of crystallography, Electrical properties of metals, Band Theory of solids, demarcation among the types of materials,
		Semiconductor Physics and Superconductivity. 2. Understand the basic concepts of Fermi probability distribution
		function, Density of states, conduction in semiconductors and BCS theory of
		Superconductivity. 3. Demonstrate quantitative problem solving skills in all the topics covered
	USPH 503	USPH503: Atomic and Molecular Physics
		Learning Outcome:
		 Upon successful completion of this course, the student will understand
		The application of quantum mechanics in atomic physics the importance of electron spin, symmetric and anti- symmetric wave functions and vector atom model
		Effect of magnetic field on atoms and its application
		Learn Molecular physics and its applications.
		This course will be useful to get an insight into
	LICDII 504	spectroscopy.
	USPH 504	USPH504: Electrodynamics Learning outcomes:
		On successful completion of this course students will be able to:
		1) Understand the laws of electrodynamics and be able to perform
		Calculations using them.
		2) Understand Maxwell's electrodynamics and its relation to relativity
		3) Understand how optical laws can be derived from
		electromagnetic
		Principles.
		4) Develop quantitative problem-solving skills.

	USACEI 01	Objectives
	USACEI 01	 The objective of these papers is to introduce the students to sensors and transducers, Signal conditioning, data acquisition systems and measuring instruments used in the laboratory. Students are to be exposed to know, in principle, the modern techniques in the field of medical science. To learn PCB designing and working of consumer electronic devices. Understand the difference between a transducer and a sensor. Understand the construction, working and uses of different types of transducers. Understand the concept of signal conditioning, devices used and their operations. Get acquainted with the measuring instruments used in laboratory. Get the insight of the modern medical instruments in
		principle, which are used in day-to-day life.
T.Y.B.Sc. (Sem V)	USPH 601	 USPH601: Classical Mechanics This course will introduce the students to different aspects of classical mechanics. They would understand the kinds of motions that can occur under a central potential and their applications to planetary orbits. The students should also appreciate the effect of moving coordinate system, rectilinear as well as rotating. 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. They should also be able to solve simple examples using this formalism. The introduction to simple concepts from fluid mechanics and understanding of the dynamics of rigid bodies is also expected.
		Finally, they should appreciate the drastic effect of adding nonlinear corrections to usual problems of mechanics and nonlinear mechanics can help understand the irregularity we observe around us in nature.
	USPH 602	USPH602: Electronics Learning Outcome: On successful completion of this course students will be able to: 1. Understand the basics of semiconductor devices and their applications. 2. Understand the basic concepts of operational amplifier: its prototype and applications as instrumentation amplifier, active filters, comparators and waveform generation. 3. Understand the basic concepts of timing pulse generation and regulated power supplies 4. Understand the basic electronic circuits for universal logic

	building blocks and basic concepts of digital communication.
	5. Develop quantitative problem-solving skills in all the topics
**************************************	covered.
USPH 603	 Objectives: The course is built on exploring the fundamentals of nuclear matter as well as considering some of the important applications of nuclear physics. Topics include decay modes – (alpha, beta & gamma decay), nuclear models (liquid drop model, introduction to shell model), Applications of Nuclear Physics in the field of particle accelerators and energy generation, nuclear forces and elementary particles. The lecture course will be integrated with problem solving. Learning Outcomes: Upon successful completion of this course, the student will be able to understand the fundamental principles and concepts governing classical nuclear and particle physics and have a knowledge of their applications interactions of ionizing radiation with matter the key techniques for particle accelerators the physical processes involved in nuclear power generation. Knowledge on elementary particles will help students to understand the fundamental constituents of matter and lay foundation for the understanding of unsolved questions about dark matter, antimatter and other research oriented
USPH 604	about dark matter, antimatter and other research oriented topics. USPH604: Special Theory of Relativity Learning outcomes: This course introduces students to the essence of special relativity which revolutionized the concept of physics in the last century by unifying space and time, mass and energy, electricity and magnetism. This course also gives a very brief introduction of general relativity. After the completion of the course the student should be able to 1. Understand the significance of Michelson Morley experiment and failure of the existing theories to explain the null result 2. Understand the importance of postulates of special relativity, Lorentz transformation equations and how it changed the way we look at space and time, Absolutism and relativity, Common sense versus Einstein concept of Space and time. 3. Understand the transformation equations for: Space and time, velocity, frequency, mass, momentum, force, Energy, Charge and current density, electric and magnetic fields. 4. Solve problems based on length contraction, time dilation, velocity addition, Doppler effect, mass energy relation and resolve
USACEI 02	paradoxes in relativity like twin paradox etc.
OSACEI 02	 To learn PCB designing and working of consumer electronic devices. To develop logic circuit design and implementation. To know advanced programming skills and interfacing techniques. To understand basic building blocks of microcontrollers.

 To know the terminologies like embedded, CISK and RISK processors.
To master Programming and interfacing skills of microprocessor and microcontrollers.
To develop object-oriented programming skills and
Programming in C++. To develop various experimental skills.
 Analyze/design and implement combinational logic circuits.
 Develop assembly language programing skills and real time applications of Microprocessor.
 Illustrate how to interface the I/O peripheral (PPI) with 8085 microprocessors
 Understand architecture, silent features, instruction set, programming and Interfacing of 8051 microcontrollers.
 Develop the programming skills in programming Language C++.
Train their practical knowledge through lab experiments.
Get practical training to interface different programmable
peripherals and I/O devices to microprocessor and
microcontroller.

Program Specific Outcomes

B. Sc. Chemistry		
PSOs	Program Specific Outcomes	
1	Students should update their knowledge of Chemistry as per the prescribe curriculum.	
2	Student can become entrepreneur based on their chemistry knowledge.	
3	Students are capable to work on advanced instruments.	
4	Learners achieved skill from experimental performance; provide them good opportunities	
	for industrial Placement.	
5	Student's potential exposed to shape their future carrier.	

	B. Sc. Chemistry		
Class	Course	Course Outcomes	
F. Y. B. Sc.	Chemistry	The Students will gain knowledge about -	
Semester I	Paper -I	CO1: Thermodynamics related basic terms, laws and thermal	
		chemistry.	
		CO2: Expressing concentrations of solutions on the basis of	
		volume, weight and percentage composition.	
		CO3: Atomic structure evolution	
		CO4 : Periodic table and periodicity in the properties of elements	
		CO5: Basic rules of IUPAC nomenclature and naming of organic	
		compounds.	
		CO6: Basic concepts in bonding structure of organic compound and	
		organic reaction mechanism.	
	Chemistry	The Students will gain knowledge about -	
	Paper -II	CO1: Measurement of reaction rate and determination of order of	
		reaction by different methods.	
		CO2: Characteristic properties of liquid state.	

		CO3: Chemistry of main group element.
		CO4: Environmental Chemistry of oxides and oxyacids.
		CO5: Projection formulae, cis-trans & syn-anti isomerism, EZ
		notations, D/L and R/S designations.
		CO6: Conformational analysis of ethane, propane and n-butane.
F. Y. B. Sc.	Chemistry	The Students will gain knowledge about -
Semester II	Paper -I	CO1: Characteristic properties of gaseous state.
Semester II	raper -1	CO2: Basic concept of chemical equilibria.
		CO3: Qualitative analysis for identification constituent's ions in substances.
		CO4: Acid-Base theories.
		CO5: Carbon- Carbon sigma bond & pi bonds, Chemistry of
		alkanes, alkenes & alkynes.
	Chemistry	The Students will gain knowledge about -
	Paper -II	CO1: Basic Concept of Ionic equilibria & molecular spectroscopy.
		CO2: Solid & lows of crystallography.
		CO3: Basic concepts in chemical bonding and reactivity
		CO4: Oxidation – reduction chemistry concept.
		CO5: Conformational analysis of cyclohexane.
		CO6 : Aromaticity
S. Y. B. Sc.	Chemistry	On Completion of the course learners will be able to understand -
Semester III	Paper - I	CO1: Concept of fugacity, activity and partial molal properties.
	1	CO2: Transport number and it's experimental determination.
		CO3: Non-directional & directional chemical bonding.
		CO4: Wave mechanical treatment for molecular orbitals.
		CO5 : Reactivity of halogenated hydrocarbons
		CO6: Nomenclature, preparation, properties and reactions of
		alcohols,
		phenols, epoxides.
	Chemistry	The Course enables the learners will be able to understand -
	Paper - II	CO1: Types of complex reactions, concept of energy of activation
		and theories of reaction rates.
		CO2: Concept of ideal, non-ideal solution, distillations, partial
		miscibility of liquids and solvent extraction.
		CO3: The Chemistry of P-block elements and study of B, Si, Ge
		and N Containing compounds.
		CO4: Nomenclature, synthesis and reactions of carbonyl
		compounds.
	Chemistry	On Completion of course learners will be able to understand
	Paper - III	CO1: The basics of analytical chemistry sampling.
		CO2: Classical & instrumental methods of chemical analysis-
		titrimetric, Gravimetry, UV-visible spectroscopy.
S. Y. B. Sc.	Paper – I	On Completion of the course learners will be able to
Semester IV	Physical /	understand -
	Organic /	CO1: Types of Electrodes, Nernst equation & its
	Inorganic	importance.
	_	•
	Chemistry	CO2: Phase equilibria and applications of phase ruleto
		one end two component system.
		CO3: Comparative chemistry of transition elements.
		CO4: Nomenclature, isomerism, theories of coordination
		compounds.
		CO5: Nomenclature, structure and physical properties,
	<u> </u>	203. I tomenerature, structure and physical properties,

	1	
		preparation, reactions of carboxylic acids.
		hydrocarbons
		CO6 : Nomenclature, preparation,
	D 11	Reactions of Sulphonic acids.
	Paper - II	The Course enables the learners will be able to
	Physical /	understand -
	Organic /	CO1 : Cubic crystals and XRD method for Avogadros
	Inorganic	number determination and study of crystal
	Chemistry	structure of NaCl & KCl.
		CO2: Characteristic features of catalyst & kinetics of acid-base, enzyme catalyzed reaction.
		CO3: Acidity of cations & basicity of anions in aquous
		medium.
		CO4: Uses & environmental chemistry of volatile oxides and oxo-acids.
		CO5: BNitrogen containing compounds – Nomenclature,
		preparation of amines. Preparation, reactions &
		synthetic applications of diazonium salts.
		CO6: Synthesis & reactions of furan, pyrrole, thiophene,
	Danas III	pyridine etc.
	Paper III	On Completion of course learners will be
	Analytical	able to understand
	Chemistry	CO1: Separation techniques such as electrophoreses,
		solvent extraction, chromatography- paper & thin
		layer chromatography.
		CO2 : Electro analytical methods- Potentiometry, pH metry, conductometry
		CO3: Accuracy and precision. Different measures of
		dispersion methods.
T. Y. B. Sc.	Paper – I	On Completion of the course learners will able to understand -
Semester V	Physical	CO1: Pure rotational (microwave), Vibrational – rotational
	Chemistry	(IR) and Raman Spectra.
		CO2: Molar mass determination using colligative properties.
		CO3: Application of collision theory to unimolecular &
		primolecular reaction & study of kinetics of fast
		reactions.
		CO4: Measurement of Radioactivity use of radioisotopes, nuclear reactions
		CO5: Types of adsorption isotherms. Determination of
		surface area of an adsorbent using B.E.T. equation.
		CO6: Electrical properties of colloids colloidal electrolyte and
		surfactants.
	Paper - II	On completion of the course learners will able to understand -
	Inorganic	CO1 : Comparative Chemistry of group 16 & 17
	Chemistry	CO2: Chemistry of inner transition elements & non aqua our
		solvents.
		CO3: structure of solids w.r.f. packing lattice in space.

		COA. Danding in polystamic areas
		CO4: Bonding in polyatomic space
		CO5: Basic concept of molecular symmetry with respect to
		symmetry elements, symmetry elements and point
		groups.
	Paper – III	On completion of course learners will be able to understand -
	Organic	CO1: Understand importance of green chemistry.
	Chemistry	CO2: Understand acyl nucleophilic substitution mechanism and
		stereochemistry of compounds.
		CO3: Understand acyl nucleophilic substitution mechanism and
		stereochemistry of compounds.
	Paper – IV	CO1: Quality, Quality control, Quality assurance. Sampling of
	Analytical	gases, liquids & solids. Preservation of sample.
	Chemistry	CO2: Instrumental methods of analysis – flame photometry,
		Atomic absorption spectroscopy, Liminescece,
		Turbidimetry.
	Doman V	CO3: Chromatography – HPLC, HPTLC.
	Paper – V	On Completion of course learners will be able to know -
	Applied Components:	CO1: Drugs & their administration.
	Drug & Dyes	CO2: Antipyretic inflammatory, histaminic, cardio vascular,
	Drug & Dyes	diabetic, Parkinson, respiratory drugs.
		CO3: Dyes, natural & synthetic dyes. Synthesis & uses of dyes.
T. Y. B. Sc.	Paper – I	On Completion of the course learners are
Semester VI	Physical	able to get vital knowledge about -
Schlester vi	Chemistry	CO1: activity, activity coefficient & ionic strength.
		CO2: Chemical cells & concentration cells.
		CO3 : Concentration polarization, decomposition potential and
		overvoltage (Determination of Ed & n)
		CO4: Basic terms & Classification of polymers. Molar masses of
		polymers & its determination.
		CO5: Methods of preparation, characteristics & application of light
	_	emitting polymers
		CO6: antioxidants and stabilizers.
		CO7: Classical mechanics and quantum mechanics including
		boundary conditions, properties of wave function & wave
		equation concept of operators, Eigen function and Eigen value
	-	CO8: Renewable energy resources solar energy & hydrogen.
	1	CO9: Principle, instrumentation & applications of NMR & ESR
		spectroscopy.
	Paper – II	On Completion of the course learner will be able to -
	Inorganic	CO1: Understand Basic concept of CFSE, Geometry of Various
	Chemistry	transitions.
		CO2: Know Construction of ligand group orbitals, construction of
		various Complexes, stability, and reactivity of metal
	_	complexes.
		CO3: Understand various organometallic compounds, catalyst etc.
		CO4: Understand chemistry of Gr. 18, Biological importance of
	D	metal ions.
	Paper – III	On Completion of the course learner will be able to -
	organic	CO1: Understand stereo chemistry of various reactions.
	Chemistry	CO2: Understand configuration of amino acids, polypeptides &

	proteins.
	CO3: Understand molecular rearrangements, various types of
	sugars & their stereochemistry.
	CO4: Understand Spectroscopy.
	CO5: Understand various polymers catalysts and reagents with their
	effects.
Paper – IV	On Completion of the course learner will be able to -
Analytical	CO1: Electro analytical methods polarography, Amperometry.
Chemistry	CO2: Chromatography – Gas & Ion exchange chromatography.
	CO3: Food and cosmetic chemistry.
	CO4: Thermal methods of chemical analysis.
Paper – V	On Completion of the course learner will be able to know-
Applied	CO1: Discovery & development of drugs, their metabolism.
Components	CO2: Chemotherapeutic agents, anti-amoebic, tubercular, leprotic,
Drug & Dyes	neoplastic, HIV drugs.
	CO3: Classification of dyes, their properties and uses.
	CO4 : Dyestuff industry

Department of Mathematics and Statistics

Program Specific Outcomes

	B. Sc. / B. Com. Mathematics			
PSOs	Program Specific Outcomes			
1	The main objectives of these course are to use Mathematics and Statistics in the field			
1	of commerce and industry to solve the real-life problems.			
2	To introduce students the computer system, Internet, foundation of computer,			
2	problem solving and basic programming skills, DBMS, Managing the database			
2	To identify the fundamental concept of Data Communication, Networking and			
Internet.				
4	To explain the basic concepts of Ecommerce and familiarize students with the			
4	working of graphical user interface - Visual Basic			
	Give the students a sufficient knowledge of fundamental principles, methods and a			
5	clear perception of innumerous power of mathematical ideas and tools and know			
	how to use them by modeling, solving and interpreting.			
6	Reflecting the broad nature of the subject and developing mathematical tools for			
U	continuing further study in various fields of science.			
	Enhancing students' overall development and to equip them with mathematical			
7	modeling abilities, problem solving skills, creative talent and power of			
	communication necessary for various kinds of employment.			
8	A student should get adequate exposure to global and local concerns that explore			
δ	them many aspects of Mathematical Sciences			

9	The Aim of this course is to develop thinking towards problem solving.
10	The aim of this course is to understand the basic concepts in linear algebra which
	used in real life for solving problems of vector spaces, subspaces, bases, dimension.

B. Sc./B. Com. Mathematics			
Class	Course	Course Outcomes	
F.Y.B. Com.	Mathematical and	After completing the course, the student will be	
	Statistical Techniques	able	
		CO1. To understand the basics concepts and	
		applications of Shares, Mutual funds, Interest,	
		annuity, LPP, Applications of derivatives in	
		Economics.	
		CO2. To represent data in tabular from, Analyze	
		the data and conclude.	
		CO3. To understand, uses and Solve the problems	
		regarding Averages, Dispersion. Correlation,	
		Regression, Time series, Index numbers,	
		Probability etc.	
S.Y.B.Com.	Computer	CO1. To understand computer system.	
	Programming	CO2. To write Algorithm and flowcharts.	
		CO3. To write a program in programming	
		language C.	
		CO4. To understand basic concepts of Internet.	
		CO5. To understand DBMS, RDBMS and its	
		advantages	
		CO6. To understand basic concepts of MS-	
		Access, learn how to retrieve and manipulate	
		data, know how to filter data and write quires.	
T.Y.B. Com.	Computer System and	CO1. To understand and explain Data	
	Applications	Communication System and its components,	
		Know basic concept and types of Computer	
		networking, topologies, media and protocols.	
		CO2. To understand SQL functions and its	
		syntax, database objects and be able to write	
		queries, learn how to retrieve and manipulate data	
		from one or more tables, know how to filter data.	
		CO3. To understand skills necessary to use pivot	
		tables, audit and analyze worksheet data, utilize	
		data tools, link with other sheet, and create and	
		manage database in excel sheets.	
		CO4. To understand the features, types and	

		11.0
		models of e-commerce, payment systems and
		security issues about e- commerce.
		CO5. To understand skills necessary to work with
		advance Excel such as to create, use and edit
		templates, Create and link multiple spreadsheets,
		make use of different functions, use of charts,
		make use of scenario, goal seek and solver.
		CO6. To understand VB environment, controls,
		data types, Work with decision and conditional
		statements, develop and work with small
		programs.
F. Y. B. Sc.	Calculus I, II	CO1. To know the students about real number
		system and its properties.
		CO2. To understand the students about the
		concepts of intervals, neighborhoods and limit
		point.
		CO3. To understand the basic concepts of
		sequences, convergence of sequences with
		suitable examples.
		CO4. To explain the basic concepts of first order
		first degree differential equations with simple
		examples.
		CO5. To understand the basic concepts of
		functions and some graphs of standard functions.
		CO6. To understand the basic concepts of limits,
		continuity and Intermediate value theorem and
		Bolzano Weierrstrass theorem with application
		view.
		CO7. To understand the basic concepts of
		differentiability with chain rule, higher order
		derivatives, implicit differentiation.
		CO8. To learn the basic concepts of critical point,
		local maxima minima and second derivative test.
	Algohro I	
	Algebra I	CO1. To understand the principle of finite induction and its application in real life problems
		induction and its application in real life problems.
		CO2. To understand the concepts like GCD,
		LCM, fundamental theorem of Arithmetic with
		examples.
		CO3. To know about functions, relations and
		equivalence relations with their basic properties.
		CO4. To explain the basic concepts of
1		polynomials such as Division Algorithm,
		Euclidean algorithm, roots of polynomial.

	Discrete Mathematics	CO1. To learn the basic concepts of countable
		and uncountable set with basic examples.
		CO2. To understand the addition and
		multiplication principle, Stirling number of
		second kind with simple examples.
		CO3. To know the basic concepts of
		permutations and combinations with Binomial
		and Multinomial theorems.
		CO4. To understand the solution of homogeneous
		and non-homogeneous recurrence relations.
S.Y.B.Sc.	Calculus-III, IV	CO1. To learn conceptual variations while
	,	advancing from one variable to several variables
		in calculus.
		CO2. To learn applications of multivariable
		calculus tools in physics, economics,
		optimization, and understanding the architecture
		of curves and surfaces in plane and space etc.
		CO3. To realize importance of Green, Gauss and
		Stokes' theorems in other branches of
		mathematics.
		CO4. To assimilate the notions of limit of a
		sequence and convergence of a series of real
		numbers.
		CO5. To calculate the limit and examine the
		continuity of a function at a point.
		CO6. To understand the consequences of various
		mean value theorems for differentiable functions.
		CO7. To apply derivative tests in optimization
		problems appearing in social sciences, physical
		sciences, life sciences and a host of other
		disciplines.
		CO8. To understand the basic concept of
		Riemann integrals with simple examples.
		CO9. To know the applications of definite
		integrals such as area, volume etc.
		CO10. To understand the beta and gamma
		functions with their properties.
	Algebra-III, IV	CO1. To know the basic concept of groups, sub-
		groups, cyclic group and their properties.
		CO2. To relate matrices and linear
		transformations, compute Eigen values and Eigen
		vectors of linear transformations.
l		CO3. To understand the concepts of vector

	spaces, subspaces, bases, dimension and their
	properties.
	CO4. To learn properties of inner product spaces
	and determine orthogonally in inner product
	spaces.
Discrete Mathematics	CO1. To learn the basic concepts of countable
	and uncountable set with basic examples.
	CO2. To understand the addition and
	multiplication principle, Stirling number of
	second kind with simple examples.
	CO3. To know the basic concepts of
	permutations and combinations with Binomial
	and Multinomial theorems.
	CO4. To understand the solution of homogeneous
	and non-homogeneous recurrence relations.
Ordinary Differential	CO1. To understand the genesis of ordinary
Equations	differential equations.
	CO2. To learn various techniques of getting exact
	solutions of solvable first order differential
	equations and linear differential equations of
	higher order.
	CO3. To know Picard's method of obtaining
	successive approximations of solutions of first
	order differential equations, passing through a
	given point in the plane and Power series method
	for higher order linear equations, especially in
	cases when there is no method available to solve
	such equations
	CO4. To formulate mathematical models in the

Department of Botany

Program Specific Outcomes

	B. Sc. Botany			
PSOs	Program Specific Outcomes			
	1. Students on completion of this course will have perceptive of Morphology and Anatomy of Plants			
	2. Students will acquire preliminary information regarding different groups of plants like cryptogams (Algae, Bryophytes, Pteridophytes) and Phanarogams (Gymnosperms, Angiosperms). Local flora is rich, considering the rich biodiversity			

of Sindhudurg students are too involved in active documentation,
3. Student will acquire Technical skills of various instruments like Microtome,
spectrophotometer, Microscopy, Autoclave .etc.
4. Students will get the applied knowledge of different industries like, agriculture,
floriculture, nursery, Plant tissue culture, etc. useful for becoming entrepreneur
5. Able to solve bio- statistical problems.
6. Students and local people involvement to learn ecosystem types ,floral diversity
and encouraged to restore the valuable biodiversity of Konkan.

	B. Sc. Botany		
Class	Courses	Course Outcomes	
USBO101 F. Y. B.Sc. Semester 1	Plant Diversity	C.O. 1.1: Introduce students to algae and let them explore the diversity in the thallus structure ranging from simple to complex. Learn the taxonomy of Cyanophyta represented by life cycle of <i>Nostoc</i> , Chlorophyta represented by <i>Spirogyra</i> . Also create awareness about utility of algae in industries like production of nutraceuticals, biofuel green fuel technology. C.O. 1.2. Introduction to fungi from simple Phycomycetes represented by <i>Rhizopus and</i> Ascomycetes by <i>Aspergillus</i> life cycle. Modes of nutrition in fungi and economic importance of fungi to enable students to think about strain selection. C.O. 1. 3. Bryophytes amphibious habitat progressing towards land habitat features of bryophytes general characters of Hepaticae and life cycle of widely available <i>Riccia</i> .	
		Learning outcomes: Understanding the diversity of lower plants, its life cycle, type of chloroplast and application of algae for commercial purposes. Detailed study of fungi life cycle, mode of nutrition and its selection for economic products. Detailed study of bryophytes life cycle, types of thallus and alternation of generations. Plant succession.	
USBO102	Forms and functions	C.O. 1,1 Introduction to cell Biology ultrastructure of cell wall, plasma membrane, 1ER and Chloroplast,to understand the transport mechanisms via these membranes. In correlation to study of organelles the biochemical pathway in these organelles will be studied. C.O.1.2: To understand Ecosystem and it's types: Aquatic and Terrestrial. C.O. 1.3: To understand the concept of Mendelian inheritance selection of model organism. Explanation of monohybrid and dihybrid crosses. Terminologies used in genetics, test cross and backcross. To go beyond Mendelian inheritance and understand the concept of genetic interaction, epistatic interactions, multiple alleles and inheritance of blood Learning outcomes: 1.Basic concept of cell and its ultra-microscopic structure of cell organelle. 2.Wetland ecosystems documentation with respect to Flora nad fauna. 3.Mendelian genetics, multiple alleles and epistatic and non-epistatic interactions. Genetic basis of cultivars.	
	Botany Practical	Acquire fundamental practical and manipulative skills in using laboratory equipments, tools and materials. Understanding of lab procedures including safety and scientific techniques. Study of morphology and anatomy of plants. To learn field Botany.	

		Course Outcomes: Experiential learning, identification of algae and fungi by
		observing them under microscope
		1. Experiential learning of mounting and identification with the help of
		fresh/preserved material and permanent slides of Spirogyra. Vegetative and
		reproductive lateral and scalariform conjugation.
		2. Range of thallus in green algae single cell, coenobium, filamentous,
		branched, unbranched, parenchymatous.
		3. Economic importance of green algae
		4. Microscopic observation, mounting and identification of fresh/preserved
		material and permanent slides of <i>Rhizopus</i> .
		5. Material of saprophytic and parasitic fungi to explain mode of nutrition
		concept of extracellular enzymes, haustoria.
		6. Study of morphological features and internal structure of <i>Riccia</i> with help
		of fresh/preserved material and permanent slides.
		Learning outcomes: Use of microscope, application of technique of
		microscopy
		Understanding the diversity of lower plants, its life cycle, type of thallus and
		chloroplast and application of green algae for commercial purposes.
		Detailed study of fungi life cycle, mode of nutrition and its selection for
		economical products.
		Detailed study of bryophyte's life cycle, types of thallus and gametophytes.
F. Y. B.Sc.	Plant	
Semester 2	Diversity	
USBO201		Course Outcomes 2.1:
		C.O.1. Land plants, first vascular plants Pteridophytes. Study of <i>Nephrolepis</i>
		to understand the stages of life cycle and alternation of generations.
		C.O.12:. Gymnosperms identify the characters. Structure life cycle of a
		commonly grown gymnosperm Cycas to understand the stages of life cycle.
		C.O.1:3. Morphological modifications of root leaves and seed morphology
		and seed germination so as to understand their function and taxonomic
		relevance. Seed morphology would help them understand the storage of
		primary metabolites; germination would enable them to develop skills needed
		for nursery.
		C.O.1:4. Bentham and Hooker's system of classification. Introduction to plant
		families by study of family Malvaceae and Amaryllidaceae.
		Learning outcomes:
		Study of life cycle, plant body and alternation of generations. Field visits
		exposure to understand the plant life cycle.
		To understand modifications of roots, stems, leaves and morphology of seed-
		monocot and dicot. To apply the gained information to understand plant
		propagation and nutritional value of plant parts used as food
		Bentham and Hooker's classification for Malvaceae, Amaryllidaceae family
		understanding with field flora.
	Practical	Course Outcomes: Experiential learning, identification of algae and fungi by
	Tactical	observing them under microscope
		1. Experiential learning of mounting and identification with the help of
		fresh/preserved material and permanent slides of Spirogyra. Vegetative and
		reproductive lateral and scalariform conjugation.
		2. Range of thallus in green algae single cell, coenobium, filamentous,
		branched, unbranched, parenchymatous.
		3. Economic importance of green algae
		4. Microscopic observation, mounting and identification of fresh/preserved
		material and permanent slides of <i>Rhizopus</i> .
	l	matter and permanent office of the option

		5. Material of saprophytic and parasitic fungi to explain mode of nutrition concept of extracellular enzymes, haustoria. 6. Study of morphological features and internal structure of <i>Riccia</i> with help of fresh /preserved material and permanent slides. Learning outcomes: Use of microscope, application of technique of microscopy Understanding the diversity of lower plants, its life cycle, type of thallus and chloroplast and application of green algae for commercial purposes. Detailed study of fungi life cycle, mode of nutrition and its selection for economical products. Detailed study of bryophyte's life cycle, types of thallus and gametophytes.	
F. Y. B.Sc. Semester 2	Paper 2 Forms and functions		
USBO202		CO1. Brief description of different types of tissues in plants. CO2.To understand functional and biochemical aspects of Photosynthesis: light reactions, photolysis of water, photophosphorylation,-cyclic and non cyclic, Carbon fixation phases: C3.C4, CAM. CO3: To understand primary and secondary metabolites and difference between them. To revise <i>Grandama's pouch</i> in Botanical perspectives and enlist the local flora with medicinal properties. Leaning outcome: Anatomical aspects are studied with T. S. of plant parts with the help of permanent slides as well as manual section practical. Skills are developed to observe and stain the sections. Physiological aspects of photosynthesis are revised. Tradtional wisdom of medicinal plants gets revised.	
SYBSc. Semester 1.	Paper 1	CO1 Thallophyta- Algae General Characters of Division Phaeophyta:Distribution, Cell structure, pigments, rese of thallus, reproduction: asexual and sexual, Alternation of Generations, Structure, life cycle and systematic position of Sargassum Pigments in Algae. Learning outcome: Microscope handling for identification of Algae made benefits and economically important species were identified. CO2: BryophytaGeneral Account of Class Anthocerotae and Musci Structure, systematic position of Anthoceros & Funaria Learning outcome: Seasonal mosses were collected and identified. Local sample studying life cycles were beneficial. CO3: Angiosperms: Morphology of Flowering Plants FlowerMorphology: Parts of a symmetry; Flower as a modified shoot, Thalamus, insertion of floral leaves on the thalamus whorls: Calyx types and modifications, Corolla – forms; Aestivation, The whorls: Androecium parts of the androecium, Number and insertion of stamens, Un Types of CoronaGynoecium: the carpel, style and stigma; Union of Carpel; ovary-pla of ovules, evolution of placenta in Angiosperm.Floral formula, floral diagram. W Bentham and Hooker's system of classification for flowering plants study the vecharacters and economic importance of the following families: Papiliona ,Asteraceae,Amaranthaceae, Palmae Learning outcome: Practical identification on field made the students to un morphology, identification of plants, difference between life cycles of Cryptogams and	ed. life a fle s,Th th;T nion acer Vith rege acea
	Paper 2: Forms and functions	CO 1: Instrumentation and Techniques: Microscopy – Principle and working of Light microscope. Chromatography- Principles and techniques in paper and thin layer chromatechniques of Horizontal and Vertical electrophoresis.	

	Learning outcome: Applied aspects are understood by students through practicals. Excur exposure to students in finding job opportunities.
	CO 2 : Cell Biology Ultra Structure and functions of the following cell organe les:Mitoche, Glyoxysome Ribosomes, Cell Division and its significance, Cell Cycle Mitosis & Meiosis Mitosis and Meiosis, Nucleic Acids: Types, structure and functions of DNA, RNA Learning outcome: Microscopic observation made through practical were benficial to understand the micro-or
	CO3: Cytogenetics: Variation in Chromosome structure (Chromosomal Aberrations) Definition, Origin, Cytological and Genetic Effects of the following: Deletions. Duplicatio production, morphological and cytological features, applications in crop improvement and allopolyploids) Extranuclear Genetics Organelle heredity-Chloroplast determines heredity Chlamydomonas., Mitochondrion determined heredity- petite colonies in yeast Learning outcome: Diagramatic explaination is beneficial to understand the concepts and
Paper 3 : Current trends in plant sciences	CO 1 : Pharmacognosy and Phytochemistry Introduction to pharmacopoeia ,Study of seco (sources, properties and uses) with reference to Alkaloids,Glycosides,Tannins,Volatile oils resins (example of one plant for each category) Learning outcome : Applied aspects are understood. Use od phrmacoepia for local medicinal plants understood
	CO 2: Forestry and Economic BotanyTypes of forests – classification of forests, different India.Applications of forestry- Social forestry, Reforestation, Aforestation, Deforestation. Botany:Fibres: Types of fibres, fibre yielding plants Paper: Types of paper, paper yielding processing. Spices and condiments: Nutmeg, Mace, Clove, Cardamom and Saffron Learning outcome: Applied aspects are covered through field visits. Local spices ,fibres from syllabus which can add innovations. C.O.3:
	Molecular Biology: DNA replication: Replication(prokaryotic and eukaryotic) Protein Synthesis: Central dogma of Protein synthesis. Transcription: The transcription pro and eukaryotes, RNA synthesis, RNA processing, Adenylation& Capping. Learning outcome: Base of genetic engineering is theoretically understood which can studies.
Practical	CO 4: Algae: Study of stages in the life cycle of <i>Dictyota</i> from fresh/ preserved material at Co5: Study of stages in the life cycle of <i>Sargassum</i> from fresh/ preserved material and per CO 6: Bryophyta: Study of stages in the life cycle of <i>Anthoceros</i> from fresh/ preserved material and per slides. Study of stages in the life cycle of <i>Anthoceros</i> from fresh/ preserved material and per slides.
	Study of stages in the life cycle of <i>Funaria</i> from fresh/ preserved material and permanent Angiosperms Study of Floral Morphology Study of one plant from each family prescribed for theory members of these families.
	Learning outcome: Taxonomical aspects are understood and practiced at field identification
	Co 1 : Instrumentation and Techniques : Preparation of herbarium and wet preservation technique Chromatography: Separation of amino by circular paper chromatography

		The state of the s
	·	Separation of Carotenoids by thin layer chromatography
	'	Horizontal and Vertical Gel Electrophoresis – Demonstration
	'	Learning outcome: Technical aspects are understood through through visits
I	·	laboratories at research center.
i	·	Co 2 : Cell Biology
I	·	Study of the ultra-structure of cell organelles prescribed for theory from
I	·	Photomicrographs
I		Estimation of DNA from plant material (one Std& one Unknown, No Std Graph)
I	·	Estimation of RNA from plant material (one Std& one Unknown, No
I	·	Std. Graph)
		Learning outcome: Basics are genetics are learnt for further studies.
		CO 3 : Cytogenetics :
i		Study of inheritance pattern with reference to Plastid Inheritance
I		Aberrations karyotypes - Cri - du- chat, Philadelphia, D-G translocation
I		DownSyndrome.
		Learning outcome: Example solving ad pictorial slides are displayed to simplify t
	<u> </u>	concepts with examples
I		Co 1 : Pharmacognosy
		A. Tests for alkaloids from <i>Strychnos</i> (seeds) and <i>Holarrhena</i> (bark)
i		B. Tests for glycosides from <i>Glycyrrhiza</i> rhizome/ <i>Aloe</i> leaf/ Senna leaf.
I		Preparation of any herbal cosmetic.(Demonstration)
		Stomatal Index
		Palisade Ratio, Vein islet number
		Learning outcome: Biochemical tests give idea about biochemical aspects
		CO 2: Forestry and Economic Botany Study of Riediversity Composition of different types of forests in India (transc
		Study of Biodiversity Composition of different types of forests in India (tropics
		subtropical & temperate) Sources, properties and uses of : fibres & paper
		Sources, properties and uses of : fibres & paper Sources , properties and uses of spices and condiments
		Learning outcome : Applied aspects are discussed to understand local plants w
		economical potential.
		CO 3 : Molecular Biology
		DNA sequencing- Sanger's method
		Determining the sequence of amino acids in the protein molecule synthesised from the
		given m-RNA strand (prokaryotic and eukaryotic)
		Learning outcome : Genetic engineering base is discussed through basic concept.
Semester 2	Paper 1	CO1: Thallophyta: Fungi, Plant Pathology and Lichens
USBO401	- ·· <u>1</u>	Fungi-
	'	General characters of Ascomycetae
	'	Structure, life cycle and systematic position of
	'	Erysiphe and Xylaria
		Plant Pathology- Symptoms, causative organism, disease cycle and control measures
		mildew and Late blight of potato
		Lichens- Classification, Structure, Method of Reproduction, Economic Importance and
		Significance of Lichens.
	!	Learning outcome: Plant pathological aspects are learnt with applied aspects.
	!	
		CO2: Pteridophyta and Paleobotany
		Pteridophyta-
		Salient features and classification upto orders (with examples of each) of Psilophyta and
		(G M Smith's system of classification to be followed),
		Structure, life cycle and systematic position of <i>Selaginella</i> Learning outcome: Morphological details are identified and discussed
		Learning outcome: Morphological details are identified and discussed.
		Paleobotany-

	The geological time scale;
	Formation and types of fossils;
	Structure and systematic position of form genus <i>Rhynia</i>
	Learning outcome: Fossil studies are learnt through specimen observations.
	CO3: Gymnosperms Salient features, classification up to orders (with examples of economic importance of Coniferophyta (Chamberlain's system of classification to be Structure life cycle and systematic position of <i>Pinus</i> Structure and systematic position of the form genus <i>Cordaites</i> Learning outcome: Coniferophyta are discussed.
Paper 2	USBO402
USBO	
	Normal Secondary Growth in Dicotyledonous stem and root.
	Secondary growth in Monocot stem – <i>Dracaena</i> .
	Mechanical Tissue system
	Tissues providing mechanical strength and support and their disposition
	I-girders in aerial and underground organs
	Conducting tissue system :
	Xylem and its elements,
	Phloem and its elements
	Types of Vascular Bundles.
	Learning outcome: Anatomical aspects understood through micro-slides observations.
	Unit II : Plant Physiology and Plant Biochemistry
	Respiration: Aerobic: Glycolysis, TCA Cycle, ETS & Energetic of respiration; Anaerobic
	Photorespiration
	Photoperiodism:Phytochrome Response and Vernalization with reference to flowering in
	Physico-chemical properties of phytochrome, Pr-Pfrinterconversion, role of phytochrome
	of SDPs and LDPs;
	Vernalization mechanisms and applications.
	Learning outcome : Functional aspects are understood.
Paper 3	
USBO	
Copo	Gardening:
	Locations in the garden- edges, hedges, lawn, flower beds, avenue, water garden (with
	eachcategory). Focal point.
	Types of gardens Formal and informal gardens
	Formal and informal gardens,
	National Park: Sanjay Gandhi National Park. Retarical Gordon: Voor Mata Jijahaji Idyan (Victoria Gardon)
	Botanical Garden: Veer Mata JijabaiUdyan (Victoria Garden).
	Learning outcome: Career opportunities through garden lay put and nursery man
	practically designed the workshops and skills are taught.
	Unit II : Biotechnology
	Introduction to plant tissue culture
	Laboratory organization and techniques in plant tissue culture
	Totipotency
	Organogenesis
	Organ culture – root cultures, meristem cultures, anther and pollen culture, embryo cultur
	R-DNA technology-
	Gene cloning
	Enzymes involved in Gene cloning
	Vectors used for Gene cloning.
1	Learning outcome : Genetics baseline is set

Unit III: Biostatistics and Bioinformatics Biostatistics: The chi square test. Correlation – Calculation of coefficient of correlation. Bioinformatics Information technology: History and tools of IT, Internet and its uses. Introduction to Bioinformatics- goal, need, scope and limitation Aims of Bioinformatics: Data organization, Tools of Bioinformatics- tools for web s Entrez, **BLAST** Bioinformatics programme in India. Learning outcome: Confirmation of data collected is set for output and results SPmesiealIV USBOTP4 PRACTICAL Paper I – Plant Diversity Fungi and Plant Pathology Study of stages in the life cycle of *Erysiphe* from fresh/ preserved material and permanent slides. Study of stages in the life cycle of Xylaria from fresh/ preserved material and permanent slides. Study of fungal diseases as prescribed for theory. Study of Lichens (crustose, foliose, & fruiticose). Pteridophyta and Palaeobotany Study of stages in the life cycle of Selaginella from fresh/ preserved material and permanent slides. Study of form genera *Rhynia* with the help of permanent slides/ photomicrographs. Gymnosperms Study of stages in the life cycle of *Pinus* from fresh/ preserved material and permanent slides. Study of the form genus *Cordaites* with the help of permanent slide/ photomicrographs.

DEPARTMENT OF ZOOLOGY

FYBSC

SEMESTER I USZO101 (Course 1)

Wonders of Animal World, Biodiversity and its Conservation

Unit 1: Wonders of Animal World

Desired Outcome:

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.

Unit 2: Biodiversity and its Conservation.

Desired Outcome:

Learners would appreciate treasure of Biodiversity, its importance and hence would contribute their best for its conservation.

Unit 3: Footsteps to follow

Desired Outcome:

Minds of learners would be impulsed to think differently and would be encouraged to their original crude ideas from the field of biological sciences.

SEMESTER I USZO102 (Course 2)

INSTRUMENTATION and ANIMAL BIOTECHNOLOGY

Unit 1: Laboratory safety, Units and Measurement

Desired Outcome:

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.

Unit 2: Animal Biotechnology

Objective:

Desired Outcome:

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.

Unit 3: Instrumentation

Desired Outcome:

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.

SEMESTER II USZO 201 (Course 3)

Ecology and Wildlife Management

Unit 1: Population ecology:

Desired Outcome:

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.

Unit 2: Ecosystem:

Objective:

Desired Outcome:

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.

Unit 3: National parks and Sanctuaries of India

Desired Outcome:

Learners would be inspired to choose career options in the field of wild life conservation, research, photography and ecotourism.

SEMESTER II USZO 202 (Course 4)

NUTRITION, PUBLIC HEALTH AND HYGIENE

Unit 1: Nutrition and Health

Desired Outcome:

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.

Unit 2: Public Health and Hygiene

Desired Outcome:

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.

UNIT 3: Common Human Diseases and Disorders

Desired Outcome: 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.

SYBSC Zoology

SEMESTER III USZO301 (Course V)

Fundamentals of Genetics, Chromosomes and Heredity, Nucleic acids

Unit 1: Fundamentals of Genetics

Desired outcomes:

Understand and apply the principles of inheritance. — Understand the concept of multiple alleles, linkage and crossing over.

Unit: 2: Chromosomes and Heredity

Desired Outcomes:

Learners would understand the structure and types of chromosomes. \neg Learners would understand mechanisms of sex determination. \neg Learners would be able to correlate the disorders linked to a particular sex chromosome.

Unit: 3 Nucleic acids Desired Outcomes:

Learner would understand the importance of nucleic acids as genetic material.

— The learners would understand and appreciate the regulation of gene expressions.

Paper – II Course VI

Study of Nutrition and Excretion, Respiration and circulation, Control and coordination, Locomotion and Reproduction

Unit: 1 Study of Nutrition and Excretion

Desired Outcome: ¬

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.

Unit: 2 Studies of Respiration and Circulation

Desired Outcome:

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.

Unit: 3 Control and coordination, Locomotion and Reproduction

Desired Outcome:

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.

Paper – III Course VII

Amazing animals, Ethology and Conservation biology, Applied Zoology

Unit: 1 Amazing animals

Desired Outcome:

Learners will become familiar with the enthralling animal world. \neg Learners will appreciate the use of unique abilities of animals in development of technology.

Unit: 2 Ethology and Conservation Biology

Desired Outcome:

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 sensible and sustainable manner.

Unit: 3 Applied Zoology

Desired Outcome:

Learner will understand the science of vermicomposting and dairy.

— Learner will appreciate and respect domestic pets through proper care.

SEMESTER IV USZO 401 (Course VIII)

Comparative Embryology, Aspects of Human Reproduction and Scientific Attitude, Methodology, Writing and Ethics

UNIT 1: Comparative Embryology

Desired Outcomes:

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.

UNIT 2: Aspects of Human Reproduction

Desired Outcome:

Learners will able to understand human reproductive physiology \neg Learners will become familiar with advances in ART and related ethical issues.

Unit 3: Scientific Attitude, Methodology, Writing and Ethics

Desired outcome:

The learner will develop qualities such as critical thinking and analysis. \neg The learner will develop the skills of scientific communication. \neg Learner will understand the ethical aspects of research.

SEMESTER IV USZO 402 (Course IX)

Cell Biology, Endo membrane System and Biomolecules

Unit 1: Cell Biology

Desired outcome:

Learner would acquire insight of transport mechanism for the maintenance of composition of cell.

Unit 2 Endomembrane System

Desired outcome:

Learner would appreciate the intricacy of endomembrane system. \neg Learner would understand the interlinking of endomembrane system for functioning of cell.

Unit 3: Biomolecules

Desired outcome:

The learner will realize the importance of biomolecules and their clinical significance.

SEMESTER IV USZO 403 (Course X)

Holistic Health, Neurological and genetic diseases and Pollution

Unit 1: Holistic Health

Desired outcome:

Learners will apply the knowledge to adopt a healthy life style.

UNIT 2: Neurological and Genetic diseases

Desired Outcome:

The learner will become cognizant about genetic and neurological disorders as well as genetic counseling, its requisites and significance.

Unit 3: Pollution

Desired Outcome: ¬ Learner will be able to relate various anthropogenic activities with environmental degradation and its harmful effects on human health. ¬ Learner will become more sensitive towards the environmental issues.

Program Outcomes

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POs	Program Outcomes					
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Department of Marathi

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Department of Hindi

Sr.no.	Program Name	Program Outcomes
01	B.A. Hindi	1. To develop the Hindi language
		2. To develop various skills in Hindi communication
		3. To aware the students about employment opportunities
		4. To create awareness about social problems and lead them to solve
		the Social problems.
		5. To introduce the national values and point out the importance of
		Integrity.
		6. Realization of human values
		7. Creative ability
		Specific Outcomes
		1. To introduce the Hindi language and motivate students to use it
		widely.
		2. To show the various dynamics of manifestation in Hindi language.
		3. To demonstrate the importance of values through the reading of
		literature.
		4. To address the social issues through literature and language.
		5. To motivate the students for research in language use.
		6. To promote the students to look inside the literary endeavors.
		7. To use new technology like internet and computers in learning
		language and acquiring skills.

Sr.no.	Degree	Year of	Course Outcomes
	Program	Program	
01	B.A. Hindi	First Year	Hindi Poetry & Story : (UAHIN101), (UAHIN102)
			Sem-1 & 2

		1	11.77
			1. To create interest as well as introduce the students the
			genres of literature.
			2. To introduce poet and their poems to the students.
			3. To emphasize on the skills of listening, reading and
			writing in Hindi.
			4. To develop emotional quotient through essays, stories,
			one act play, sketch, reports, memories, Caricature etc.
0.0			5. To create awareness about the national values.
02	B.A. Hindi	Second Year	Medieval & Modern Poetry (UAHIN301)
			Sem-3
			Modern Hindi Prose (UAHIN401):Sem-4
			1. To create interest as well as introduce the students the
			genres of literature.
			2. To introduce poet and their poems to the students.
			3. To emphasize on the skills of listening, reading and
			writing in Hindi.
			4. To develop emotional quotient through essays,
			stories, one act play, sketch, reports, memories,
			caricature etc.
			5. To create awareness about the national values.
			Functional Hindi)UAHIND302) Sem-3
			Mass Media)UAHIN402) Sem-4
			1. To create awareness among students about Medieval
			literature and to imbibe in them the basic skills of life.
			2. To acquaint students with an outline of Hindi
			literature creates interest as well as introduces the
			students the genres of literature
			3. To introduce poet and their poems to the students.
			4. To emphasize on the skills of listening, reading and
			writing in Hindi.
			5. To develop emotional quotient through essays, stories,
			one act play, sketch, reports, memories, caricature etc.
			6. To create awareness about the national values.
03	B.A. Hindi	Third Year	History of Hindi Literature (UAHIN501): Sem-5
00	201101111111111111111111111111111111111		Modern History of Hindi Literature
)UAHIN601)Sem-6
			1. To create interest of students in Hindi literature by
			acquainting students with great thoughts instilled in it.
			2. To emphasize on the skills of listening, reading and
			writing in Hindi.
			3. To develop analytical skills through the interpretation
			of essays, stories, one act play, etc.
			4. To focus on research skills through seminars and
			projects.
			Post-Independence Hindi Literature (UAHIN502)
			Post-Independence Hindi Literature (UAHIN602)
			1. To create interest as well as introduce the students the
			genres of literature.
			2. To introduce novelists and their works to the students.
			3. To emphasize the skills of listening, reading and
			writing in Hindi.
			4. To develop emotional quotient through essays, stories,
			one act play, sketch, reports, memories, caricature etc.
			5. To create awareness about the national values.
L	1	1	5. 10 create awareness about the national values.

6. To create interest of students in criticism.
7. To emphasize on the skills of listening, reading and
writing in Hindi.
8. To develop analytical skills through the interpretation
of essays, stories, one act play, etc.
9. To focus on research skills through seminars and
projects.
Information Technology in Hindi)UAHIN503)
Social Media)UAHIN603)
1. To create interest of students in language through
electronic and print media.
2. To emphasize on the skills of listening, reading and
writing in Hindi.
3. To develop analytical skills through the interpretation
of language, grammar, dialects, etc.
4. To focus on research skills through seminars and
Projects.
Literary Criticism, Prosody & Rhetorics
)UAHIN504)
1. To able to understand the concepts of Criticism.
2. To able to understand the elements of literature.
3. To able to understand the concepts of Prosody &
Rhetorics.
Literary Criticism, Prosody & Rhetorics
)UAHIN604)
1. To able to understand the different type of literature.
2. To able to understand the concepts of literary criticism
like Shabdhshakti, Ras.
3. To able to understand the concepts of literary criticism
like Drama, Novel, Short Story, Essay, Autobiography
etc.
4. To able to understand the concepts of Prosody &
Rhetorics.
Linguistic, Hindi language and Hindi grammar.
)UAHIN505)
On completion of the course, students are able to
1. To able to understand the concepts of linguistic.
2. To able to understand the different flows of Hindi
language (Rajbhasha, Bolibhasha)
3. To able to understand the introductorily concepts of
Hindi grammar.
4. To able to understand the importance of linguistic.
Linguistic, Hindi language and Hindi grammar.
)UAHIN605)
On completion of the course, students are able to
1. To able to understand the ancient and medieval period
languages.
2. To able to understand the origin and development of
Hindi language.
3. To able to understand the different forms of Khadiboli
(Hindi, Urdu)
4. To able to understand the introductorily concepts of
Hindi grammar.
Ideological Background of Modern Hindi Literature

TIATINEO()
)UAHIN506)
1. To able to understand the Efforts to explain to
students the impact that Indian Renaissance movement
and Hindi literature.
2. To able to understand the importance of the
contribution of Brahma Samaj, Prarthana Samaj,
Ramakrishna Mission and Theosophical Society and
Satyashodhak Samaj in the Indian Renaissance
Movement.
3. To able to understand the impact of Gandhian thought
on Hindi poetry and novel in Hindi literature.
4. To able to understand the Marxist ideology Impact on
Hindi poetry and fiction literature.
5. To able to understand the Contribution and
importance of Hindi magazines and magazines in the
development of national consciousness.
Ideological Background of Modern Hindi Literature
)UAHIN606)
1. To able to understand the general introduction of
psychoanalyticism and its impact on Hindi fiction
literature.
2. To able to understand the Dalit consciousness
ideology on Hindi poetry and fiction literature.
3. Contemporary fiction story literature Tribal
discussion.
4. To able to understand the Contribution and
importance of Hindi magazines and magazines in the
, ,
development of national consciousness.

Department of English

i) Programme Outcomes:

	Programme Outcomes (B. A.)
PO1	To strengthen democratic ideals among the students.
PO2	To acquire knowledge with facts and figures related concerned with subjects such as
	History, Geography, Economics, and Languages.
PO3	To identify the basic concepts, fundamental principles and various theories in the above
	mentioned subjects.
PO4	To grasp the importance of literature in creating aesthetic, mental, moral, intellectual
	development of an individual and increasing a healthy society.
PO5	To understand how issues in social science influence literature and how literature can
	provide solutions to the social issues.
PO6	To gain the analytical ability to analyze critically the literature and social issues,
	appreciate the strength and suggest the improvements for better results.
PO7	To impart linguistic skills and proficiency to the learners about the literature-Ancient,
	Regional, National and International level.

ii) Programme Specific Outcomes:

B. A. English (PSO)				
PSO1	Comprehend various forms of literature like prose, poetry, drama and fiction			

PSO2	Apprehend different cultures and cultural sensibilities around the world
PSO3	Perspectives of literary movements that existed in different ages.
PSO4	Develop the knowledge of grammatical system of English language.
PSO5	Know the literary theories, terms and concepts in Criticism.
PSO6	Have developed interest in literature and language.
PSO7	Appreciate the literary works.
PSO8	Know various genres in English literature like Indian English literature, British literature
	and American literature.
PSO9	Are able to get the jobs in industry, government, schools and offices.
PSO10	Use English effectively in formal and informal situations.
PSO11	Develop vocabulary and communicative skills.
PSO12	Have enriched confidence to appear for competitive examinations.

iii) Course Outcomes:

Course Outcomes (English)		
Class	Course	Course Outcomes
		CO1. Students acquire adequate mastery over all the skills of
		language.
F. Y. B. A.	C. S.	CO2. Students understand the importance of increasing
		vocabulary for the conversation.
		CO3. Students realize the different techniques to develop their
		vocabulary.
		CO4. Develop overall linguistic competence and
		communicative competence of the students.
		CO1. Identify the various forms and types of poetry.
		CO2. Students write clearly, coherently and effectively about
F. Y. B. A.	Introduction to	various genres of literature.
	Literature	CO3. Organize the culture and context of the work of
		literature.
		CO4. Develop sensitivity to nature and fellow human beings.
		CO5. Get familiarize the with different types of literature in
		English, the literary devices and terms so that they understand
		the literary merit.
	T 10	CO1. Students understand the contribution of various Indian
	Indian	writers to enrich Indian literature in English.
S. Y. B. A.	Literature in	CO2. Students realize the terms like Indian culture, Indianness
	English	and Indian sensibility. CO3. Students value and respect the diversity in Indian culture.
		CO4. Students understand the major movements and figures of
		Indian Literature in English through the study of selected
		literary texts.
		CO1. Analyse American prose as a expression of individual or
		communal values curbs within social, political and cultural
		perspectives of different periods in American literature.
		CO2. Demonstrate American literary movements through
		verses of the age.
	American	CO3. Trace the development of characteristic styles of
S. Y. B. A.	Literature	expression through American fiction.
		CO4. Define the diverse dramatic styles or forms that existed
		though the ages in America.
		CO5. Express the aesthetic ideas present in both fiction and
		drama.
		CO1. Understand the distinctive features of English Literature
		of the 16th, 17th and 18th centuries.

	16th to 18th	CO2. Comprehend how background influences shaped the
T. Y. B. A.	Century	writer's thinking.
	Literature	CO3. Recognize and appreciate the literary masters who
		dominated the scene.
		CO4. Grasp the different writing styles that each age adopted.
T. Y. B. A.	Literary Criticism	CO1. Students understand the basics of literary criticism. CO2. Students become aware of the nature and function of criticism.
		CO3.Become familiar with the significant critical approaches and terms.
		CO4. Encourage to interpret literary works in the light of the critical approaches
		CO5. Evaluate literary texts and write critical views about the text.
		CO6. Become familiar with the tenets of practical criticism. CO7: Demonstrate poetry using poetic devices and metrical analysis.
		CO1.Gain a basic understanding of phonetics, morphology and word transformation.
		CO2. Ability to read and write phonetic transcription. CO3. Adopt the functions of stress and intonation CO4. Develop the knowledge of grammatical system of English
T. Y. B. A.	Grammar & Art of Writing	language. CO5. Illustrate the differences in phonetics, phonology, morphology, syntax, semantics and pragmatics.
1.1.2	The of Willing	CO6. Have developed adequate knowledge of the rules of grammar, grammatical analysis and sentence transformation. CO7. Write effectively in various domains.
		CO8. Apprehend and express nature and function of language. CO9. Gain integrated knowledge of four language skills LSRW.
		CO1. Develop insight to view literary works in their dynamic interface with the background.
T. Y. B. A.	19th Century Literature	CO2. Understand artistic, intellectual and socio-political cross-currents.
		CO3. Understand the development of the Victorian novel as informed by Victorian morality as well as by larger democratic process.
		CO1. Students become familiar with development of British Literature.
	20th Century	CO2. Analyze the different social issues in Europe.
T. Y. B. A.	British	CO3.Determine the complex issues in European Literature.
	Literature	CO4.Describe the awareness of the changes and developments in the British Literature.
		CO1. Analyze the social and artistic movements that have
		shaped theatre and drama.
T. Y. B. A.	Drama &	CO2. Apply discipline- specific skills to the creation of drama.
	Theatre	CO3. Demonstrate knowledge of the history of drama and
		theatre as a literature and performing art. CO1. Become aware about the business communication.
		CO2. Understand the channels of communication and
		understand the structure and layout of business letters.
		CO3. Extend business communication skills through the

	application and exercises for business correspondences. CO5. Develop awareness regarding new trends in business
	communication, various media of communication and communication devices.

BUSINESS ECONOMICS PROGRAM OUTCOMES

- 1. To familiarize the students with the basic concept of microeconomics.
- 2. To make student understand the demand and supply analysis in business applications
- 3. To familiarize students with the production and cost structure under different stages of production.
- 4. To understand the pricing and output decisions under various market structure.
- 5. To help students understand and apply the various decision tools to understand the market structure.
- 6. To understand the concepts of cost, nature of production and its relationship to Business operations.
- 7. To apply marginal analysis to the "firm" under different market conditions.
- 8. To analyze the causes and consequences of different market conditions.
- 9. To integrate the concept of price and output decisions of firms under various market structure.

Department of Economics

Class	Subjects	Objectives
F.Y.B.A.	Micro economics -I	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
F.Y.B.A	Micro economics	microeconomics concepts to analyze the real life situations. 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 situation
F.Y.B.Com	Business Economics	This paper provides an overall introduction to economics as dealing with the problems of allocation of scarce resources in optimum manner. It aims to build a familiarity with the basic tools of consumer and producer theory, the operation of markets and optimisation in an economic context. In order

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		to explain economic issues and solutions in a practical
		manner, the concepts are to be discussed with case studies
		and numerical problems wherever applicable.
		The course is designed to provide sound understanding in
		microeconomic theory. Since
		students have been taught perfect competition, this course
T.Y.B.A	Microeconomics - III	focuses on three aspects,
		which are the study of imperfect competition, general
		equilibrium and welfare
		economics.
		This course is designed to inculcate diverse concepts related
		to economic growth and
		development by giving special emphasis on structural issues
	ECONOMICS OF	related to the process of
	DEVELOPMENT	development. In order to create an awareness on policy
	:PAPER VIII	options, the pressing problems
		on the path of development such as inequality, poverty and
		technological aspects are
		dealt in.
		This paper provides an overview of the role of agriculture in
		the economic
		development of the country and the salient features
		associated to agricultural
	ECONOMICS OF	productivity and agricultural labour. The pertinent aspects
	AGRICULTURE	related to agricultural
	COOPERATION: PAPER IX	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.
		This paper is designed with the view to introduce the
		concepts, principles and methods
		of economic research based on qualitative and quantitative
		data. The course will
	RESEARCH	enable the students to get an insight into the applications of
	METHODOLOGY	modern analytical tools
	: PAPER X	and techniques related economic decision making. The student gets an opportunity to
		learn how to collect and analyze primary and secondary
		data. Practical sessions will
		strengthen the knowledge related to computer applications
		to research analysis.
		This course focuses on economic causes of environmental
		problems. In particular,
	ENVIRONMENTAL	economic principles are applied to environmental questions
		and their management.
	PAPER XI	Economic implications of environmental policy are
		addressed as well as valuation of
		environmental improvements.
	HISTORY OF	This course provides basic understanding about the
	ECONOMIC	celebrated economists and their
	THOUGHT: PAPER	contributions starting from the classical period. It throws
	I HOUGHI: FAFEK	commonis starting from the classical period. It infows

	XII	light on the contributions of
		Nobel Laureates of recent period too.
S.Y.B.A.	Macro Economics -	This course is designed to make students aware of macroeconomic terminologies and make them familiar with macroeconomic terms and concepts in order to understand economics at aggregate level. It also aims to make the students aware about recent developments in macroeconomic literature
S.Y.B.A.	Indian Economy	This paper deals with the nature and sector wise composition of Indian economy. The learners shall be able to understand the problems and prospects of Indian Economy. The content has also intended to orient the learners about the recent developments in the economy

Program outcomes

B A ECONOMICS

The principal aims of objectives of the BA Economics programme are:

- To provide students a well-founded education in Economics; To provide structured curricula which support the academic development of students;
- To provide and adapt curricula that prepare our graduates for employment and further study as economists;
- To provide the students with the opportunity to pursue courses that emphasize quantitative and theoretical aspects of Economics;
- To provide students with the opportunity to focus on applied and policy issues in Economics;
- To provide programmers that allow the students to choose from a wide range of economic specialization;
- To provide a well-resourced learning environment for Economics.

Department of Geography

Class	Subjects	Objectives
F.Y.B.A.	GEOMORPHOLOGY - I	1] This course is designed to expose the students to understand the basic of geomorphology. 2] The emphasis will be on the development of analytical thinking with the help of geological maps. 3] To analyze the real situations of earth movement 4] To know the work of wind, sea waves.
S.Y.B.A.	CLIMATOLOGY & OCEANOGRAPHY - II	1] This paper provides an overall introduction to global warming and how temperature increased day by day. 2] It aims to build a relation between man and ocean and to

		Irnovy the atmention of atmeanhance
		know the structure of atmosphere. 3] To understand the ocean features like continental shelf and submarine canyons. 4] In order to explain ocean issues and solutions in a practical manner.
S.Y.B.A.	INDIA AND AGRICULTURE GEOGRAPHY - III	1] An overall approach to Agriculture geography is to examine the economy as a whole. 2] The aim is to understand the location of India and their physical features. 3] It is designed to make system of Indian agriculture and their impact on Indian economy. 4] It intends to importance of green revolution and agro tourism.
T.Y.B.A	TOURISM GEOGRAPHY- IV	1] The course is designed to provide sound understanding in development of tourism in India. 2] To understand how social and physical factors affected on tourism 3] Student aware to how to work as tourist guide 4] since students have been taught about historical and geographical tourism places in India
T.Y.B.A	ENVIRONMENT GEOGRAPHY- V	1] This course is designed to indicate the concept of environment and importance of environment. 2] In order to create an awareness policy regarding to air and water pollution. 3] The main objectives of this paper is to understand the biodiversity hotspot in India and how to live eco-friendly lifestyle.
T.Y.B.A.	CARTOGRAPHY AND STASTICAL TECHNIQUES - VII	1]This paper is designed with the view to introduce the concepts, principles and methods of cartography and stastical techniques 2] Geographical research based on qualitative and quantitative data. 3] The course will enable the students to get an insight into the applications GPS tools 4]The student gets an opportunity to Learn how to collect and analyze primary and secondary data. Practical sessions will Strengthen the knowledge related to computer applications to research analysis.

Department of Politics

Outcomes

(PO/PSO/CO)

	Programme outcomes (B.A.)	
PO - 1	To strength ideals among, the students.	
PO - 2	To acquire knowledge with facts and figures related concern with subjects such as History, Geography, economics languages.	

PO - 3	To identify the basic concept, fundamental principals and various theories in the above mentioned subjects.		
PO - 4	To grasp the importance of literature in creating aesthetic mental, moral, intellectual development of an individual and increasingma healthy society.		
PO - 5	To understand how issues in social science influence literature and how literature can provide solutions the social issues.		
PO - 6	To gain the analytical ability analyze critically the literature and social issues, appreciate the strength and suggest the improvements for better results.		
PO - 7	To impart linguistic skill and proficiency to telomeres above the literature – Ancier Regional, National, and International Level.		
	B.A. Politics (PSO)		
	Programme Specific Outcomes		
PSO 1	Students are inform about the contribution about Western and Indian Political Thinkers to the background of political theory.		
PSO 2	It is helpful for students to develop good political socialization and increase their involvement in political process.		
PSO 3	Students are able to understand the role of public administration in modern welfare state.		
POS 4	The study of international politics creates a sense of universal brotherhood among the students.		
PSO 5	Students are able to understand the importance of the political parties in Indian democracy.		
PSO - 6	Helping the students in preparing them for different competitive examination.		
PSO - 7	Helping the students in the future preparation of their course of study for their carrier.		
	B.A. Politics (CO)		
	Course Outcomes		
	F.Y.B.A.		
	Indian Political System		
CO - 1	To understand and aware about Indian political system and constitutional framewaork.		
CO - 2	To understand biggest democracy of the world.		
CO - 3	To understand judiciary of India.		
	S.Y.B.A.		
	Political Theory		
CO - 1	To understand principals and concepts of Political Theory and Political Values and Ideologies.		
CO - 2	Accuring advance level of knowledge in political theory.		
CO- 3	Helping the students in preparing them for different competitive examination.		
CO - 4	Helping the student in the future preparation of their course of study in political theory.		

	Public Administration	
CO - 1	To know Public Administration and Indian Administrations to the students.	
CO - 2	Explain the nature, scope and evaluation of Public administration and Private Sector.	
CO- 3	Discussing making of public policy and methods of implementations.	
CO - 4	Discussing the ecological approach of Public Administration.	
	T.Y.B.A.	
	International Relations	
	World Politics	
CO - 1	To aware international relations, World politics and Indian in World Politics.	
CO - 2	Explaining scope and subject matter of international relations as an autonomous academic discipline.	
CO- 3	Approaches and methods to study the discipline through political realism, pluralism and world system model.	
CO - 4	Analyzing the foreign policy of USA and China.	
_	International Relations	
	India in World Politics	
CO-1	Analyzing the Foreign policy of USA and China	
CO -2	Evaluating the working of UN and its organs, peace keeping function and Human Rights.	
CO - 3	Examining Indian Foreign Policy : Basic Principles Evaluation and Bilateral Relations.	
CO - 4	Describing the cold war phases and understand the post cold war era.	
	Political Thought	
CO - 1	The paper introduce student of politics to the political philosophy and ideas expanded by thinkers in their historical setting.	
CO - 2	Examining the futures of medieval political thought.	
CO - 3	Evaluation the renaissance, political thought of reformation.	
CO - 4	Tracing the evaluation of Indian Political thought from ancient Indian to modern India.	
	Political Thought	
CO - 1	Students will be equipped with the fundamental understanding of Political theory.	
CO - 2	Understand the contribution of the main tradition of western political thinkers to political thought.	
CO - 3	Examining the Varities of non moralist socialism fabianism, syndicaliasm.	
CO - 4	Analyzing the working class and peasant movements under colonial rule.	

	Political Process in Modern Maharashtra		
	Politics of Modern Maharashtra		
CO - 1	To understand the students political process in modern Maharashtra.		
CO - 2	The student should know the institutional as well as the actual functioning of state legislature.		
CO - 3	To understand how the idea of Maharashtra has been evolved, from the region of Shivaji, the British rule, till the movement for samyukta Maharashtra.		
	Political Process in Modern Maharashtra		
	Determinants of Politics of Maharashtra		
CO - 1	Students aware of the political economy of Maharashtra and includes co-operatives land issues in the states.		
CO - 2	To acquaint the people also describes the tribal issues and farmers movements and agitations.		
	Political Paper VII		
	Political Sociology		
CO - 1	The paper was introduced to make the students aware of society and political system.		
CO - 2	Understanding the interaction between society and state, scientific political analysis is possible.		
CO - 3	Studying groups in politics, political parties and pressure groups.		
CO - 4	Evaluating the concept and types of political participation.		
	Political Sociology		
CO - 1	Study the concept of power, Authority and legitimacy in the contest of society.		
CO - 2	Examining social stratification through the index of class, cast and elite.		
CO - 3	Evaluating the impact of religion on society.		
CO - 4	Relating gender and politics.		
CO - 5	Creating awareness among students about nationalism and state building process in western Europe and third world.		
CO - 6	Establishing state society inter relationship.		
CO - 7	Classifying the different types of Political Systems.		
CO - 8	Evaluating the concept and types of Political Participation.		
CO - 9	Studying groups in politics, political parties and pressure groups.		
CO- 10	Assessing the concept of political communication.		
	Politics Paper VIII		
	American Political System		
CO - 1	To understand American Constitutional and institutions and political process in the United States.		

CO - 2	To study federalism in America.		
CO - 3	Understand the power of president and Vice President.		
CO - 4	Study the structure of Supreme Court and same landmark decision.		
	Politics Paper VIII		
	American Political System		
CO - 1	Analyze the American Political System in terms of its adherence to democratic principles of access to government protection of minority groups rights, respect for the rule of law and limited government.		
CO - 2	Locate current political issues in the context of wilder debates about democratic life in the united states and the capacity of political institutions.		
	Politics Paper IX		
	Local Government with special reference to Maharashtra		
	Local Urban Government of Maharashtra		
CO - 1	This paper is mainly useful for students, wishing to appear in MPSC examinations, and also for other competitive examinations.		
CO - 2	To study democratic decentralization in India.		
CO - 3	To study urban and local self government in Maharashtra.		
CO - 4	To study urban development scheme.		
CO - 5	To study contemporary issues in Maharashtra.		
	Politics Paper IX		
	Local Urban Government of Maharashtra		
CO- 01	Urban local self governments are broadly classified as municipal corporation and municipal population and also cantonment areas.		
CO- 02	The urban areas have distinct problems like infrastructure, housing health, which are included in the syllabus.		

Program Specific Outcomes

Faculty of Arts

PSOs	B. A. (SOCIOLOGY)
1	To introduce the students to the basic concepts in Sociology

1 1	Develop a basic understanding about issues related to human Rights of weaker sections, ecology, and science and technology		
PSOs	B.Sc II Foundation Course		
9	To provide students with an orientation to Quantitative Social Research.		
8	To develop an understanding of social movements in terms of various concepts and theories of social movements.		
7	To introduce students to the basic concepts, theories, nature & dynamics of urbanization in India.		
6	To trace the evolution of Gender as a category of social analysis.		
5	To introduce students to the dynamics of traditional & contemporary agrarian society.		
4	To provide the students of sociology with the understanding of Sociological Theory.		
3	To introduce student to the relevance and varied possibilities for future studies in sociology.		
2	To bring awareness and sensitivity among the students towards contemporary issues.		

Sr. No	Course	Course Outcomes
1	Foundations of Sociology	 The emergence of Sociology and its relationship with other sciences And define the nature and importance of Social Institutions The influence of Culture on the society The process of Socialization in the development of individuals in the society The context and theoretical approaches that influences Social Interaction The evolutionary processes and the organizing principles of Social Stratification The nature and forms of deviant behaviour and the methods of Social Control
2	Indian Society Structure and Change - Paper (II) Sem (III)	 Helps students to understand Indian society and social traditions. Indian sociological thinkers have contributions and knowledge in sociology.
3	Sociology of Development Paper (II) Sem (IV)	 Develops Indian sociology and helps in understanding different theoretical approaches and concepts and objectives. Knowledge of contemporary issues and problems from a sociological point of view.
4	Contemporary Issues in Indian Society Paper (III) Sem (III)	 Students learn about contemporary issues in Indian society through sociological studies. The study of sociology helps in understanding the problems in the society.
5	Emerging Fields In Sociology Paper (III) Sem (IV)	 Emerging field studies from the study of sociology are aware of the problems in society. Helps students study new social issues.
6	Theoretical Sociology Paper (V) Sem (IV)	 The contribution of a sociological thinker is obtained from various theoretical perspectives. Contribution information of August Comt, Urkhim, Rachencer.
7	Sociology of Agrarian Society Paper (V) Sem (V)	 Information about the lives of traditional and contemporary farmers. A study of information and living standards of agriculture and development in contemporary Indian society.

8	Sociology of Gender Paper (VI) Sem (V)	 Help to understand the concept of gender in Indian society
		2. Women's movement and women's movement and
		contribution in pre-independence and post-
		independence period and contribution and
		information of western women thinkers.
9	Urban Sociology	 Students learn about the concept, nature and
	Paper (V) Sem (VII)	civilization of civic sociology.
		2. Information on Contemporary Civilization and Indian
		Society and Traditional Indian Society and
		Industrialization.
10	State, Civil Society	 Information about the origin of social movement in
	and Social Movement	India and its types.
	Paper (V) Sem (VIII)	2. Concepts and information about the people's uprising
		and pre-independence movement.
11	Quantitative Social	 Students can collect information through research
	Research	method.
	Paper (IX)	2. Research can be used to find out what social
		problems are. Research can be done by going directly
		to the society.
12	Foundation Course -	 Awareness of human rights.
	II	2. Information on environment as well as science and
	Paper (II) B.Sc. (II)	technology is obtained from basic study order.

Program Specific Outcomes

B.A. in Philosophy		
PSOs	Program Specific Outcomes	
1	Philosophy is social sciences in the field of humanity and society.	
2	To identify the fundamental concept of values and morality.	
3	To explain the basic concepts of philosophy as well as various principle of thoughts and	
3	theory.	
4	The main outcomes of philosophy are the analysis of the concept from society and thoughts.	
5	Give the student a scientific knowledge as well as philosophical perspectives.	
6	Give the sufficient knowledge and power of thinking to fundamental principals, methods and	
0	a clear perception of explanation and perspectives.	
7	A student should get adequate exposure to global and local concerns that explore them many	
/	aspects of Philosophy.	
8	The Aim of this course is to develop them through philosophical problem solving.	
9	The aim of this course is to understand the basic concept in Indian and Western Philosophy	
<i>J</i>	as well as moral, religious and leaving issues in ethics.	

Course Outcomes

First Term

B.A. in Philosophy		
Class	Course	Course Outcomes
		The overall objective of the course are as follows.
F.Y.B.A.	Moral Philosophy Paper	1. Familiarize student with significant contributions
Credits 4 No.	I	from the history of moral philosophy
of lecture 60		2. Inculcate in students a sense of moral reasoning
Marks 100		based on analytical reasoning rather than on dogmatic
Semester I		assertition.
		3. Provide students with an ethical framework for
		assesing moral decisions different areas of life.
		4. Encourage students appreciate the relevance
		difference moral culture and outlooks in a globalized
S.Y.B.A	Social Political	world 1. To acquaint students with the basic philosophical
Credits 3 No.	Philosophy Paper II	questions and issues that are current in social and
of lecture 45	(Social Philosophy)	political philosophy
Marks 100	(2. To equip students with argumentative and
Semester III		analytical skills involved in philosophizing through
		these issues
		3. To encourage a spirit of rationality in
		philosophizing while appreciating and respecting
		differing philosophical ideas and perspectives
		Semester 3: Social Philosophy (UAPHI-301)
S.Y.B.A	Indian Western	1. To acquaint students with the basic philosophical
Credits 3 No.	Philosophy Paper III	questions that philosophers in India have addressed.
of lecture 45	(Schools of Indian Philosophy)	2. To equip students with argumentative and analytical skills involved in philosophical reasoning.
Marks 100	т інюзорну)	3. To encourage a spirit of rationality in
Semester III		philosophizing while appreciating and respecting
		differing philosophical systems and perspectives.
T.Y.B. A.	Classical Indian and	1. To introduce students to the nature of philosophical
Credits 4 No.	Western Philosophy	questions and thinking present in classical Indian
of lecture 60	Paper IV	thought
Marks 100	(Indian Philosophy)	2. To provide a systematic and rational interpretation
Semester V	(Advance)	of philosophical issues addressed in classical Indian
		thought
		3. To trace the development of philosophical ideas in
		different schools so as to evaluate their contribution to
		philosophical knowledge Semester 5 (UAPHI - 501)
		1. To introduce students to a reasoned, systematic and

		critical reflection about religious beliefs
Credits 4 No.	Paper IV	2. To develop in students the capacity for analytical
of lecture 60	Philosophy of Religion	and critical thinking about such matters. Semester 5
Marks 100		(UAPHI 502)
Semester V		
		1. To reflect on real world ethical questions and the issues they raise, and to discuss those issues in an informed way.
Credits 4 No. of lecture 45 Marks 100 Semester V	Living Ethical Issue Paper VI	2. To demonstrate an ability to recognize, articulate, and apply ethical principles in various academic, professional, social, or personal contexts Semester 5 (UAPHI-503)

Second Term

B.A. in Philosophy		
Class	Course	Course Outcomes
		The overall objective of the course are as follows.
F.Y.B.A.	Moral Philosophy Paper	1. Familiarize student with significant contributions
Credits 4 No.	I	from the history of moral philosophy
of lecture 60		2. Inculcate in students a sense of moral reasoning
Marks 100		based on analytical reasoning rather than on dogmatic
Semester II		assertition.
		3. Provide students with an ethical framework for
		assessing moral decisions different areas of life.
		4. Encourage students appreciate the relevance
		difference moral culture and outlooks in a globalized
CVDA	C!-1 D-1!4!1	world
S.Y.B.A	Social Political	1. To acquaint students with the basic philosophical
Credits 3 No.	Philosophy Paper II	questions and issues that are current in social and
of lecture 45	(Political Philosophy)	political philosophy
Marks 100		2. To equip students with argumentative and
Semester IV		analytical skills involved in philosophizing through
		these issues
		3. To encourage a spirit of rationality in
		philosophizing while appreciating and respecting
		differing philosophical ideas and perspectives
		Semester 3: Social Philosophy (UAPHI-301)
S.Y.B.A	Indian Western	1. To acquaint students with the basic philosophical
Credits 3 No.	Philosophy Paper III	questions and issues that are current in social and
of lecture 45	(Western Philosophy)	political philosophy
Marks 100		
Semester IV		
T.Y.B. A.	Classical Indian and	1. To introduce students to the nature of philosophical
Credits 4 No.	Western Philosophy	questions and thinking present in classical Indian

of lecture 60	Paper IV	thought
Marks 100	(Western Philosophy)	2. To provide a systematic and rational interpretation
Semester VI	(Advance)	of philosophical issues addressed in classical Indian
		thought
		3. To trace the development of philosophical ideas in
		different schools so as to evaluate their contribution to
		philosophical knowledge Semester 5 (UAPHI - 501)
		1. To introduce students to a reasoned, systematic and
		critical reflection about religious beliefs
Credits 4 No.	Paper V	2. To develop in students the capacity for analytical
of lecture 60	Philosophy of Religion	and critical thinking about such matters. Semester 5
Marks 100		(UAPHI 502)
Semester VI		
		1. To reflect on real world ethical questions and the
	Living Ethical Iggue	issues they raise, and to discuss those issues in an
	Living Ethical Issue Paper VI	informed way.
Credits 4 No.	Taper VI	2. To demonstrate on ability to accoming outlands
of lecture 45		2. To demonstrate an ability to recognize, articulate,
Marks 100		and apply ethical principles in various academic,
Semester VI		professional, social, or personal contexts Semester 5
		(UAPHI-503)

DEPARTMENT OF COMMERCE

B.COM [GENERAL]

PROGRAMME OUTCOMES

- PO-1: After completing three years for Bachelors in Commerce (B.Com) program, students would gain a thorough grounding in the fundamentals of Commerce and Finance.
- PO-2: The commerce and finance focused curriculum offers a number of specializations and practical exposures which would equip the student to face the modern-day challenges in commerce and business.
- PO -3 The all-inclusive outlook of the course offer a number of value based and job oriented courses ensures that students are trained into up-to-date. In advanced accounting courses beyond the introductory level, affective development will also progress to the valuing and organization levels.

Program Specific Outcome (PSO)

- PSO-1: Students will demonstrate progressive affective domain development of values, the role of accounting in society and business.
- PSO-2: Students will learn relevant financial accounting career skills, applying both quantitative and qualitative knowledge to their future careers in business.
- PSO-3: Students will learn relevant managerial accounting career skills, applying both quantitative and qualitative knowledge to their future careers in business.

- PSO 4: Leaners will gain thorough systematic and subject skills within various disciplines of commerce, business, accounting, economics, finance, auditing and marketing.
- PSO-5: Learners will be able to recognize features and roles of businessmen, entrepreneur, managers, consultant, which will help learners to possess knowledge and other soft skills and to react aptly when confronted with critical decision making.
- PSO-6: Learners will be able to prove proficiency with the ability to engage in competitive exams like CA, CS, ICWA and other courses.
- PSO 7: Leaners will acquire the skills like effective communication, decision making, problem solving in day to day business affaires
- PSO 8: Learners will involve in various co-curricular activities to demonstrate relevancy of foundational and theoretical knowledge of their academic major and to gain practical exposure.
- PSO-9: Learners can also acquire practical skills to work as tax consultant, audit assistant and other financial supporting services.
- PSO -10: Learners will be able to do higher education and advance research in the field of commerce and finance.

Department of Rural Development

Outcomes

(PO/PSO/CO)

	Programme Outcomes (B.A.)		
PO1	Develop strength towards democretic idieals among, the student.		
PO2	To Acquire knowledge with facts and figures related concerned with subjects such		
	as History, Geography, Economics, Languages.		
PO3	Identify the basic concept, fundamental principles and various theories in the		
	above mentioned subjects.		
PO4	Grasp the importance of literature in creating aesthetic,mental,moral,intellectual		
	development of an individual and increasingma healthy society.		
PO5	Understand how issues in social science influence literature and how literature		
	can provide solutions to the social issues.		
PO6	Gain the analytical ability to analyze critically the literature and social		
	issues, appreciate the strength and suggest the improvements for better results.		
PO7	Impart linguistic skill and proficiency to thelearners about the literature-		
	Ancient, Regional, National and International level.		
	B.A. Rural Develoment (PSO)		
Programme Specific Outcomes			
PSO - 1	Understand a theoretical background about the subject of Rural Development		
	along with prospects of its dimension.		
PSO - 2	Get an idea on various aspects of rural economy of india and their role in		

	development of rural economy.	
PSO - 3	Clearly understand about the concept of social sector of rural India along with	
150 5		
	their status and problems.	
PSO - 4	Find on various rural development programme currently in India which will in	
	able the leaeners to asses their achivements.	
PSO - 5	Know about different rural development Institution in India.	
PSO - 6	Learn about preparation of plan and management of project on rural development.	
	B.A. Rural Development (CO) Course Outcomes	
F.Y.B.A.	roduction to Rural Development	
CO - 1	students understand the basic concept of Rural Development.	
CO - 2	students become familiar with concept,nature and characteristics of Rural society.	
CO - 3	Develop awareness about rural social institution, its function and changing nature.	
CO - 4	Understand concept, factors and obstacles in bringingsocial chang and role of	
	NGOs in bringing social change.	
	al Society and its development strategies	
CO - 1	Understand the concepts and importance of Indian Rural Society	
CO - 2	know the Rural Institutional System.	
CO - 3	Understand Agriculture Agriculture Development.	
CO - 4	Understand role and importance of Agro based Industries.	
S.Y.B.A.	al administration and Laws related to Rural Development	
CO - 1	A Understand planning for Rural development.	
CO - 2	Get acquainted with the concept of Revenue Administration.	
CO - 3	Understand the Rights of Information Act – 2005.	
T.Y.B.A. : Agriculture and its Significance in Rural Development		
CO - 1	Understand the concepts and importance of agriculture in Rural Development.	
CO - 2	Become aware the significance of inputs for increasing the agriculture production.	
CO - 3	To Understand modern trends and techniques in agriculture.	
CO - 4	To know the importance of farm business management.	
CO - 5	To Understand the role and significance of agriculture universities in Education, Research and extention Education.	

T.Y.B.A.			
: Rural	: Rural Marketing and Finance		
CO - 1	students become familiarize with the basic concept of marketing.		
CO – 2	Students develop awareness regarding nature of the rural consumers and rural		
	credit.		
CO-3	Develop knowledge of marketing of agriculture produce.		
T.Y.B.A.	T.Y.B.A.		
: Applie	ed Agriculture		
CO - 1	To study the concept, scop and significance of applied agriculture.		
CO – 2	Know the concepts about zero budget and bio farming.		
CO – 3	Understand the concept, nature, significance and techniques of horticulture.		
CO – 4	Understand the importance of people participation to promote forestry.		
CO - 5	study various agro based allied activities and their importance for rural		
	development.		