

Programme: BSc Life Sciences

Course outcomes and Programme specific outcomes of Biotechnology

Programme outcomes

1. The students of Biotechnology will demonstrate knowledge and comprehension of core concepts, which includes but is not limited to knowledge of cellular biology, biochemistry, genetics, molecular biology, and microbiology, Immunology, Statistics and Environmental Biotechnology.
2. Biotechnology students will demonstrate knowledge of ethical principles regarding the use of Genetic Engineering
3. The students will demonstrate the ability to understand, analyze and evaluate original research literature and to communicate this understanding using appropriate technology.
4. The Students have the knowledge about current scientific literature, computer programs and web information.
5. The students of Biotechnology have the ability to think and solve problems in the field of biotechnology.
6. The students will effectively communicate with biotech and other interdisciplinary professionals.
7. The graduates will be able to design a process, a product or a system within constraints of cost, social relevance, safety, economics, ethics, environment and sustainability.
8. The graduates will be effective in multidisciplinary teams in bio system design and development, drug discovery, and process optimization
9. The graduates will be able to participate and contribute to biotechnological problems at the frontier
10. The graduates will display professional and ethical behavior
11. The graduates will be able to communicate professionally
12. The graduates will display skills required for continuous learning and professional up gradation.
13. The graduates will be able to plan, formulate, execute and manage projects in the domain of life sciences, bioprocess and bioinformatics
14. The students will explore the opportunities in different areas of life sciences and can relate the wide scope of Biotechnology as a multidisciplinary subject.

Programme specific outcomes

PSO1: Understanding the concepts of Cell biology and Genetics

PSO2: To get insights about the discovery of nucleic acids

PSO3: Learning about basic concepts of Bioinformatics

PSO4: Understand the classification, importance & functions of various biomolecules in the living systems

PSO5: Analyze the Energy produced in different bio energetic cycles.

Understand the principles of Bio analytical techniques

PSO6: understand the concepts and applications of Biostatistics

PSO7: Understand the classification of microorganisms and discovery of microscopes & its Importance.

PSO8: Analyze the composition of different media and understand the importance of Sterilization.

PSO9: Understand the process of Immunity development

PSO10: Understand the mechanism of Immunity development & also Auto Immune disorders.

PSO11: Analyze the Complexity and composition of genome of various species

PSO12: Importance of extra chromosomal DNA and its organization can be studied.

Importance of essential genes and non-essential genes can be understood.

PSO13: Central dogma of life and gene regulation mechanisms is elaborated.

PSO14: Perform the procedure for extraction of DNA from different sources.

PSO 15: Getting in depth knowledge about rDNA technology and its applications

PSO16: Understating the importance of Industrial Biotechnology and Environmental Biotechnology

Course outcomes of Biotechnology

CO1: To know about ultrastructure of cells

CO2: To understand about cell cycle

CO3: To know about Principles and mechanism of inheritance

CO4: To know about nucleic acids

CO5: To understand about Bioinformatics tools and their applications.

CO6: To know about Reassociation kinetics of DNA.

CO7: To understand about Kinetic classes of DNA

CO8: To understand about globin gene family

CO10: To know about mitochondrial genome organization

CO11: To know about Chloroplast genome organization

CO12: To know about process of transcription in Prokaryotes.

CO13: To understand process of translation in prokaryotes

CO14: To understand about the Lac operon in prokaryotes.

CO15: To understand about the different breeding methods in animals.

CO16: To understand about Molecular markers and their use in biology.

CO17: To understand about invitro fertilization and embryo transfer methods.

CO18: To know about exvivo invivo gene therapy – Discuss.

CO19: To know about methods of gene transfer.

CO20: To know about recombinant DNA technology in agriculture and pharmacy

CO21: To know about Role of Micro nutrients and hormones in morphogenesis.

CO22 To know about classification of carbohydrates

CO23 To know about nomenclature and classification of Enzymes.

CO24 To know about structural organization of Proteins

CO25 To know about on Michaelis Menton Equation.

CO26 To know about Enzyme inhibition.

CO27 To know about Gluconeogenesis in detail.

CO28 To know about TCA cycle.

CO29 To know about Chromatography

CO30 To know about electron transport chain.

CO31 To know about on sampling methods.

CO32 To know about Chi square test

CO33: To know about classification of microorganisms

CO34: To know about disease causing pathogens & their symptoms.

CO35: To know about Bacterial Growth curve & factors affecting Bacterial growth curve.

CO36: To know about Haptens & its adjuvants

CO37: To know about types of Immunity.

CO38: To know about production of Monoclonal antibodies.

CO39: To know about types of Hypersensitivity.

CO40: To know about Applications of rDNA technology

DEPARTMENT OF BOTANY

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES Program Outcome

Program Outcome

Acquire the knowledge with facts and figures related to various subjects in pure sciences such as Botany, Zoology, Chemistry, Bio technology Microbiology, Applied Nutrition. Understood the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevancies in the day-to-day life. Acquire the skills in handling scientific instruments, planning and performing in laboratory experiments.

Program Specific Outcome

Understand the structural organization and variation in chromosomes get self-employment in the fields as cultivation of crops in polyhouse condition, plant tissue culture laboratories etc. Understand plant structures in the context of physiological functions of plants. Understand lipid metabolism in plants. Understand the morphological and structural organization of Cryptogams and Phanerogams.

Course: B.Sc - BOTANY Outcomes

Microbial Diversity of lower plants, Pteridophyta, bryophyta	Get knowledge about diversity of microbes, how to beautify the garden with Pteridophyte and other ornamental plants
Gymnosperms, and Plant taxonomy	Understanding the plant systematic position
Anatomy and Embryology	Understanding the plant anatomical variations among plant kingdom
Cell biology, genetics and ecology	Understanding the ultra structural characters of plant cell structural variations of chromosomes gene interactions and genetic code and gene expression
Plant physiology, tissue culture and biotechnology	Understand the physiological functions of plants. Plant tissue culture techniques and their laboratory equipments, GE plants.

Department of zoology

PROGRAM SPECIFIC OUTCOMES OF ZOOLOGY

PSO1: Understand the nature and basic concepts of Cell biology ,Taxonomy, Animal Physiology, Ecology, Genetics.

PSO2: Analyzing the relationship between animals ,plants and micro-organisms.

PSO3: Performs experimental procedures as per laboratory standards in the areas of Physiology, Embryology, Ecology, Clinical science.

PSO4: Understating the anatomy of vertebrates and invertebrates by dissections.

PSO5: understand the application of biological science in Aquaculture, Apiculture ,Agriculture and Medicine.

Course outcomes of zoology

CO1: Animal diversity : To prepare students for acquiring knowledge regarding biology at the systems and organizational level. Able to assess the scope of animal biology and select particular areas for further study.

CO2: Ecology : To understand environmental functions and their relations to the human life. Environmental pollution and their effects and how to overcome the problems. Students can take environmental science as a subject for further studies.

CO3: Animal physiology: The major aim of this course is to provide student s with a basic understanding of the fundamental process and mechanisms that serve and control the various function of body.

CO4: Zoogeography: To understand the distribution of animals on earth in different regions. In addition to mapping the present distribution of animal species it also gives the knowledge of the evolutionary history and relationships of the animals.

CO5: Developmental biology: To understand the events that lead up to and comprise the process of fertilization. Be able to know about the macromeres , micromeres, mesomeres which form into specific cells in the embryo. This course provides scope to do research on different animal's developmental process.

CO6: Animal behavior: The study of social behavior and organization in animals. Sociobiology has emerged as a new approach to the study of animal behavior. The study of animal behavior has led to the modern synthetic view of animals living and behaving in their natural environment. It is final objective of all other branches of biology.

CO7: Evolution: to show how natural selection ultimately underpins all biological processes and how evolution has generated biological diversity. To outline the major transition in evolution, from origin of life to hominid evolution.

CO8: Genetics: To understand how inheritance of characters occur from parents to offspring. And also to deal with genetic disorders which during inheritance. Students can do further studies on how to overcome the problems of genetic disorders.

CO9: Fisheries: To promote effective fisheries management and improving standards of fisheries management. To provide technical and general knowledge necessary for fisheries management. The students can adapt this knowledge for self employment.

PROGRAM OUTCOMES:

B.S.C – MICROBIOLOGY , BOTANY , CHEMISTRY (MBC)

MICROBIOLOGY , ZOOLOGY , CHEMISTRY (MZC)

MICROBIOLOGY , BOTANY , ZOOLOGY (MBZ)

Through these programs , the students shall expertise in basic science , provides them opportunity to go for higher education , and also helps them to strive for employment in industries , diagnostics , quality control and research.

PROGRAM SPECIFIC OUTCOMES:

MICROBIOLOGY , BOTANY , CHEMISTRY (MBC),
MICROBIOLOGY , ZOOLOGY , CHEMISTRY (MZC) , MICROBIOLOGY , BOTANY
, ZOOLOGY (MBZ).

1. -Discover the different role of microbes in our daily life and apply basic Microbiology concepts to solve problems related to Microbiology issues.
2. Apply scientific methods for processes by formulating questions designing investigations for make scientifically based decisions
3. Integrate the different disciplines and understand the interdisciplinary approach to carry out research .
- 4 . Identify and discuss the importance of micro-organisms in both industry and public health.

COURSE OUTCOMES:

BS 104 -1st Year-1st Sem- Introductory Microbiology

-Students get on insight into historical aspects of micro-organism and Impact on human societies .

-Knowledge on control of micro-organisms by physical and chemical methods sterilization.

-Able to differentiate between Prokaryotic & Eukaryotic cells and explain the characteristics of bacteria , virus, fungi , protozoa & algae etc...

BS 204 II SEM Introductory Microbiology :

-Students understand the ultra structure of bacteria cell.

-students gain knowledge on biomolecules of organism.

-Give on insight on significance of pH & Buffers in biology & electrophoretic separation of molecule.

BS 304 III SEM - Microbial physiology & Enzymology:

-Students know how micro-organisms transport their substances into for out of their environment.

-Explain microbial growth, factors effecting microbial growth & methods to measure microbial growth.

-Explain how micro-organisms generate energy via aerobic and anaerobic ,methods of respiration.

-Understand the mechanism of Oxygenic & Anoxygenic photosynthesis in bacteria.

BS 404 IV SEM – Microbial Genetics and Molecular Biology:

-Gain insight into basics of microbial genetics like structure of nuclei types, types, modes of replication understand microbial genes , protein synthesis , genetic engineering for its application.

BS 505 V SEM – Immunology and Applied Microbiology :

-Basic understand of key components of different types of immunity , insight into cells for organs involved in immune response.

-Role of antigens , antibodies , in immune system for types of antigen-antibody reaction .

-Gain knowledge on significant role of microbes in environment , In soil , in solid waste disposal and in bio-degradation of environment pollutants.

BS 606 VI SEM – Medical Microbiology and Food Microbiology:

-Insight on microbial cause , pathogenesis , microbiology transmission , diagnosis , prevention and treatment of air borne , water borne , vector and blood borne infection.

-Gain knowledge on principles of diagnostic microbiology , understand the cultural , microscopic , for biochemical , molecular methods of identification of pathogens.

-Students understand the principle how micro-organisms cause spoilage , poisoning for significance of food preservation.

Programme: B.Sc Physical Sciences

Department of Mathematics

Course: B.Sc Physical Sciences

Program: Mathematics.

Mathematics Program Outcomes:

- Demonstrate basic manipulative skills in algebra, geometry, trigonometry, and beginning calculus
- Apply the underlying unifying structures of mathematics (i.e. sets, relations and functions, logical structure) and the relationships among them
- Demonstrate proficiency in writing proofs
- Communicate mathematical ideas both orally and in writing
- Investigate and apply mathematical problems and solutions in a variety of contexts related to science, technology, business and industry, and illustrate these solutions using symbolic, numeric, or graphical methods
- Investigate and solve unfamiliar math problems
- Classes develop student abilities and aptitudes to apply mathematical methods and ideas not only to problems in mathematics and related fields such as the sciences, computer science, actuarial science, or statistics, but also to virtually any area of inquiry.

Programme Specific Outcome of B.Sc., Mathematics:

- Think in a critical manner.
- Know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand.
- Formulate and develop mathematical arguments in a logical manner.
- Acquire good knowledge and understanding in advanced areas of mathematics and statistics, chosen by the student from the given courses.
- Understand, formulate and use quantitative models arising in social science, business and other contexts.

Course Outcome of B. Sc. Mathematics:

Course Outcome of Analytical Geometry 3D and Vector Calculus:

Students will able to

- Describe the various forms of equation of a plane, straight line, Sphere, Cone and Cylinder.
- Find the angle between planes, Bisector planes, Perpendicular distance from a point to a plane, Image of a line on a plane, Intersection of two lines
- Define coplanar lines and illustrate
- Compute the angle between a line and a plane, length of perpendicular from a point to a line
- Define skew lines
- Calculate the Shortest distance between two skew lines
- Find and interpret the gradient curl, divergence for a function at a given point.
- Interpret line, surface and volume integrals
- Evaluate integrals by using Green's Theorem, Stokes theorem, Gauss's Theorem.

Course Outcome of Theory of Equation, Theory of Numbers and Inequalities: Students will able to

- Describe the relation between roots and coefficients
- Find the sum of the power of the roots of an equation using Newton's Method.
- Transform the equation through roots multiplied by a given number, increase the roots, decrease the roots, removal of terms
- Solve the reciprocal equations.
- Analyse the location and describe the nature of the roots of an equation.
- Obtain integral roots of an equation by using Newton's Method.
- Compute a real root of an equation by Horner's method. • Illustrate the Division and Euclidean Algorithm
- Describe the properties of prime numbers
- Show that every positive integer can be expressed as product of prime power in unique way
- Write a formula for the number of positive integers less than n that are relatively prime to n
- Define congruences and describe the properties of congruences

- Find the Sum, product of all the divisors of N .
- Find the smallest number with N divisors.
- Solve the system of linear congruences
- State Chinese Remainder Theorem, Fermat's and Wilson's theorem.

Course Outcome of Complex Analysis: Students will able to

- Compute sums, products, quotients, conjugate, modulus, and argument of complex numbers.
- Calculate exponentials and integral powers of complex numbers.
- Write equation of straight line, circle in complex form
- Define reflection points, concyclic points, inverse points
- Understand the significance of differentiability for complex functions and be familiar with the Cauchy-Riemann equations.
- Determine whether a given function is analytic.
- Define Bilinear transformation, cross ratio, fixed point.
- Write the bilinear transformation which maps real line to real line, unit circle to unit circle, real line to unit circle.
- Find parametrizations of curves, and compute complex line integrals directly.
- Use Cauchy's integral theorem and formula to compute line integrals. • Represent functions as Taylor, power and Laurent series.
- Classify singularities and poles.
- Find residues and evaluate complex integrals, real integrals using the residue theorem.

Course Outcome of Modern Analysis: Students will able to

- Define countable, uncountable sets
- Write Holders and Minkowski inequality
- Define and recognize the concept of metric spaces, open sets, closed sets, limit points, interior point.

- Define and Illustrate the concept of completeness
- Determine the continuity of a function at a point and on a set.
- Differentiate the concept of continuity and uniform continuity
- Define connectedness • Describe the connected subset of \mathbb{R} .
- Define compactness.

Course Outcome of Linear Algebra: Students will able to

- Define Vector Space, Quotient space Direct sum, linear span and linear independence, basis and inner product.
- Discuss the linear transformations, rank, nullity.
- Find the characteristic equation, eigen values and eigen vectors of a matrix.
- Prove Cayley- Hamilton theorem, Schwartz inequality, Gram Schmidt orthogonalization process.
- Solve the system of simultaneous linear equations.

Course Outcome of Numerical Analysis: Students will able to

- Define Basic concepts of operators Δ , E , ∇
- Find the difference of polynomial
- Solve problems using Newton forward formula and Newton backward formula.
- Derive Gauss's formula and Stirling formula using Newton forward formula and Newton backward formula.
- Find maxima and minima for differential equation
- Derive Simpson's $1/3$, $3/8$ rules using trapezoidal rule
- Find the solution of the first order and second order equation with constant coefficient
- Find the summation of series finite difference techniques
- Find the solution of ordinary differential equation of first by Euler, Taylor and Runge-Kutta methods.

Course Outcome of Sequence and Series: Students will able to

- Define different types of sequence.
- Discuss the behaviour of the geometric sequence.
- Prove properties of convergent and divergent sequence.
- Verify the given sequence in convergent and divergent by using behaviour of Monotonic sequence.
- Prove Cauchy's first limit theorem, Cesario's theorem, Cauchy's Second limit theorem.
- Explain subsequence's and upper and lower limits of a sequence.
- Give examples for convergence, divergence and oscillating series.
- Discuss the behaviour of the geometric series.
- Prove theorems on different test of convergence and divergence of a series of positive terms.
- Verify the given series is convergent or divergent by using different test.

Course Outcome of Differential equations and its applications: Students will able to

- Extract the solution of differential equations of the first order and of the first degree by variables separable, Homogeneous and Non-Homogeneous methods.
- Find a solution of differential equations of the first order and of a degree higher than the first by using methods of solvable for p, x and y .
- Compute all the solutions of second and higher order linear differential equations with constant coefficients, linear equations with variable coefficients.
- Solve simultaneous linear equations with constant coefficients and total differential equations.
- Form partial differential equations.
- Find the solution of First order partial differential equations for some standard types.
- Use inverse Laplace transform to return familiar functions
- Apply Laplace transform to solve second order linear differential equation and simultaneous linear differential equations.

Department of Statistics

Course: B.Sc.

Program: Statistics.

Course Outcome of B. Sc. Statistics:

Course Outcome of Statistics: Students will able to

- Define Resultant, Component of a Force, Coplanar forces, like and unlike parallel forces, Moment of a force and Couple with examples.
- Prove the Parallelogram of Forces, Triangle of Forces, Converse of the Triangle of Forces, Polygon of Forces, Lami's Theorem, Varignon's theorem of moments.
- Find the resultant of coplanar couples, equilibrium of couples and the equation to the line of action of the resultant.
- Discuss Friction, Forces of Friction, Cone of Friction, Angle of Friction and Laws of friction.
- Define catenary and obtain the equation to the common catenary.
- Find the tension at any point and discuss the geometrical properties of a catenary.

Course Outcome of Statistics: Students will able to

- Define Moments Skewness and Kurtosis.
- Fit a straight line.
- Calculate the correlation coefficient for the given data.
- Compute Rank correlation for the given data.
- Define attributes, consistency of data, independence of data.
- Find index numbers for the given data.
- Define Probability, Conditional probability.
- Derive Baye's theorem.

DEPARTMENT OF CHEMISTRY

Programme Outcomes

PSO1 Have sound knowledge about the fundamentals and applications of chemical and scientific theories

PSO2 Every branch of Science and Technology is related to Chemistry

PSO3 Apply appropriate techniques for the qualitative and quantitative analysis of chemicals in laboratories and in industries.

PSO4 Will become familiar with the different branches of chemistry like analytical, organic, inorganic, physical, environmental

PSO5 Helps in understanding the causes of environmental pollution and can open up new methods for environmental pollution control.

PSO6 Develops analytical skills and problem solving skills requiring application of chemical principles.

PSO7 Acquires the ability to synthesize, separate and characterize compounds using laboratory and instrumentation techniques.

Programme Specific Outcomes

PSO-1. Gain the knowledge of Chemistry through theory and practical's.

PSO-2. To explain nomenclature, stereochemistry, structures, reactivity, and mechanism of the chemical reactions.

PSO-3. Identify chemical formulae and solve numerical problems.

PSO-4. Use modern chemical tools, Models, Charts and Equipments.

PSO-5. Know structure-activity relationship.

PSO-6. Understand good laboratory practices and safety.

PSO-7. Develop research oriented skills.

PSO-8. Make aware and handle the sophisticated instruments/equipments.

DEGREE SEMESTER I

Course Code: BS106

CHEMISTRY - I Total Hours: 60; Credits: 4; Hours/Week: 4

Course Outcomes:

S1-I-1: To know the shapes of molecules based on different hybridizations.

To study the MOED diagrams of homo and hetero nuclear diatomic molecules based on MOT theory.

S1-I-2: To study the structure of boranes and boron nitrogen compounds.

To know the about classification, structure and reactivity of carbides, silicones and nitrides.

S1-O-1: To study the structural theory of organic chemistry

S1-O-2: To know about acyclic hydrocarbons like alkanes, alkenes, alkynes and aromatic hydrocarbons

S1-P-1: To study the different principles involved in atomic structure and elementary quantum mechanics.

S1-P-2: To derive van der Waals' equation of state, and explain its significance

Explain critical phenomena and determination of critical constants

S1-P-3: To know about intermolecular forces and structural differences between solids, liquids and gases.

To Study and determination of viscosity and surface tension.

To know about different types of liquid mixtures and their distillation processes.

S1-G-1: To study about the general principles of inorganic qualitative analysis.

S1-G-2: To acquire some knowledge isomerism and conformational analysis.

S1-G-3: To study the laws of crystallography, Bravais lattices and to derive the Bragg's equation.

Laboratory Course I:

CHEMISTRY - I Total Hours: 45; Credits: 1; Hours/Week: 3

CO1. Analysis of two anions and two cations present in the given mixture by semi micro analysis.

SEMESTER II

Course Code: BS206

CHEMISTRY - II Total Hours: 60; Credits: 4; Hours/Week: 4

Course Outcomes:

S2-I-1: To study the types, structures and properties of oxides and oxyacids of IV to VII group elements and interhalogen compounds.

S2-I-2: To study about the Xenon and clathrate compounds.

S2-I-3: To know the characteristics of d-block elements

S2-O-1: To study the classification and chemical reactivity of halogen compounds.

S2-O-2: To study the preparation and properties of alcohols, phenols and ethers.

S2-O-3: To study the preparation methods and chemical reactivity of carbonyl compounds.

S2-P-1: To acquire some knowledge about electrical transport and different laws involved.

To study about different types of cells, emf and its applications.

S2-G-1: To through some knowledge about theory of quantitative analysis.

S2-G-2: To gain some knowledge about stereoisomerism (optical activity).

S2-G-3: To study about dilute solutions and colligative properties.

Laboratory Course II:

CHEMISTRY - II Total Hours: 45; Credits: 1; Hours/Week: 3

CO1. Quantitative analysis A. Acid base titrations B. Redox titrations.
C. Complexometric titrations.

SEMESTER III

Course Code: BS 306

CHEMISTRY-III Total Hours: 60; Credits: 4; Hours/Week: 4

Course Outcomes:

S3-I-1: To know the position and properties of lanthanides and actinides

S3-I-2: To study about the symmetry operations and symmetry elements in molecules with examples.

S3-I-3: To acquire some knowledge about nonaqueous solvents, reactions in liquid ammonia and HF.

S3-O-1: To study the preparation and properties of alcohols, phenols, ethers and epoxides.

S3-O-2: To study the preparation and properties of ethers and epoxides.

S3-O-3: To study the preparation methods and chemical reactivity of carbonyl compounds.

S3-P-1: To know about the terms involved in phase rule and study about one component and two component systems.

S3-P-2: To know about the colloids, their preparations, properties and applications

To study about the surface phenomenon and factors influencing.

S3-G-1: To study about the nano structured materials, their preparation and applications.

S3-G-2: To gain some knowledge about stereochemistry of carbon compounds.

S3-G-3: To know the classification of stereoisomers based on energy and their conformational analysis.

SEMESTER III

Course Code: BS 301

Skill Enhancement Course (Safety Rules in Chemistry Laboratory and Lab reagents)

Total Hours: 30; Credits: 2; Hours/Week: 2

CO1.To educate the students about the general rules and regulations for lab safety, to minimize risk of hazards

CO2.Preparation of lab reagents with some examples.

Laboratory Course III:

CHEMISTRY - III Total Hours: 45; Credits: 1; Hours/Week: 2

CO1.Quantitative analysis-I A. Acid base titrations B.Redox titrations.

SEMESTER IV

Course Code: BS406

CHEMISTRY IV: Total Hours:60; Credits: 4; Hours/Week: 4

Course Outcomes:

S4-I-1:To understand the key features of coordination compounds, VBT, and isomerism of the complexes.

S4-I-2: To know about the classification, preparation,properties and applications of OMC

S4-I-3: To know about the classification, preparation and properties of metal Carbonyls.

S4-O-1: To study about the carboxylic acids and their derivatives preparations and properties.

S4-O-2:To study about the carbanions and their synthetic applications.

S4-O-3:To study the preparation and properties of Nitroalkanes and Nitro benzene.

S\$-P-1.:To acquire some knowledge about electrical transport and different laws involved.

To study about different types of cells,emf and its applications.

S4-G-1:To study about the pericyclic reactions, their types, Symmetry properties.

S4-G-2:To study the terminology involved in synthetic strategies and linear convergent synthesis and retro synthetic analysis of some molecules.

S4-G-3: To study the definition, classification of stereo selective ,stereo specific ,enantioselective and diastereo selective reactions.

Laboratory Course IV:

CHEMISTRY - IV Total Hours: 45; Credits: 1; Hours/Week: 2

CO1. Quantitative analysis-II Conductometric and Potentiometric acid base titrations.

CO2.Estimation of Nickel by Back titration method.

CO3.Estimation Barium as barium sulphate.

SEMESTER V

Course Code: BS505

CHEMISTRY V :Total Hours: 45; Credits: 3 Hours/Week: 3

Course Outcomes:

S5-I-1:To understand crystal field theory and splitting pattern of d-orbital in different geometries.

By using CFT to know the magnetic properties ,electronic spectra of metal complexes.

To describe the thermo dynamic and kinetic stability of the metal complexes.

To become familiar with some applications of coordination complexes.

S5-I-2: To provide knowledge of some specialized areas of inorganic chemistry (Boranes and Carborenes) and their structures.

S5-O-1: To study the nomenclature, classification, preparation, physical and chemical properties of amines, cyanides and isocyanides.

S5-O-2:To study types of heterocyclic compounds, aromatic character, resonance structures and some chemical reactions.

S5-P-1:To provide evidence for the mechanisms of chemical processes, to determine order and molecularity, effect of catalyst and theories involved.

S5-G-1:To study about the various types of molecular spectra like rotational spectroscopy, IR spectroscopy and Electronic spectroscopy

S5-G-2:To know about the laws involved in photochemistry, quantum yield and some photo chemical reactions.

Course Code: BS508A

CHEMISTRY VI : Instrumental Methods of Analysis:Total Hours: 45; Credits: 3 Hours/Week: 3

Course Outcomes:

S5-E-A-I:To study about solvent extraction,principles and classification of different chromatographic methods,TLC and Paper chromatography.

S5-E-A-II :To study about the principle, types ,method and applications of column, ion exchange, gas and high performance liquid chromatography.

S5-E-A-III:To know about the terms involved in spectroscopy, Lambert Beers law, instrumentation of UV visible,IR spectrophotometers.

S5-E-A-IV:To study about the types of electro analytical methods, interfacial method And bulk methods.

Laboratory Course :(Organic Chemistry)

CHEMISTRY - V Total Hours: 45; Credits: 1; Hours/Week: 2

CO1.synthesis of organic compounds.

CO2.Thin layer Chromatography

Laboratory Course (Physical Chemistry):

CHEMISTRY - VI Total Hours: 45; Credits: 1; Hours/Week: 2

CO1. A.Distribution law, B. Electrochemistry C. Colorimetry D. Adsorption E. Physical Constants.

SEMESTER VI

Course Code: BS605

CHEMISTRY VII: Total Hours: 45; Credits: 3 Hours/Week: 3

Course Outcomes:

S6-I-1:To acquaint the student with different types of inorganic reaction mechanisms.(SN1,SN2,Trans effect).

S6-I-2:To gives some knowledge about basic principles of bioinorganic chemistry, essential elements, structure and functions of hemoglobin and chlorophyll.

S6-I-3:To predicts the feasibility of the reaction and stability of compounds based on HSAB principle.

S6-O-1:To study about the classification, nomenclature, chemical properties and structural elucidation of carbohydrates.

S6-O-2:To study the types, methods of synthesis and chemical properties of amino acids and proteins.

S6-P-1:Thermodynamics-I:To prove the relationship between energy, work and heat .Definition of first and second law of thermo dynamics, Cp and Cv,Kirchoff's equation and Carnot's theorem

S6-G-1: To study about the principles involved in PMR with some examples.

S6-G-2:To study about the basic principles involved in mass spectrometry, types of ions and peaks, determination of molecular weight mass spectrum of some examples.

S6-G-3:Thermodynamics-II:To study in detail about entropy its changes in different processes ,Gibb's and Helmholtz functions.

Course Code: BS608A

CHEMISTRY VIII : Medicinal Chemistry: Total Hours: 45; Credits: 3 Hours/Week: 3

Course Outcomes:

S6-E-A-I:To study about the types of diseases, terminology involved, nomenclature, classification, therapeutic activity of drugs , ADME

S6-E-A-II:To know about enzymes and receptors, their mechanisms.

S6-E-A-III:To study about the synthesis and therapeutic activity of chemotherapeutics, drugs to treat metabolic disorders and drugs acting on the nervous system with some examples.

S6-E-A-IV:To gain some knowledge about molecular messengers and health promoting drugs.

SEMESTER VI

Course Code: BS601

Chemistry Of Cosmetics &Food Processing: Total Hours: 30; Credits: 2 Hours/Week: 2

CO1.a general study on preparation and uses of some cosmetics like hair spray ,sun screen lotions, creams, essential oils etc.

CO2.To throw some knowledge to the students about methods of food processing and food adulteration.

Laboratory Course :

CHEMISTRY - VII Total Hours: 45; Credits: 1; Hours/Week: 2

CO1.Qualitative and spectral analysis of organic compound

Laboratory Course (Physical Chemistry)

CHEMISTRY - VIII Total Hours: 45; Credits: 1; Hours/Week: 2

CO1. A.Kinetics

B.Electro chemistry

C.Conductometry

a.Potentiometry

b.P^H metry

Department of Computer Science & Applications (2018-19):

S.No	Programs Offered	Program Outcomes	Program Specific Outcome
1	MPCS	<p>➤ Objective: 1.To inculcate enthusiasm in the core subjects Math's, Physics & Computer Science along with the languages to meet the curriculum designed by University.</p> <p>➤ Outcome: 1. Generating students with overall skill ability catering wide career opportunities globally and also meeting the requirements of industries. 2. Advanced learning techniques for students aiming to be a part of various research institutes were carried out by each of the science faculties.</p>	1. Advanced learning techniques for students aiming to be a part of various research institutes were carried out by each of the science faculties.
2	MSCS	<p>➤ Objective: 1.To inculcate enthusiasm in the core subjects Math's, Physics & Chemistry along with the languages to meet the curriculum designed by University.</p> <p>➤ Outcome: 1. Generating students with overall skill ability catering wide career opportunities globally and also meeting the requirements of industries. 2. Advanced learning techniques for students aiming to be a part of various research institutes were carried out by each of the science faculties.</p>	1. Advanced learning techniques for students aiming to be a part of various research institutes were carried out by each of the science faculties.

S No	Courses Offered	Courses Outcomes
1	Paper – I : Programming in C	Computer Fundamentals: 1.to know the basics of computer and the fundamentals of C programming 2.Program Fundamentals: the role of control statements (conditional and iterative) and the importance of arrays in C. 3.working with different types of functions and usage of pointers in Array's 4.need of user defined types and working with files.
2	Practicals – I : Programming in C	Programs related to operators,control statements, arrays,strings,structures,unions,functions,enum,Files ,pointers concepts
3	Paper – II: Programming in C++	1.Introduction to C++, Functions,OOP concepts 2.Working with classes, objects and constructors 3. to know the need of Inheritance, Polymorphism and virtual functions. Writing programmes with OOPS concepts 4.to work with exceptions and templates in CPP.
4	Practicals – II : Programming in C++	Programs related to C++ Basics, Functions,OOP concepts
5	Paper – III : Data Structures	1: Fundamental concepts of Data Structure and the introduction to algorithm, pseudo code and flow charts. 2. working with Stack, Queue and Linked List (Singly Linked List, Double Linked List , Linear and Circular Linked List). 3. Writing Programs using different types of Trees and Graphs.

		4. Working with Searching and Sorting Techniques.
6	Practicals – III : Data Structures	Programs related to Linear and Non Linear Data Structures
7	Paper – IV : DBMS	<p>1: Introduction to Database Systems and the relational algebra.</p> <p>2. Working with structured Query Language (SQL), DDL, DML Commands and Advanced SQL.</p> <p>3. to learn the concepts of Entity Relationship model, Normalisation and importance.</p> <p>4. The Concepts of Transaction Management, Database Architecture, concurrency control and security in Database system.</p>
8	Practicals – IV DBMS	Oracle(SQL Queries and PL/SQL programs)
9	Paper – V : Programming in Java	<p>1.Java fundamentals,inheritance concepts</p> <p>2.packages,exception handling,multi threading,I/O streams</p> <p>3.Letting the students know about GUI programming,database connection using jdbc</p>
10	Practicals – V: Programming in Java	Programs related to java basics,packages,exception handling,multithreading,i/o streams,awt,jdbc
11	Paper – VI : Operating Systems	<p>1. Operating System Basics,semaphores,monitors</p> <p>2.CPU scheduling algorithms,Deadlock concepts</p> <p>3.Memory Management,RAID</p>

12	Practicals – VI : Operating Systems	Example problems on deadlocks and resource allocation graphs, example problems on scheduling,page replacement algorithms
13	Paper – VII : Computer Networks	1.Networks Fundamentals,OSI Layers 2.Data link layer,Switching 3.Networking&internetworking devices,routing algorithms,Transport Layer,Upper OSI LAYERS
14	Practical – VII : Computer Networks	Programs related to networks
15	Paper – VIII : Web Technologies	1.Web page design using HTML 2. Cascading Style Sheets(CSS) 3.to develop interactive web pages using Java script
16	Practicals – VIII : Web Technologies	Example programs on Designing the web site

PROGRAMME OUTCOMES: B. Com Computer Applications

Department of Computer Applications	After successful completion of three year degree program in Computer Applications a student should be able to:
Programme Outcomes	1) Get employment in IT fields, Software, Banks, Companies, BPOs and KPOs. 2) Possescompetent skills in areas like MIS Databases, E-Commerce and IT. 3) develop a programme for system based applications and web page creation for business enterprises.
Programme Specific Outcomes	1)Understand the concepts of Computer application operations. 2)Apply the current techniques, skills, and tools necessary for computing practices. 3)Ability to design, implement domain knowledge for computer programming.

Course Outcomes: BSc. Computer Applications

Course	Outcomes
Information Technology- Theory	1)To know basic knowledge about Computer Systems and Information Technology. 2)To explain the details about Hardware and Software.

	<p>3)To gain knowledge in types of computer system</p> <p>4) Write up the components of computers input, output and storage devices.</p> <p>5) To learn about the operating systems.</p> <p>6) Understand the system analysis and design.</p>
Information Technology- Practical	<p>1) Demonstrate the various Menus and its operating usage in Ms Word.</p> <p>2)Write up Ms Excel along with practical usage like preparation of final accounts by using formulae and different types of charts.</p> <p>3)Creation of various slides with different formats with the help of Ms PowerPoint.</p> <p>4) Formation of payroll for employee and creation of forms and reports by using Ms Access.</p> <p>5) Preparation of trial balance, profit and loss account and balance sheet</p> <p>6) Learn to use search engines and visit various websites.</p>
Database Management System	<p>1) Elucidation of Database system architecture and corresponding operations.</p> <p>2)The relational approach and special relational operations</p> <p>3)The Embedded SQL in detail.</p> <p>4)To write up the Hierarchical Approach.</p> <p>5)To give a detailed note on Distributed database approaches.</p>
Object Oriented Programming with C++	<p>1)To know the proper lines of C++, Encapsulation, Inheritance and Polymorphism.</p> <p>2) To explain the various data types, operations and functions of C++.</p> <p>3) To know the concept of constructors and destructors.</p>

	<p>4)To explain the concept of inheritances, types of inheritance and polymorphism, virtual Functions.</p> <p>5) To explain the types of streams, format and format of input and output operations.</p>
Management Information System	<p>1)Awareness of utilization of business.</p> <p>2) Knowledge about the system concepts used in information system.</p> <p>3) To know the information systems in business and management.</p> <p>4) Define the database management system.</p> <p>5) Write up the functional management information system.</p>
Web Technologies	<p>1)Familiarity about the web designing.</p> <p>2) Usage of the HTML tags, DHTML, XML and Java Script.</p> <p>3) To use the lists and add images in HTML.</p> <p>4) Creating a link within a web page and creating a table.</p> <p>5) Create links to Video Files.</p>
E-Commerce	<p>1)To define about E-Commerce, Types and components of I way.</p> <p>2) To explain Electronic Data Interchange and Work flow automation</p> <p>3) To define Network Firewall Security and Client Server Security.</p> <p>4) To explain Consumer Oriented Application and mercantile Oriented Application.</p> <p>5) To define electronic payment systems and smart card and Credit Card</p>

Department of Physics :

S.No	Programs Offered	Program Outcomes	Program Specific Outcome
1	MPC (EM)	<p>➤ Objective: 1.To inculcate enthusiasm in the core subjects Math's, Physics & Chemistry along with the languages to meet the curriculum designed by University.</p> <p>➤ Outcome: 1.Generating students with overall skill ability catering wide career opportunities globally and also meeting the requirements of industries. 2.Advanced learning techniques for students aiming to be a part of various research institutes were carried out by each of the science faculties.</p>	<p>PSO1.Advanced learning techniques for students aiming to be a part of various research institutes of Chemistry,Mathematics and Physics were carried out by each of the science faculties.</p>
2	MPC (TM)	<p>➤ Objective: 1.To inculcate enthusiasm in the core subjects Math's, Physics & Chemistry along with the languages to meet the curriculum designed by University.</p> <p>➤ Outcome: 1.Generating students with overall skill ability catering wide career opportunities globally and also meeting the requirements of industries. 2.Advanced learning techniques for students aiming to be a part of various research institutes were carried out by each of the science faculties.</p>	<p>PSO1.Advanced learning techniques for students aiming to be a part of various research institutes of Mathematics ,Physics and chemistry were carried out by each of the science faculties.</p>

3	MPCs (EM)	<p>➤ Objective: 1.To inculcate enthusiasm in the core subjects Math's, Physics & Computer Science along with the languages to meet the curriculum designed by University.</p> <p>➤ Outcome: 1.Generating students with overall skill ability catering wide career opportunities globally and also meeting the requirements of industries.</p> <p>2. Imparting technical curriculum with orientation towards the trending technologies in the era of IT Industry.</p>	<p>PSO1.Advanced learning techniques for students aiming to be a part of various research institutes of Mathematics,Coputer Science and Physics were carried out by each of the science faculties.</p> <p>PSO2.Imparting technical curriculum with orientation towards the trending technologies in the era of IT Industry.</p>
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S.No	Courses Offered	Courses Outcomes
1	Mechanics	<p>After successful completion of course:</p> <p>CO1. Electrical field divergence and Curl of magnetic field vector by Gauss divergence theorem and Greens theorems.</p> <p>CO2. Applications of Relativistic mechanics and four vector formalism in perturbation theory of quantum mechanics.</p> <p>CO3. Applications of Relativistic mechanics and four vector formalism in perturbation theory of quantum mechanics.</p> <p>CO4.Applications of Newtonian mechanics to various problems like rocket,rotational vectors, precessional motion and coriolis force.</p>
3	Waves and Oscillations	<p>CO1:To Simple pendulum, Torsional pendulum and compound pendulum. Volume resonator,Sonometer and Melde's experiment</p> <p>CO2;Longitudinal vibrations in bars- wave equation and its general solution. Special cases (i)bar fixed at both ends ii) bar fixed at the mid point iii) bar free at both ends iv) bar fixed at one end.</p>

5	Thermodynamics	<p>After successful completion of the course, the student is expected to</p> <p>C01: Become familiar with various thermodynamic process and work done in each of these process.</p> <p>C02: Have a clear understanding about Reversible and irreversible process and also working of a Carnot engine, and knowledge of calculating change in entropy for various process.</p> <p>C03: Realize the importance of Thermo dynamical functions and applications of Maxwell's relations.</p> <p>C04: Familiarize in depth about statistical distribution and have basic Ideas about Maxwell Boltzman, Bose-Einstein and Fermi Dirac Statistics and their applications</p>
7	Optics	<p>CO1. All the applications of the explained phenomenon through experimental approach. Determination of diameter of wire-Newton's rings in reflected light.</p> <p>CO2. All the applications of the explained phenomenon through experimental approach. Resolving Power of grating, LASER diffraction (wavelength)</p> <p>CO3. Polarimeter – specific rotation of polarized light.</p>
9	Electromagnetism	<p>After successful completion of the course, the student is expected to : After successful completion of the course, the student is expected to : C01: Have gained elaborated knowledge about electrostatics and laws governing the charge distribution</p> <p>C02: Have gained ability to apply Laplace equation for calculating potentials.</p> <p>C03: Study in depth about Polarization, bound charges and boundary condition. C04: To realize the importance of application of Biot Savarts Law and Amperes law. C05: To understand the relevance of different magnetization and the boundary condition of magnetic field</p>
11	Solid state physics	<p>After successful completion of the course, the student is expected to : C01: Have a clear picture of crystal structures and a clear understanding about x-ray diffraction</p>

		<p>C02:Expected to gain knowledge of superconductivity,,its underlying principles and its applications in modern world C03:Become familiar with molecular spectroscopy and have gained basic ideas regarding microwave spectroscopy, infrared spectroscopy and Raman Spectroscopy. C04:Have gained basic knowledge of laser and working of different type of lasers</p>
13	Modern Physics	<p>After successful completion of the course, the student is expected to: C01: To become familiar with Blackbody radiation, Ultraviolet catastrophe,PhotoElectric effect and Compton Effect and hence be aware how quantum theory emerged</p> <p>C02:Have gained a clear knowledge about wave properties of particles,De Broglie waves and its implications on the uncertainty principle.</p> <p>C03: Study the Bohr Atom model in detail and understand about atomic excitations C04:Have grasped the idea of Wave Mechanics and gain the concept of eigen values, eigen functions and learn the basic postulates of quantum mechanics</p> <p>C05:To find solution to Schrödinger’s equation for many systems such as particle in a box, Hydrogen Atom and familiarize with different quantum numbers.</p>

15	Basic Electronics	<p>After successful completion of the course, the student is expected to CO1:have a basic knowledge of semiconductor physics</p> <p>CO2: acquire knowledge about how a semiconductor diode rectifies an input ac signal</p> <p>CO3 Learn how to construct a transistor amplifier and how its gain varies with frequency</p> <p>CO4 know about various number systems and their applications, flip flops and counters.</p>
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Programme: BA

DEPARTMENT OF ECONOMICS

**PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE
OUTCOMES**

Program Outcome	The study of economics provides valuable knowledge for making decisions in everyday life. Economics helps people to plan all the aspects of life systematically like income, expenditure balancing in the family members time management, work management regarding saving investment etc. Economics is the study of how societies, governments, businesses, households, and individuals allocate their scarce resources.
Program Specific Outcome	Through conducting guest lectures, workshops, poster presentations, seminars, quiz competition and field trips activities it enables students to learn economics, particularly of their practical experience in economic reasoning and understanding.
Course: B.A. ECONOMICS	Outcomes
Micro Economics	Students will be able to understand supply and demand analysis, consumer behaviour, production, costs etc.
Macro Economics	To get knowledge regarding the concept of national income, employment theories (classical, modern), investment, consumption, interest theories, supply of money and demand for money, inflation and business cycle.
Public Finance	Student understood the various concepts of public finance like public revenue, public expenditure, public debt, public debt, federal finance, taxes etc.
Development Economics	To get knowledge about the development theories and growth models.
Indian economy	It makes learners to understand the economic functioning and conditions of our country in the context of past, present and future.
International Trade	Enable the students the pattern and nature of international trade and their contribution to economic development. It also enables learners to know the role of public authorities in raising revenue and its spending.

DEPARTMENT OF POLITICAL SCIENCE

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES & COURSE OUTCOMES

Program Outcomes	The study of Political Science provides understanding the inter relationship between policy decisions and its effects on society. This is achieved through a comprehensive teaching of the practice of Public Administration in India
Program Specific Outcomes	Understanding the nature and developments in national and International politics, analysing the Indian Constitutional provisions, major legislations, reforms, Indian Foreign relations
Course B.A Political Science	Outcomes
Political Theory	Analysing what is politics and explaining the approaches to the study of political science- Normative, Behavioural
Comparative Government and Politics	Tracing the evolution of Comparative politics as a discipline and drawing a distinction between comparative politics and Government
Government and Politics in India	Introducing the Indian Constitution with a focus on the role of the constituent Assembly and Preamble
International Relations	Explaining Scope and subject matter of International Plans as an autonomous academic
Western Political Thought	Ancient Greek thought, Aristotle, Plato, Roman Political thought
Indian Political thought and Movement	Tracing the evolution of Indian Political thought from ancient India to modern India

PUBLIC ADMINISTRATION

Programme Outcome:

The board objectives of the Undergraduate Programme in Public Administration include:

- Understand public administration theory and concepts from multiple perspectives;
- Acquaint with the functioning of the Indian administration, at central, state and local levels and the responses of these systems in addressing the concerns of the people;
- Acquaint with India's development experience and changing role of administration;
- Understand the interface of theory and practice in Public Administration;
- Develop conceptual, analytical and problem solving abilities among the learners;
- Acquaint the learner with the required knowledge of administrative science and government in action and the contemporary issues in public affairs management and,
- Understand the world of public administration from the public perspective and provide foundation for further studies in Public Administration
- Understand the role of Public Services in the new State of Telangana.

Programme specific Outcome:

- Make the learner to understand the nature and role of Public Administration in the changing socio-economic and political context and in the historical background
- Understand the impact of political dynamics on administrative processes;
- Relate the role of public administration to the dynamics of global context;
- Motivate the students to appear for civil service examinations.

BA I Year

Course-1: Introduction to Public Administration- Basics of Public Administration

The Objectives of the Course are:

1. To understand the nature and scope of Public Administration;
2. To appreciate the methodological pluralism and synthesizing nature of knowledge in Public Administration;
3. To comprehend the changing paradigms of Public Administration;
4. To acquaint with the theories, approaches, concepts and principles of Public Administration;
5. To understand the administrative theories and concepts to make sense of administrative practices.
6. To understand the role of public services in the emergence and development of Telangana state

BA II Year

Course-II: Indian Administration-: Union Administration-State Administration and Development Dynamics and Emerging Trends .

The Objectives of the Course are

1. To understand the historical evolution and socio-economic, political, cultural and global context of Indian Administration;
2. To identify the transformative role of Indian Administration;
3. To make out the multi-dimensionality of problems and processes of Indian Administration;
4. To understand the form and substance of Indian Administration; and
5. To appreciate the emerging issues in Indian Administration in the context of changing role of state, market and civil society.
 - Appreciate the varying historical, socio-economic, political and other conditioning factors that gave Indian Administration its distinct nature to the learner

BA III Year

Course-III: Human Resources Management-Financial and Material Resources Management

The Objectives of the Course are:

1. To comprehend the nature, scope, structure & processes of human resource management;
2. To identify the systems and processes of financial and material management;
3. To appreciate institutional capacity building strategies and programmes; and
4. To understand the changing paradigms of Resources management.

BA 607 Semester-VI: Financial and Material Resources Management

Expected Outcomes

After study of the course, the learner should be able to:

- Understand the way in which the public power is exercised and public resources are managed and expanded;
- Unravel the varying methods of performance assessment of public institutions; and
- Appreciate the changing paradigms of human resource management.

BA III Year

Course-IV : Public Office Administration (DSE-C)- Technology and Office Administration

The Objectives of the Course are:

1. To understand the concept of Office;
2. To comprehend the administrative process in office;
3. To identify the challenges of public office administration in the background of ICT
4. To sketch out the impact of technology in office administration.

BA 608/C Semester-VI: Technology and Office Administration

Expected Outcomes

After study of the course, the learner is expected:

- Understand the meaning and related concepts of Office and office management;
- Explain the filing and record management
- Identify the issues and challenges in functioning of public office.

Department of History- Program out come and Specific out come::

Program out come	The subject history is one of the important subject of the social sciences. It needs to identify and create practical knowledge on understanding the history of local, regional, and international levels. It is must for every human being in general and every citizen in particular should known the past events held in a particular region or place relating to social, , economic, political and other aspects to represents present and future
Specific Out come	To train the students in understanding relevance of history in current society. History is the subject having different branches it deals, people, races, cultures, traditions, customs, faiths, beliefs, social, political, art , architecture, literature and administration changes taking place from time to time. It was the subject which pass heritage of a nation from one generation to next generation and developments in the different civilizations. History is the subject which deals about human beings and activities of past generations. Creating knowledge about map point, geographical variations, natural resources about a country or region. Due to threat coming from professional studies, try to increasing the relevance of history not only as a higher studies purpose but also to make student prepare for job related examinations.
BA-History	Out come
Periods	History study deals with different periods to understanding it .
Ancient I-BA	History of India from Early period to 1526 CE up to End of Delhi sultanate covers various developments in the culture, civilizations of Indus, Aryans, and administration of Muryas, Guptas, Rajapuths, and Invasions of Arabs, Ghazani, Ghori invasions, Delhi sultanate foundations , Influence of Islam in Indian society etc Taught in the ancient period.
Medieval II-BA	Medieval period from 1526 to 1857 CE deals about Mughuls history and Marathas history along with advantage of European merchant companies their struggle, trade and commercial activities and annexation of India from 1757 onwards etc deals in the medieval period. Along with introduction of western administration, reforms in social, religious, educational systems. Studies in this periods
Modern II-BA	The modern period starts from 1858 to 1964 CE deals about social reform movement. National movement, Political awakening struggle for independence, role of National leaders contribution, and also constitutional developments etc.
World and European III-BA	This paper deals from the 1453 - 1950 CE deals about renaissances in Europe Industrial Revolution and revolutionsssss in England, France, unifications of Germany, Italy East Europe revolutions, first and second world wars studies in the paper. Also deals about peace organisations League of Nations, UNO etc. Role of national movements in India and China also taught.
Relevance	The students who studies about the history in UG level have a broad idea of understanding history subject to make it useful to empower themselves by acquiring moral, ethical, professional values with the subject knowledge to become a responsible citizen of India.

Programme: B.Com

DEPARTMENT OF COMMERCE

PROGRAMME OUTCOMES

1. PROGRAMME OUTCOMES : B. COM

Department of Commerce	After successful completion of three years degree programme in Commerce, a student should be able to :
Programme outcomes	<ol style="list-style-type: none">1. To develop problem solving abilities in real life accounting in business.2. To make the students competent to prepare the Financial Statements in real life business
Programme specific outcomes	<ol style="list-style-type: none">1. To be able to prepare Articles with Chartered Accountants, Company Secretaries, Cost Accountants, etc.2. To be able to perform well and succeed in competitive examinations and get government jobs like JAOs, JPOs, etc.

COURSE OUTCOMES : B. COM

COURSE	OUTCOMES
B. COM (GENERAL)	<ol style="list-style-type: none">1. To make the students competent to prepare the Financial Statements in real life business2. To be able to prepare Articles with Chartered Accountants, Company Secretaries, Cost Accountants, etc.3. To be able to perform well and succeed in competitive examinations and get government jobs like JAOs, JPOs, ASOs, etc.
B. COM (COMPUTER APPLICATIONS)	To make the student prepare and succeed to get jobs in software field along with accounting like TALLY PACKAGE, WINGS, FOCUS, etc.
B. COM VOCATIONAL (TAX PROCEDURES)	To make the students successfully become Tax Consultants and be able

	to file Income Tax Returns ,GST, SALES TAX, TENDER DOCUMENTS PREPARATION.
BUSINESS LAW	To make the students to be able to succeed in LAW CET and become successful lawyers.
COST ACCOUNTING	To make the students become successful in ICWA
CORPORATE ACCOUNTING	To help the students reach the top level management and make successful business decision makers in the corporate world
INSURANCE	To help the students to get successful in the Insurance field
BUSINESS STATISTICS	To make students become successful statisticians and become Assistant Statistical Officers in the Government Sector

BBA

Department of BBA	After successful completion of three years degree programme in Bachelor of Business Administration, a student should be able to :
Programme outcomes	<ol style="list-style-type: none"> 1. To develop problem solving abilities in real life business administration. 2. To make the students competent to reach to the top management like HR, General Manager, Financial Manager, etc. in real life business
Programme specific outcomes	To face competitive examinations like ICET and get into MBA.
COURSE	OUTCOMES
MARKETING MANAGEMENT	To help the students thoroughly understand the market structures, trends in markets, etc. and be able to succeed in ICET
FINANCIAL MANAGEMENT	The students will be able to become successful Financial Managers in the practical business world.
HUMAN RESOURCE MANAGEMENT	To help students become successful HR managers in employment with skills like Labour Management, Industrial Relations, Performance Appraisals, etc.
BUSINESS ECONOMICS	To help students become successful economists and contribute will to the economy of the country.
ORGANISATIONAL BEHAVIOUR	To make the students able to study the various organizational behavioural patterns in the real world.

DEPARTMENT OF ENGLISH

I YEAR B.A., B.Com & B.Sc

PROGRAMME OUTCOMES:

Fiction, Pronunciation, Grammar, Vocabulary, Spelling, Punctuation, Conversation, Reading Passage, Writing, Soft Skills, Value Orientation, Prose, Poetry, Drama.

PROGRAMME SPECIFIC OUTCOMES:

Educated youngsters learn good English for success in their professional and personal lives.

English text courses are keeping in view the real life, contextual aspects of language through a task- based syllabus.

COURSE OUTCOMES:

Soft skills component and thought provoking value orientation to channel the energy of the youth in a positive direction.

The text is learner centric. Emphasis is to make the learners perform all the LSRW Skills in the class.

II YEAR B.A., B.Com & B.Sc

PROGRAMME OUTCOMES:

Poem, Prose, Vocabulary, Grammar, Prepositions, Voice, Phrasal Verbs. Concord, Idioms, Determiners, Framing questions, Relative Clauses, Writing film review, Technical Vocabulary, CV, Common Errors.

PROGRAMME SPECIFIC OUTCOMES:

The Text is with the Specific aim to encourage the learners to think beyond the text. The Text acknowledges critical thinking capabilities.

The emphasis is on “how the language is used”.

The text aims and equips the students to engage with the practical, emotional, intellectual and creative aspects of language by integrating knowledge and skills.

COURSE OUTCOMES:

It is hoped that the students will find them interesting to read, the teacher will find suitable for teaching in the classroom and examiners will find substantive for testing in examinations.