Department of Botany

Programs offered

Sr. No.	Program	Program Objectives	Program Specific Objectives
1	**BSc Botany**	**PO1.Critical Thinking**: The curriculum made for the betterment of the students, enhance the ability and thinking power. **PO2. Effective Communication: the complete medium of program is in English so students will communicate in the same.** **PO3.Social Interaction**: Due to continuous field visits in the interior regions students interact with the social activities for their study. **PO4.Effective Citizenship:** Being the botanist students have to communicate with many people, they become more familier as well as interactive **PO5.Ethics**: The subject teach students about the ethical approach, not to cut the plants. **PO6.Environment and Sustainability**: conservation practices are studied for sustainable development **PO7.Self-directed and Life-long Learning**: each and every aspect of the module teaches life long learning	**PSO1.To provide thorough knowledge about various plant groups from primitive to highly evolved.** **PSO2.To make the students aware of applications of different plants in various industries.** **PSO3.To highlight the potential of these studies to become an enterpruner To equippe the students with skills related to laboratory as well as field based studies • To make the students aware about conservation and sustainable use of plants • To creat foundation for further studies in Botany • To address the socio-economical challenges related to plant sciences** **• To facilitate students for taking up and shaping a successful career in Botany**

Courses offered- Under graduate Botany

Sr. No.	Class	Course Outcomes
1	F. Y. B. Sc Botany	To provide thorough knowledge about various primitive plant groups.
		To make the students aware of applications of different plants in various industries To highlight the potential of these studies to become an entrepreneur
		To get acquainted with the subject in live form and visits to industries
3	S. Y. B. Sc Botany	To provide thorough knowledge about various highly evolved plant groups and their community structure
		To study the different metabolic process for synthesis of food material
	S. Y. B. Sc Botany	Internal structure will be observed for further studies as well as to study the developmental pattern of plant
		To study the techniques of multiplication and nanotechniques
		To equipped the students with skills related to laboratory as well as field based studies
4	T. Y. B. Sc. Botany	Interpret the performance characteristics & life cycles of various lower plants
		To develop the mind from the cellular to molecular level.
		Analyze the evolution with genetical characteristics for future aspects
		Evaluate the performance of various line of evolution with respect to live and fossil forms
		To develop the skills to become entrepreneurship for small scale startup
		Apply optimization, numerical methods, statistical methods to solve problems

	T. Y. B. Sc. Botany	**To study the different metabolic process for synthesis of food material in details**
		To make the students aware about conservation and sustainable use of plants
		Design different post harvest methods to cope over diseases.
		To make the students aware about conservation and sustainable use of plants
		To study the techniques of multiplication and nanotechniques
		Evaluate the performance of multiplication technique and seed storage technique

Course outcomes

Department of Chemistry

Programmes offered

	Program	Program objectives	Program specific objectives
1	B Sc. Chemistry	PO1. CRITICALTHINKING The curriculum is designed such way that students should acquire and ability to observe accurately and objectively. They should be able to solve the problems and also think scientifically, independently and draw rational conclusions. PO2. EFFECTIVE COMMUNICATION The medium of instruction for this course is English. English being the language of world students become habitual to communicate in English using language of Chemistry. PO3 SOCIAL INTERACTIONS In this course students are made aware of environment related issues. They are made aware of optimal use of fertilizers, water, fuels and drugs. P04 EFFECTIVE CITIZENSHIP In this program students are made aware of pollution problems waste water management, water treatment etc. They are also made aware importance of energy and water, food, fuels, general hygiene and cleanliness etc. PO5 ETHICS In this program students are made alerts regarding misuse of food adulteration, chemical technology, poisons, fungicides, pesticides and chemical and nuclear weapons PO6 ENVIRNMENT AND SUSTAINABILITY Being Chemistry students they become	PSO1 To provide the basic principles of all branches of chemistry knowledge of chemical principles and make them independent for the effective application of it. POS 2 To provide thorough knowledge of laboratory skills so that students can prepare for the experimental setup, actual working of equipments, obtain experimental data and interpretation of it. This then interpreted using theoretical principles. PSO3 To make the students self sufficient in understanding and handling the various issues that may arise related to chemistry.

		well conversant with various pollutants their sources and their impact on bio-system. So they become well versed with protection and conservation of environment. PO7 SELF DIRECTED AND LIFE LONG LEARNING Program curriculum inculcates the curiosity and problem solving approach which makes them self directed and learning becomes a continuous process throughout the life.	

Courses offered – Under graduate Chemistry

Sr.No	Class	Course Outcomes
1	F.Y.B.Sc. Chemistry	This course enables students to understand basic laws regarding states of matter, surface chemistry, thermodynamics and structure of atom. Students are also made awarw of mole concept, derivations, depictions and problem solving and periodic properties of the elements including the preliminary theories of bonding.
		Students are made aware of fundamental concepts of organic and inorganic chemistry which governs the structure, bonding, properties, structural effects, acid-base theories, preparation methods, reactivity and stereochemistry of organic molecules.
		Chemistry is an experimental subject; practical course is intended to achieve the basic skills required for understanding the concepts and authenticating the basic laws and principles of chemistry &helps in development of practical skills of the students.
2	S.Y.B.Sc. Chemistry	Students are made aware about kinetics of chemical reactions, photochemical laws , distribution law and extraction process. Students are introduced to analytical chemistry in which they are made aware of inorganic qualitative analysis and analysis of organic compounds (Qualitative & Quantitative). Along with it they also study error in quantitative analysis & ways to minimize them.
		Students are made aware of stereochemistry of different stereoisomers & organic reaction mechanism in which they study different types of reagents, reactions and their mechanisms. Students are introduced to metallurgy to understand chemical reactions and processes occurred in metallurgy. The corrosion & passivity is also included in the syllabus.
	Semester II	Students are made aware about concepts of Helmholtz free energy & Gibbs free energy as well as free energy of

		chemical reactions & physical transformation. Students also study different modes of concentration , distillation of solutions of liquid in liquid , partially immiscible liquids& distillation of immiscible liquids. Students are made to understand volumetric analysis wherein they study non-instrumental volumetric analysis which comprises of study of various titrations, indicators used in it& some theoretical aspects related with titrations.
		Students are introduced to various biomolecules, their role & structural aspects. Students also study different oxidizing and reducing reagents, their selectivity to different substrates, heterocycles, their preparation & reactions. Students are introduced to organometallic chemistry & use of organometallic compounds in synthesis of organic as well as inorganic compounds. They also study chemical toxicology to know adverse effects of chemicals.
	S. Y. B.Sc. Chemistry	Students are trained to determine the rate constant of chemical reactions, heat of solution , heat of neutralization, critical solution temperature of partially miscible system & distribution coefficient. Students are trained for quantitative analysis of different samples such as Na_2CO_3 in washing soda, Aspirin in APC tablet, Aluminium in Alum, strength of H_2O_2, Copper in Brass & iodimetric methods. Students are trained for organic & inorganic qualitative analysis. They are also trained for preparation of organic compounds & chromatographic techniques like TLC.
3	T. Y. B.Sc. Chemistry	Students are introduced basic concept of physical chemistry. They also learn methods to determine order of reaction, Arrhenius equation, and graphical evaluation of energy of activation. Students learn principle and applications of rotational, vibrational, raman and electronic spectroscopy. Students will get familiar with phase rule, phase diagram of one and two component systems.
		Students are made aware of the principles of various theories of bonding like Sidgwick model, Werner's theory VBT,CFT, MOT. They are also made aware of the principles of isomerism, nomenclature and structures of inorganic complexes .
		It is the basic course in organic chemistry. Students are introduced with concepts like acidity, basicity of organic molecules, electrophile, nucleophile and good and bad leaving groups. Students are introduced with stereochemistry of disubstituted cyclohexane. Students are able to understand mechanism of organic reaction. Arrow drawing concept which is important part of reaction mechanism is explained thoroughly in this course. Students are able to identify different types of organic reactions and also they can understand

		reactivity profile of organic molecules.
		Students are made aware of quantitative chemical analysis using the techniques like gravimetry, polarography, AAS, FES and spectrophotometry at the levels of macro, micro and trace analysis of metals and non-metals from industrial and natural samples.
		This course enables the students to learn use of agrochemicals like pesticide, insecticides, fungicides, fertilizers and their environmental impact. Study of food industry makes them aware of food adulteration, storage and processing of food. This course also provides opportunity to study agrochemicals, food chemicals on industrial scale. Students also learn manufacturing of basic chemicals such as Ammonia, Sulphuric acid and Nitric acid. Syllabus further comprises study of petrochemicals and eco- friendly fuels, where in students study processing of petrochemical fuels, properties of fuels and applications of fuels,non conventional energy. Syllabus also includes study of cement and glass industry. Properties, manufacture and applications of different types of cement and glass.
		Students are introduced to the properties and character of fundamental components of living organism such as proteins, carbohydrates, lipids, vitamins and hormones. Students are expected to get familiarize with cell types, cell organelles and various techniques used in biochemical studies.
	T. Y. B.Sc. Chemistry	The course aims to give fundamental understanding and applications of electrochemical Cells, Nuclear Chemistry, Crystal structure and Quantum Chemistry. Students get to know thermodynamics and EMF, Chemical cell with and without transfer, application of EMF measurement such as pH determination, determination of solubility and solubility product. Basic elements of quantum chemistry are also introduced.
		Students are made aware of chemistry of f block elements principles and applications of catalysis, organomettalic chemistry and the principles and the applications of metals, semiconductors and superconductors.
		Students are introduced with carbanions and their reactions. Retrosynthetic analysis concepts are explained to students. Rearrangement reactions are introduced with mechanistic approach. Spectroscopic techniques like PMR, U.V. and I.R. are introduced. Students learned to differentiate organic compounds with the help of these spectroscopic techniques.
		The students are trained in the technique of separation, identification of purification using chromatographic techniques like TLC,GC,HPLC, electrophoresis etc . This knowledge enables them to be good analytical of Quality control chemist in various fields.
		Students are expected to learn properties, ways to manufacture or process and application of different types of polymer, paints,

		pigments, dyes, soaps, detergents and cosmetics. Students also learn theoretical aspects of manufacturing of sugar and fermentation industry. Syllabus further includes study of Pharmaceutical industry where students are introduced to general aspects of drug action, manufacturing of some drugs and its usage and lastly there is topic which discusses problems caused by industry such as pollution and generation of waste and what are the ways which can prevent or minimize it.
		Students need to know the significant metabolic pathways necessary for the sustenance of life. Fundamental processes associated with central dogma of molecular biology are taught. Students get acquainted with applications of genetic engineering in various fields like agriculture, industries and medicine.
	T. Y. B.Sc. Practical Chemistry	Students are trained in the techniques such as pH metry, Conductometry, Potentiometry, Colorimetry, Spectrophotometry, Refractometry and G. M. Counter. They learn to use these techniques in order to understand various chemical reactions.
		Students are trained in the IQA of different mixtures of inorganic compounds, and the separation of the metal ions using chromatographic techniques and inorganic quantitative analysis using the techniques of gravimetry, volumetry, colorimetry
		Chemistry is an experimental subject; practical course is proposed to achieve the basic skills required for understanding the reactivity of organic molecules and validating the basic principles. It helps in development of practical skillsof the students & understanding the importance of chemical safety and also explains the factors affecting reaction outcomes and yields.

Department of Commerce

2. Programmes offered

Sr. No.	Programme	Objectives	Programme Speific Objectives
1.	Bachelor of Commerce (B.Com)	PO1. Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology. PO2.Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.	**F.Y.B.COM** **Financial Accounting :** 1. To impart the knowledge of various accounting concepts 2. To instill the knowledge about accounting procedures, methods and techniques. 3. To acquaint them with practical approach to accounts writing by using software package. **Business Economics (Micro):** 1. To expose Students of Commerce to basic micro economic concepts and inculcate an analytical approach to the subject matter. 2. To

Sr. No.	Programme	Objectives	Programme Speific Objectives
		PO3.Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering. PO4.Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them. PO5.Environment and Sustainability: Understand the issues of environmental contexts and sustainable development. PO6.Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes	stimulate the student interest by showing the relevance and use of various economic theories. 3. To apply economic reasoning to problems of business. **Business Mathematics and Statistics:** 1. To prepare for competitive examinations 2. To understand the concept of Simple interest, compound interest and the concept of EMI. 3. To understand the concept of shares and to calculate Dividend 4. To understand the concept of population and sample. 5. To use frequency distribution to make decision. 6. To understand and to calculate various types of averages and variations. 7. To understand the concept and application of profit and loss in business. 8. To solve LPP to maximize the profit and to minimize the cost. 9. To use correlation and regression analysis to estimate the relationship between two variables. 10. To understand the concept and techniques of different types of index numbers. **Banking and Finance [Fundamentals of Banking]** 1. To acquaint the students with the fundamentals of banking. 2. To develop the capability of students for knowing banking concepts and operations. 3. To make the students aware of banking business and practices. 4. To give thorough knowledge of banking operations. 5. To enlighten the students regarding the new concepts introduced in the banking system. **Marketing and Salesmanship [Fundamentals of Marketing]**

Sr. No.	Programme	Objectives	Programme Speific Objectives
			Study the relationship among broad aggregates. 4. To apply economic reasoning to problems of the economy. **Business Management:** 1. To provide basic knowledge & understanding about business management concept. 2. To provide an understanding about various functions of management. **Elements of Company Law:** 1) To impart students with the knowledge of fundamentals of Company Law. 2) To update the knowledge of provisions of the Companies Act of 2013. 3) To apprise the students of new concepts involving in company law regime. 4) To acquaint the students with the duties and responsibilities of Key Managerial Personnel. 5) To impart students the provisions and procedures under company law. **Business Administration:** 1. To provide basic knowledge about various forms of business organizations 2. To acquaint the students about business environment and its implications thereon. 3. To aware them with the recent trends in business **Cost and Works Accounting:** To Impart The Knowledge Of: 1. Basic Cost concepts. 2. Elements of cost. 3. Ascertainment of Material and Labour Cost. **<u>T.Y.B.COM</u>** **Business Regulatory Framework (Mercantile Law):** 1. To acquaint students with the basic concepts, terms & provisions of Mercantile and Business Laws. 2. To develop the awareness among

Sr. No.	Programme	Objectives	Programme Speific Objectives
			the students regarding these laws affecting business, trade and commerce. **Advanced Accounting.:** To impart the knowledge of various accounting concepts To instill the knowledge about accounting procedures, methods and techniques. To acquaint them with practical approach to accounts writing by using software package. **Indian & Global Economic Development:** 1) To expose students to a new approach to the study of the Indian Economy. 2) To help the students in analyzing the present status of the Indian Economy. 3) To enable students to understand the process of integration of the Indian Economy with other economics of the world. 4) To acquaint students with the emerging issues in policies of India's foreign trade. **Auditing & Taxation:** The Study of Various Components of this course will enable the students: 1. To acquaint themselves about the concept and principles of Auditing, Audit process, Assurance Standards, Tax Audit, and Audit of computerized Systems. 2. To get knowledge about preparation of Audit report. 3. To understand the basic concepts and to acquire knowledge about Computation of Income, Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax Collection Authorities under the Income Tax Act, 1961. **Business Administration II:** To acquaint the students with basic concepts & functions of HRD and

Sr. No.	Programme	Objectives	Programme Speific Objectives
			nature of Marketing functions of a business enterprise. **Cost and Works Accounting II:** 1. To provide Knowledge about the concepts and principles application of Overheads 2. To provide also understanding various methods of costing and their applications **Business Administration III:** To acquaint the students with the basic concepts in finance and production functions of a business enterprise. **Cost and Works Accounting III:** 1 To impart knowledge regarding costing techniques. 2 To provide training as regards concepts, procedures and legal Provisions of cost audit.

3. Courses offered

Sr. No.	Course	Course outcomes
1.	FYBCom :	1. imparted the knowledge of various accounting concepts 2. instilled the knowledge about accounting procedures, methods and techniques. 3. acquainted them with practical approach to

Sr. No.	Course	Course outcomes
		accounts writing by using software package.
	FYBCom :	1. exposed Students of Commerce to basic micro economic concepts and inculcate an analytical approach to the subject matter. 2. Stimulated the student interest by showing the relevance and use of various economic theories. 3. Applied economic reasoning to problems of business.
	FYBCom :	1. prepared for competitive examinations 2. Understood the concept of Simple interest, compound interest and the concept of EMI. 3. Understood the concept of shares and to calculate Dividend 4. Understood the concept of population and sample. 5. useed frequency distribution to make decision. 6. To understand and to calculate various types of averages and variations. 7. Understood the concept and application of profit and loss in business. 8. Solved LPP to maximize the profit and to minimize the cost. 9. Used correlation and regression analysis to estimate the relationship between two variables. 10. Understood the concept and techniques of different types of index numbers.
	FYBCom : Banking and Finance [Fundamentals of Banking	1. the students acquainted with the fundamentals of banking. 2. developed the capability of students for knowing banking concepts and operations. 3. students are aware of banking business and practices. 4. Gets thorough knowledge of banking operations. 5. enlightened with the new concepts introduced in the banking system.
	FYBCom : Marketing and Salesmanship [Fundamentals of Marketing]	1) General Objective of the Paper. a) created awareness about market and marketing. b) established link between commerce/Business and marketing. 2) Core Objectives of the paper. a) understood the basic concept of marketing. b) To understand marketing philosophy and generating ideas for marketing research. c) knows the relevance of marketing in modern competitive world. d) developed an analytical ability to plan for various marketing strategy.
2.	SYBCom : Business Communication.	1. understands the concept, process and importance of communication. 2. Developed awareness regarding new trends in business communication. 3. Got knowledge of various media of communication. 4. Developed business communication skills through the application and exercises.
	SYBCom : Corporate Accounting	Developed awareness about Corporate Accounting in conformity with the provisions of Companies Act and

Sr. No.	Course	Course outcomes
		Accounting as per Indian Accounting Standards. 1. Made aware the students about the conceptual aspect of corporate accounting 2. To enable the students to develop skills for Computerized Accounting
	SYBCom : Business Economics (Macro)	1. the students are familiarized with the basic concept of Macro Economics and application. 2. Understands the behavior of the economy as a whole. 3. Understands the relationship among broad aggregates. 4. Applies economic reasoning to problems of the economy.
	SYBCom : Business Management	1. Provided basic knowledge & understanding about business management concept. 2. Provided an understanding about various functions of management.
	SYBCom : Elements of Company Law	1) Imparted students with the knowledge of fundamentals of Company Law. 2) Updates the knowledge of provisions of the Companies Act of 2013. 3) Apprises new concepts involving in company law regime. 4) Acquainted the students with the duties and responsibilities of Key Managerial Personnel. 5) understands the provisions and procedures under company law.
	SYBCom : Business Administration	1. Understands basic knowledge about various forms of business organizations 2. Gets acquainted the students about business environment and its implications thereon. 3. Students aware with the recent trends in business
	SYBCom : Cost and Works Accounting	Understands 1. Basic Cost concepts. 2. Elements of cost. 3. Ascertainment of Material and Labour Cost.
3.	TYBCom : Business Regulatory Framework (Mercantile Law)	1. Gets acquainted with the basic concepts, terms & provisions of Mercantile and Business Laws. 2. Develops the awareness among the students regarding these laws affecting business, trade and commerce.
	TYBCom : Advanced Accounting.	Gets knowledge of various accounting concepts To instill the knowledge about accounting procedures, methods and techniques. acquainted with practical approach to accounts writing by using software package. T
	TYBCom : Indian & Global Economic Development	1) exposed to a new approach to the study of the Indian Economy. 2) Analyzes the present status of the Indian Economy. 3) understands the process of integration of the Indian Economy with other economics of the world. 4) acquainted with the emerging issues in policies of India's foreign trade.
	TYBCom : Auditing & Taxation	1. acquainted about the concept and principles of Auditing, Audit process, Assurance Standards, Tax Audit, and Audit of

Sr. No.	Course	Course outcomes
		computerized Systems. 2. gets knowledge about preparation of Audit report. 3. understands the basic concepts and acquires knowledge about Computation of Income, Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax Collection Authorities under the Income Tax Act, 1961.
	TYBCom : Business Administration II	Acquainted with basic concepts & functions of HRD and nature of Marketing functions of a business enterprise.
	TYBCom : Cost and Works Accounting II	1. Gets Knowledge about the concepts and principles Application of Overheads 2. Anderstands various methods of costing and their applications
	TYBCom : Business Administration III	Knows the basic concepts in finance and production functions of a business enterprise.
	TYBCom : Cost and Works Accounting III	1 Aware of costing techniques. 2 trains as regards concepts, procedures and legal Provisions of cost audit.

Department Mathematics

2.6 Student Performance and Learning Outcomes

2.6.1 Program outcomes, program specific outcomes and course outcomes

Sr. No.	Program	Program Objectives	Program Specific Objectives
1	**BSc Mathematics**	**PO1**: Promotion of self study **PO2**: Promotion of thinking **PO3**: Confidence **PO4**: Creativity **PO5**: Problem Solving **PO6**: Understanding Concepts **PO7**: Development of Writing, Listening and Teaching Skills **PO8**: Group Discussion (Skill of Team work, interpersonal skills) **PO9**: Social Values: Unity in Diversity	**PSO1**: To enable the students to cultivate a mathematical way of thinking i.e. making conjectures, verifying them with further observations, generalizing them, trying to find proofs and making observations. **PSO2** : To enable the students to quantify their experiences in other subjects they study. **PSO3**: To enable the students to learn the basic structures of mathematics through unifying concepts and to motivate these structures through applications. **PSO4**: To enable the students to study mathematics for themselves. **PSO5**: To provide high quality mathematical education at all levels that will be vital for scientific and technological developments.

			and technique of teaching mathematics through problem seminars.

Courses Offered

Sr. No.	Course	Course Outcomes
1	FYBSc	On completion of this course students will be expected to • Prove results involving divisibility and greatest common divisors; • Applications of Modular Arithmatics. • Solve systems of linear equations; • Find integral solutions to specified linear Diophantine Equations; • Apply Euler-Fermat's Theorem to prove relations involving prime numbers; • Apply the Wilson's theorem. • Polynomial addition, subtraction, division, multiplication, roots of polynomials. • Transformation, translation and reflection; • Used cut-out shapes as a means to develop the mental transformation of geometric shapes. • Perform translations and rotations of the coordinate axes to eliminate certain terms from equations. • To find nature of general conics.

Course outcomes

Department of Physics

Program Offered

Sr. No.	Program	Program Objectives	Program Specific Outcomes
1	B. Sc. Physics	To provide in depth knowledge of scientific and technological aspects of Physics · To familiarize with current and recent scientific and technological developments · To enrich knowledge through problem solving, hand on activities, study visits, projects etc. · To train students in skills related to research, education, industry, and market. · To create foundation for research and development in Electronics · To develop analytical abilities towards real world problems · To help students build-up a progressive and successful career in Physics	1. After completion of program, students will be able to have in-depth knowledge of basic concepts in Physics. 2. Students will be able to apply the laws of Physics in real life situations to solve the problems. 3. Students develop aptitude of doing research through undertaking small projects. 4. Student will have set his foundation to pursue higher education in Physics. 5. After completing the program student will have developed interdisciplinary approach and can pursue higher studies in subjects other than Physics

Courses Offered

Sr. No.	Course	Course Outcome
1	F. Y. B. Sc.	1. Demonstrate an understanding of Newton's laws and applying them in calculations of the motion of simple systems. 2. Use the free body diagrams to analyse the forces on the object. 3. Understand the concepts of energy, work, power, the concepts of conservation of energy and be able to perform calculations using them. 4. Understand the concepts of elasticity and be able to perform calculations using them. 5. Understand the concepts of surface tension and viscosity and be able to perform calculations using them. 6. Use of Bernoulli's theorem in real life problems. 7. Demonstrate quantitative problem solving skills in all the topics covered.
		1. Describe the properties of and relationships between the thermodynamic properties of a pure substance. 2. Describe the ideal gas equation and its limitations. 3. Describe the real gas equation. 4. Apply the laws of thermodynamics to formulate the relations necessary to analyze a thermodynamic process. 5. Analyze the heat engines and calculate thermal efficiency. 6. Analyze the refrigerators, heat pumps and calculate coefficient of performance. 7. Understand property 'entropy' and derive some thermo dynamical relations using entropy concept. 8. Understand the types of thermometers and their usage.
		1. To demonstrate an understanding of electromagnetic waves and its spectrum. 2. Understand the types and sources of electromagnetic waves and applications. 3. To understand the general structure of

		atom, spectrum of hydrogen atom. 4. To understand the atomic excitation and LASER principles. 5. To understand the bonding mechanism in molecules and rotational and vibrational energy levels of diatomic molecules. 6. To demonstrate quantitative problem solving skills in all the topics covered.
		1. Demonstrate an understanding of the electric force, field and potential, and related concepts, for stationary charges. 2. Calculate electrostatic field and potential of simple charge distributions using Coulomb's law and Gauss's law. 3. Demonstrate an understanding of the dielectric and effect on dielectric due to electric field. 4. Demonstrate an understanding of the magnetic field for steady currents using Biot-Savart and Ampere's laws. 5. Demonstrate an understanding of magnetization of materials. 6. Demonstrate quantitative problem solving skills in all the topics covered.
		1. Acquire technical and manipulative skills in using laboratory equipment, tools, and materials. 2. Demonstrate an ability to collect data through observation and/or experimentation and interpreting data. 3. Demonstrate an understanding of laboratory procedures including safety, and scientific methods. 4. Demonstrate a deeper understanding of abstract concepts and theories gained by experiencing and visualizing them as authentic phenomena. 5. Acquire the complementary skills of collaborative learning and teamwork in laboratory settings.
2	S. Y. B. Sc.	After the completion of this course students will be able to Understand the complex algebra useful in

		physics courses Understand the concept of partial differentiation. Understand the role of partial differential equations in physics Understand vector algebra useful in mathematics and physics Understand the singular points of differential equation.
		Apply laws of electrical circuits to different circuits. Understand the relations in electricity Understand the properties and working of transistors. Understand the functions of operational amplifiers. Design circuits using transistors and operational amplifiers. Understand theBoolean algebra and logic circuits.
		Solve the equations of motion for simple harmonic, damped, and forced oscillators. Understand the physics and mathematics of oscillations. Formulate these equations and understand their physical content in a variety of applications, Describe oscillatory motion with graphs and equations, and use these descriptions to solve problems of oscillatory motion. Explain oscillation in terms of energy exchange, giving various examples. Solve problems relating to undamped, damped and force oscillators and superposition of oscillations. Understand the mathematical description of travelling and standing waves. Recognise the one-dimensional classical wave equation and solutions to it. Calculate the phase velocity of a travelling wave. Explain the Doppler effect, and predict in qualitative terms the frequency

		change that will occur for a stationary and a moving observer. Define the decibel scale qualitatively, and give examples of sounds at various levels. Explain in qualitative terms how frequency, amplitude, and wave shape affect The pitch, intensity, and quality of tones produced by musical instruments.
		acquire the basic concepts of wave optics describe how lightcan constructively and destructively interfere explain why a light beam spreads out after passing through an aperture summarize the polarization characteristics of electromagnetic waves appreciate the operation of many modern optical devices that utilize wave optics Understand optical phenomena such as polarization, birefringence, Interference and diffraction in terms of the wave model. analyze simple examples of interference and diffraction phenomena. be familiar with a range of equipment used in modern optics.
		Whatever the students learned in their theory courses such as, electronics , waves oscillations and sound and optics. They need to verify these concept. This course will help to student to verify the concept from theory.

Zoology Department Profile

Programs offered: B.Sc. Zoology,

Sr. No.	Program	Program Objectives	Program Specific Objectives
1	**B.Sc. Zoology**	Inspire the students for pursuing higher studies in Zoology and for becoming an entrepreneur and also enable students to get employed in the Biological research Institutes, Industries, Educational Institutes and in the various concerning departments of State and Central Government based on subject Zoology.	**PSO1.** To provide thorough knowledge about various animal sciences from primitive to highly evolved animal groups. **PSO2.** To make the students aware of applications of Zoology subject in various Industries. **PSO3.** To highlight the potential of various branches to become an entrepreneur. **PSO4.** To equip the students with skills related to laboratory as well as field based studies. **PSO5.** To make the students aware about conservation and sustainable use of Biodiversity. **PSO6.** To inculcate interest and foundation for further studies in Zoology. **PSO7.** To address the socio-economical challenges related to animal sciences. **PSO8.** To facilitate students for taking up and shaping a successful career in Zoology.

Courses offered: F.Y.B.Sc. Zoology, S.Y.B.Sc. Zoology and T.Y.B.Sc. Zoology

Sr. No.	Course	Course Outcomes
1	**F.Y.B.Sc. Zoology**	**CO1.** Exposure to diversity in animal groups and industries based on the zoological areas are covered. **CO2.** The practical course is aimed to equipped the students with skills required for animal identification, morphological, anatomical, technical description, classification and also applications of zoology in the various industries.
2	**S.Y.B.Sc. Zoology**	**CO1.** The level of the theory and practical courses are one step ahead of the first year B.Sc. courses based on content of first year syllabus. **CO2.** The course intends to inform the students in Animal Systematics, Animal Diversity and applied field of Zoology such as Fisheries, Apiculture, Sericulture, etc.
3	**T.Y.B.Sc. Zoology**	**CO1.** Detailed studies of the various disciplines of the zoology subject and other branches of zoology such as Genetics, Animal Physiology, Molecular biology, Biochemistry, Microtechnique, Nonchordate and Chordate, Developmental Biology, Histology. Cell Biology, Biodiversity, Public health and hygiene, Pathology, Entomology, Biotechnology, etc. **CO2.** The students will also learn about use of various technical skills in the biological sciences to be helpful during research in the zoology subject.

Department of History

Programs offered

Sr. No.	Program	Program Objectives	Program Specific Objectives
1	**B.A History**	**B.A History** **1.** To enable the students to develop Knowledge, Understanding, Critical thinking, Practical skills, Interests and Attitudes relating to historical matters. **2.** History aims at helping students to understand the present existing social, political, religious and economic conditions of the people, the development of the past & the religion, customs institutions, administration and so on. **3.** History thus helps students to understand the present day problems at regional, national and international level objectively and accurately. This understanding enables students to lead useful and efficient lives. **4.** To creates interest as well as affection reading historical figures, for general characters, events and facts which are found necessary for solving the present problems effectively. **5.** The student would be able to acquires knowledge of various terms, concepts,	1.To Introduce innovative study techniques in the study of History *of Maratha to make it value based, conceptual and thought* provocative. To introduce International elements in the study of Marathas to facilitate comparative analysis of this history. To highlight the importance of past in exploration of present context. To understand the Socio –economic, cultural and political background of 17th century Maharashtra. To increase the spirit of healthy Nationalism & Secularism among the student. To encourage student s to for competitive examinations. To promote interest in the discipline of History. Suggesting the Importance of References. 2.The course is designed to help the student to know- History of freedom movement of India, aims, objectives problems and progress of Independent India. It aims at enabling the student to understand the processes of rise of modern India. The Course attempts to acquaint student with fundamental aspects of Modern Indian History. To explain the basic concepts/ concerns/ frame work of Indian History 3. To Survey the sources of History of Ancient India. The Course intends to provide an Understanding of the social, economic, religious and institutional bases of Ancient India. The course will study such as agriculture, Industry, trade. To study the development of the concept of Nation- State background of political history. To study ancient Indian Art & Architecture **4.** The purpose of the course is to enable the students to study the history of modern Maharashtra .To highlight the ideas,

		events, ideals, problems personalities and principles related to the study of history.	institutions, forces and movements that contributes to the modern Maharashtra. To acquaint the students with various interpretative perspectives. To introduce the student to the regional history within a broad national framework. **5.** To help the student to know Modern World. To acquaint the student with the Socio-economic & Political developments in other countries. And understand the contemporary world in the light of its background History. 2. To orient the students with political history of Modern World. 3. To acquaint Students about the main developments in the Contemporary orld (To understand to important development in 20th century World.) 4. Impart knowledge about world concepts. 5. To enable students to understand the economic

Courses offered

Sr. No.	Course	Course Outcomes
1	**B.A History**	Introduce innovative study techniques in the study of History *of Maratha to make it value based, conceptual and thought* provocative. Introduce International elements in the study of Marathas to facilitate comparative analysis of this history. highlight the importance of past in exploration of present context. understand the Socio –economic, cultural and political background of 17th century Maharashtra. increase the spirit of healthy Nationalism & Secularism among the student. encourage student s to for competitive examinations. promote interest in the discipline of History. Suggesting the Importance of References.
2.	**S.Y.B.A. (History)**	The course is designed to help the student to know- History of freedom movement of India, aims, objectives

		problems and progress of Independent India. It aims at enabling the student understand the processes of rise of modern India. The Course attempts acquaint student with fundamental aspects of Modern Indian History. explain the basic concepts/ concerns/ frame work of Indian History
3.	**S.Y.B.A. History**	Survey the sources of History of Ancient India. The Course intends to provide an Understanding of the social, economic, religious and institutional bases of Ancient India. The course will study such as agriculture, Industry, trade. study the development of the concept of Nation- State background of political history. Study ancient Indian Art & Architecture
4.	**S.Y.B.A.**	The purpose of the course is to enable the students to study the history of modern Maharashtra .Highlight the ideas, institutions, forces and movements that contributes to the modern Maharashtra. Acquaint the students with various interpretative perspectives. Introduce the student to the regional history within a broad national framework.
5	**<u>T.Y.B.A.</u>**	1. Help the student to know Modern World. Acquaint the student with the Socio-economic & Political developments in other countries. And understand the contemporary world in the light of its background History. 2. Orient the students with political history of Modern World. 3. Acquaint Students about the main developments in the Contemporary world 4. Impart knowledge about world concepts. 5. Enable students to understand the economic transition in World during the 20th Century. 6. Become aware of the principles, forces, processes and problems of the recent times. 7. Acquaint the students with growth of

		various political movements that helped the modern world. 8. Highlight the rise and growth of nationalism as a movement in different parts of the world.
6.	**T.Y.B.A**	Orient students about how history is studied, written and understood. 2.Explain methods and tools of data collection 3. Understand the meaning of Evolution of Historiography. 4. Study the Various Views of Historiography. 5. Study the approaches to Historiography. 6. Study the types of Indian Historiography. 7. Describe importance of inter-disciplinary research. 8. Introduce students to the basics of research. 9. Acquaint the student with the recent research in History. 10. Learn how to use sources in their presentation.
7.	**T.Y.B.A**	Acquaint Students about the rise and development of the USA as a world power. 2. Acquaint Students about the main developments in the Contemporary World 3. Comprehend the socio economic reforms in 1914 – 1992. 4. Acquaint the students with the principles of foreign policy. 5. Orient the students with political history of Europe.

Economics

Programs offered

Sr. No.	Program	Program Objectives	Program Specific Objectives
1	**B.A. Economics**	**PO1.Critical Thinking**: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives. **PO2. Effective Communication**: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology. **PO3.Social Interaction**: Elicit views of others, mediate disagreements and help reach conclusions in group settings. **PO4.Effective Citizenship**: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering. **PO5.Ethics**: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them. **PO6.Environment and Sustainability**: Understand the issues of environmental contexts and sustainable development. **PO7.Self-directed and Life-long Learning**: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes	**PSO1:** Understand the behaviour of Indian and World economy **PSO2:** Analyse macroeconomic policies including fiscal and monetary policies of India **PSO3:**Determine economic variables including inflation, unemployment, poverty, GDP, Balance of Payments using statistical methods **PSO4:** Understand the behaviour of financial and money markets and perform cost-benefit analysis for making investment decisions

Courses offered

Sr. No.	Class	Course Outcomes
1	FYBA	To make the students known about the various sectors of the economy in detail. To highlight the potential of the Indian economy to study the facts and figures about development.
2.	SYBA	To create the awareness of the student of modern banking system. Understanding of the opportunities of banking their interaction with rest of the economy essential to realize how monetary force operates through multitude of channels.

		To understand the behaviour of an economic agent namely; a consumer, a producer, a factor owner and the price fluctuations in a market. Price formation in different markets structure and the equilibrium of a firm and industry.
		To understand the economic analysis in terms of theoretical, empirical as well as policy-making issues. **The objective of the course is to familiarize the students the basic concepts of Macro economics and applications.**
3.	**TYBA**	**This paper is devoted to the theories of economics development, approaches to economic development, social and institutional aspects of development, constraints on development process, macroeconomic policies, role of foreign capital and economic planning in developing countries.**
		Course provide the students a through understanding and deep knowledge about the basic principles that tent to govern the free flow of trading goods and services at the global level. **It trained about the rational of recent challenge in the export import policies of India.**
		To understand the policies and operations which involve the use of tax and expenditure measures while budgetary policy. It helps to understand expenditure program, budgetary procedures, stabilizations instruments, debt issues, levels of the government, etc.

Course Outcomes

Department of English

Programs offered

Sr. No.	Program	Program Objectives	Program Specific Objectives
1	**BA English**	**PO1.Critical Thinking**: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.	**PSO1.** The purpose of teaching each lesson/unit is to help the students, first of all, gain a clear idea of it. The teacher's role is to enable the learners formulate their own ideas about the contents of each unit. This is to be done by raising questions that can encourage learners to think about the issue discussed in the text
		PO2. Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.	The grammar and phonetic components in the syllabi provide enough opportunities to help learners use the four skills inside and outside the classroom. The grammar items are used situationally to develop the skill of speaking.

		PO3.Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.	The syllabus offers scope for picking out issues of personal/general relevance for discussion in class. This is controlled by the teacher who can give subjects to individuals or groups of students. Discussions and debates are meant to develop the ability to formulate opinions, share them with the class and to express agreement, disagreement, etc. in socially acceptable ways.
		PO4.Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.	The objective is to extend the social interaction practices to develop self-discipline and use the ideas gained through discussions for intelligently responding to a wide spectrum of political, social, economic and cultural issues.
		PO5.Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.	The purpose here is to teach with a clear awareness of the diverse mix of students in the class and their specific necessities. The awareness is necessary for the teacher to abstain from imposing him-/herself on the students his/her

			ethical values. The aim is to recognise the value systems of each student group and to maintain a balance between different ethical ideas
		PO6.Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.	The attempt in class is to use textual units to enlighten students on the positive and negative aspects of exploring Nature by people of different viewpoints. The purpose is to ensure students' understanding about the importance of ecological balance. Many of the lessons and poems can be used by teachers for this purpose.
		PO7.Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes	While the utilitarian aims of teaching is not neglected, the other important objective—instilling the thought of gaining knowledge for the sake of knowledge itself—is also to be emphasised. The expectation is to encourage learners to look at learning and gaining wisdom as an unending process.

Courses offered

Sr. No.	Course	Course Outcomes
1	**FYBA**	a) To familiarize students with excellent pieces of prose and poetry in English so that they realize the beauty and communicative power of English b) To expose them to native cultural experiences and situations in order to develop humane values and social awareness c) To develop overall linguistic competence and communicative skills of the students
		a) To expose students to the basics of literature and language b) To familiarize them with different types of literature in English, the literary devices and terms so that they understand the literary merit, beauty and creative use of language c) To introduce the basic units of language so that they become aware of the technical aspects and their practical usage d) To prepare students to go for detailed study and understanding of literature and language e) To develop integrated view about language and literature in them
2	**SYBA**	1. To develop competence among the students for self-learning 2. To familiarize students with excellent pieces of prose and poetry in English so that they realize the beauty and communicative power of English 3. To develop students' interest in reading

		literary pieces 4. To expose them to native cultural experiences and situations in order to develop humane values and social awareness 5. To develop overall linguistic competence and communicative skills of the students
		poetry 3. To enhance students awareness in the aesthetics of poetry and to empower them to read, appreciate and critically evaluate the poetry independently
3	**TYBA**	1. To introduce students to the best uses of language in literature. 2. To familiarize students with the communicative power of English 3. To enable students to become competent users of English in real life situations 4. To expose students to varied cultural experiences through literature 5. To contribute to their overall personality development by improving their communicative and soft skills
		d) To develop literary sensibility and sense of cultural diversity in students e) To expose students to some of the best examples of novel
		a) To introduce students to the basics of literary criticism b) To make them aware of the nature and historical development of criticism c) To make them familiar with the significant critical approaches and terms d) To encourage students to interpret literary works in the light of the critical approaches e) To develop aptitude for critical analysis

Department of Geography

Course Outcomes

Program Offered

Sr. No	Program	Program objectives	Program specific objective
1	**B.A.** Geography	I. To develop a strong footing in the fundamentals and specialize in the disciplines of his/her liking and abilities	Understand the nature and basic concept of Geomorphology, Climatology, tourism geography, Regional geography

Sr. No	Course	Course Outcomes
1.	**F.Y.B.A.**	I. To introduce the students to the basic concepts in Geomorphology. II. To introduce latest concepts in Geomorphology. III. To acquaint the students with the utility and application of Geomorphology in different regions and environment. IV. To make the students aware of the need of protection and conservation of different landforms.
2	**S.Y.B.A.**	I. To introduce the students to the basic principles and concepts in Climatology and Oceanography II. To acquaint the students with the applications of Climatology and Oceanography in different areas and environment III. To make the students aware of the Planet Earth and thereby to enrich the student's Knowledge
6	**T.Y.B.A.**	I. To acquaint the students with geography of our Nation. II. To make the student aware of the magnitude of problems and Prospects at National level. III. To help the students to understand the inter relationship between the subject and the society. IV. To help the students to understand the recent trends in regional studies.