2.6.1: Teachers and students are aware of the stated Programme and course outcomes of the Programmes offered by the institution (UNDER SINGLE MAJOR PROGRAMMES).

PROGRAMME NAME : BACHELOR OF SCIENCE IN CHEMISTRY (HONOURS)

Course outcomes

SEMESTER – I			
Course Title		After completion of the programme a student is able	
	MAJOR	CO 1	To explain the basic principles and concepts underlying a broad range of fundamental areas of chemistry and to connect their knowledge of chemistry to daily life
		CO 2	To understand the principles and techniques used in computer aided drug design and drug delivery system
		CO 3	To apply the fabrication techniques and working principles of nano -resources
		CO 4	To explore the effects of chemical pollutants on ecosystem and human health
SEMESTER – II			
	MINOR – 1	CO 1	To understand the nature and properties of ionic compounds
		CO 2	To explain the existence of special types of compounds through weak chemical forces
		CO 3	To define acids and bases and predict the nature of salts
		CO 4	To apply common ion effect, solubility product and concepts related to qualitative analysis

PROGRAMME NAME : BACHELOR OF SCIENCE IN ZOOLOGY (HONOURS)

PROGRAMME OUTCOMES

Programme Name			After completion of the programme a student is able to
B.Sc. (ZOOLOGY)		PO 1	Understand the nature & basic concepts of cell biology, genetics, physiology, biochemistry, ecology, evolutionary biology, developmental biology & applied & economic zoology.
		PO 2	Analyse the relationships among animal, plants & microbes
		PO 3	Perform procedures as per laboratory standards in the array of physiology, ecology, cell biology, genetics, applied zoology, chemical science, Tools & techniques of zoology, toxicology, entomology, nematology, sericulture, biochemistry, fish biology, animal biotechnology
		PO 4	Gains knowledge about effective communication skills & problem-solving methods

COURSE OUTCOMES

SEMESTER – I			
Course Title			After completion of the programme a student is able to
Introduction to classical biology	MAJOR	CO 1	Students gain knowledge & skills in the fundamentals of animal sciences, understanding the complex interactions among various living organism
		CO 2	Analyse complex interactions among the various animals of different phyla, their distribution and their relationship with the environment
		CO 3	Understand the complex evolutionary process of animals and the behaviour of animals
		CO 4	Understand the application of biological sciences in apiculture, aquaculture, sericulture, animal husbandry, poultry farm
SEMESTER – II			
Biology of non-chordates (Invertebrates)	MAJOR - 1	CO 1	Describes general taxonomic rules on animal classification
		CO 2	Classify phylum protozoa to Echinodermata with taxonomic keys
		CO 3	Imparts conceptual knowledge of invertebrates & their relation to environment
		CO 4	Get the knowledge of structural differences with different phyla & their gradual evolutionary developments from lower to higher animals
Cell biology	MAJOR - 2	CO 1	The learner will understand the importance of cell as a structural and functional unit of life
		CO 2	The learner understands and compares between the prokaryotics eukaryotic system and extrapolates the life to the aspect of development
		CO 3	The dynamism of bio membranes indicates the dynamism of life. Its working mechanism and precision are responsible for our performance in life
		CO 4	The cellular mechanisms and its functioning depend on endo-membranes and structures
Biology of non-chordates (Invertebrates)	MINOR	CO 1	Describes general taxonomic rules on animal classification
		CO 2	Classify phylum protozoa to Echinodermata with taxonomic keys
		CO 3	imparts conceptual knowledge of invertebrates & their relation to environment
		CO 4	Get the knowledge of structural differences with different phyla & their gradual evolutionary developments from lower to higher animals

PROGRAMME NAME : BATCHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY (HONOURS)

Programme outcomes

Programme Name			After completion of the programme a student is able to
B.Sc. (FOOD SCIENCE & TECHNOLOGY		PO 1	Develop critical thinking regarding evaluating contemporary food information
		PO 2	Programme is designed to provide practical and theoretical training on the conversion of edible products into processed and packed food which shelf life
		PO 3	It ensures food availability in extreme condition
		PO 4	Provide healthy and safe food to the public

Course outcomes

SEMESTER – I			
Course Title			After completion of the programme a student is able to
Introduction to food science and nutrition	MAJOR 1	CO 1	Definition of nutrition, nutrients and food
		CO 2	Physiological, social, psychological and emotional
Health, Hygiene and wellness	MAJOR 2	CO 3	Health and wellness – definition and meaning
		CO 4	Factors affecting health and wellness
SEMESTER – II			
Food biochemistry	MAJOR - 1	CO 1	Definition structure and isomerism (planning & implementing menu planning based on individual)
		CO 2	Digestion and absorption of carbohydrates
Human nutrition	MAJOR - 2	CO 1	Introduction of human nutrition
		CO 2	Basic definition of nutrition, health and nutrients
Introduction to food and beverage service – II	MINOR	CO 1	To prepare students for a carrier in F & B department
		CO 2	Teach students professional behaviour to face the fastest growing industry in world
		CO 3	Provide understanding of quality service to the guest
		CO 4	Develop nutritional menu for food service production

PROGRAMME NAME : BATCHELOR OF ARTS IN TOURISM AND TRAVEL MANAGEMENT (HONOURS)

Programme outcomes

Programme Name			After completion of the programme a student is able to
BA (TOURISM AND TRAVEL MANAGEMENT		PO 1	To understand the components of tourism industry to acquire knowledge. Information pertaining tourism industry.
		PO 2	Orientation of skills with travel management to equip students
		PO 3	Enhance the students to develop hospitality, culture and behaviour
		PO 4	To help students acquire practical skills in all major arenas of the industry

Course outcomes

SEMESTER – I			
Course Title			After completion of the programme a student is able to
Fundamentals of social sciences	MAJOR I	CO 1	What is social science?
		CO 2	Emergence of culture and history of India
Prospectives on Indian society	MAJOR 2	CO 3	Man in society
		CO 4	Human nature and real life management
		CO 5	Indian under British rule
SEMESTER – II			
Principles and practices of tourism	MAJOR - 1	CO 1	History and concepts of tourism
		CO 2	Forms of tourism
Tourism geography	MAJOR - 2	CO 1	Introduction of geography
		CO 2	IATA, Areas, Code and GMT time
Introduction to food and beverage services – II	MINOR	CO 1	To prepare students for a carrier in F & B department
		CO 2	Teach students professional behaviour to face the fastest graving industry in world
		CO 3	Provide understanding of quality service to the guest
		CO 4	Develop nutritional menu for food service production

PROGRAMME NAME: BATCHELOR OF SCIENCE IN STATISTICS (HONOURS)

Programme outcomes

Programme Name			After completion of the programme a student is able to
B.Sc. (STATISTICS)		PO 1	Students will formulate complete, concise and correct mathematical proof
		PO 2	Students will frame problems using multiple mathematical and statistical representations of relevant structures and relationship and solve using standard techniques
		PO 3	Students are confident and involved learners

Course outcomes

SEMESTER – II			
Course Title			After completion of the programme a student is able to
Descriptive statistics	MAJOR - 1	CO 1	To acquaint with the role of statistics in different fields with special reference to business and economics
		CO 2	To review good practice in presentation and format most applicable to their own data
		CO 3	To learn the measures of central tendency, reduce the data to a single value which is very useful for making comparative study
		CO 4	To deal with the situation where there is uncertainty and to measure that uncertainty by using the probability which is essential in all research areas
		CO 5	To familiar with the measures of dispersion throw light on reliability of averages and control of variability
Random variables and mathematical expectations	MAJOR - 2	CO 1	To acquaint with the role of statistics in dealing with the univariate random variables
		CO 2	To learn the extension of univariate data to bivariate data
		CO 3	To learn the measure of randomness mathematically by using expectations
		CO 4	To get the familiarity about the generating functions, law of large numbers and central limit theorem further to apply in research and allied fields
Descriptive statistics	MINOR	CO 1	To acquaint with the role of statistics in different fields with special reference to business and economics
		CO 2	To review good practice in presentation and format most applicable to their own data
		CO 3	To learn the measures of central tendency, reduce the data to a single value which is very useful for making comparative study
		CO 4	To deal with the situation where there is uncertainty and to measure that uncertainty by using the probability which is essential in all research areas
		CO 5	To familiar with the measures of dispersion throw light on reliability of averages and control of variability

PROGRAMME NAME : BATCHELOR OF SCIENCE IN MICROBIOLOGY (HONOURS)

Programme outcomes

Programme Name			After completion of the programme a student is able to
B.Sc. (Microbiology)		PO 1	Students of B.Sc. (Honours) microbiology programme learn a scientific knowledge and explore a wide range of multiple branches in microbiology
		PO 2	In depth understanding of fundamental and advanced concepts in microbiology
		PO 3	Students acquire proficiency in good laboratory practices in a microbiology lab
		PO 4	Effectively communicate scientific information research findings and their implications

Course outcomes

SEMESTER – I			
Course Title			After completion of the programme a student is able to
Introduction to classical biology	MAJOR 1	CO 1	The students will able to learn the foundations and principles, diversity, classification of living organs
		CO 2	Develop knowledge on plant and animal physiology reproduction and their economic importance
		CO 3	Students gain knowledge on cultivation of mushrooms, floriculture, sericulture, agriculture and aquaculture
		CO 4	Students understand chemical principles of macromolecules and life processes
		CO 5	Students understand the foundations, principles of microbiology, immunology, biochemistry, biotechnology, analytical tools, quantitative methods and bioinformatics
Introduction to applied biology	MAJOR – 2	CO 1	Students gain knowledge on history and major milestones of microbiology
		CO 2	To develop an interest on immune system and the role of cells, types of immunity towards ----
		CO 3	To learnt about basics of metabolisms
		CO 4	Students learn environmental biotechnology
		CO 5	To get knowledge on genetic engineering, transgenic plants and animals
SEMESTER – II			
Introduction to microbiology	MAJOR - 1	CO 1	Students understand the historical significance, scope and applications of microbiology
		CO 2	Understand the characteristics, classification, reproduction and importance in food production, medicine, agriculture and environment
		CO 3	Students gain knowledge of structures, properties, functions and biomolecules and their role in metabolism
		CO 4	Students acquire technical knowledge in microbiology, sterilisation etc.
		CO 5	Students learnt about cell organelles genetics and their role in microbiology.
Bacteriology and virology	MAJOR - 2	CO 1	On successful completion of the course the students able to understand the concepts of prokaryotic taxonomy
		CO 2	To develop knowledge on bacterial groups
		CO 3	To get knowledge on viruses
		CO 4	To understand replication of viruses and oncogenes

PROGRAMME NAMES : BATCHELOR OF ARTS IN HISTORY (HONOURS)

Programme outcomes

Programme Name			After completion of the programme a student is able to
B.A. (HISTORY)		PO 1	To know the what is history
		PO 2	Understanding the human past and their cultures
		PO 3	To understanding the philosophies of Indian religions and Vedic cultures
		PO 4	Impact of history in the society

Course outcomes

SEMESTER – I			
Course Title			After completion of the programme a student is able to
Fundamentals of social sciences & Perspectives on Indian society	MAJOR	CO 1	Understand the emergence of culture and history of India
		CO 2	To understand the freedom movement of India
		CO 3	To know the importance of cultural heritage and tourism in India
		CO 4	Awareness to discipline & ethics
SEMESTER – II			
Science and Human past	MAJOR - 1	CO 1	Understanding the human past their societies and cultures
		CO 2	To know the history and their relations with other subjects, importance of the history in the society
		CO 3	Understanding rise of first & second urbanisations in India
		CO 4	Learn the Vedic cultures and its importance
Age of enlightenment and state formation	MAJOR - 2	CO 1	To know the philosophies of Indian religions
		CO 2	Understanding the state formation in India
		CO 3	Understanding the Mauryan administration, art & architecture to contribute Indian culture and heritage
		CO 4	To know the foreign invasions and their rule in India and importance of Gandhara and Mathura art
Science and human past	MINOR	CO 1	Understanding the human past their societies and cultures
		CO 2	To know the history and their relations with other subjects, importance of the history in the society
		CO 3	Understanding rise of first & second urbanisations in India
		CO 4	Learn the Vedic cultures and its importance

PROGRAMME NAME : BATCHELOR OF SCIENCE IN DATA SCIENCE (HONOURS)

Programme outcomes

Programme Name			After completion of the programme a student is able to
B.Sc. (DATA SCIENCE)		PO 1	Master data science concepts, tools & techniques across domains
		PO 2	Gain expertise in data science fundamentals, including statistics, machine learning, artificial intelligence & big data
		PO 3	Develop practical skills in programming, modelling and data visualisation & problem solving
		PO 4	Understand data ethics, privacy and the societal impacts of data driven decisions

Course outcomes

SEMESTER – I			
Course Title			After completion of the programme a student is able to
Essentials & applications of Mathematical, Physical & Chemical sciences	MAJOR 1	CO 1	Solve complex problems using critical thinking in maths, physics and statistics
		CO 2	Understand and connect fundamental physics and chemistry concept to daily life
		CO 3	Explore the interplay between maths, physics and chemistry concepts is to daily life
		CO 4	Learn internet history and network security, concepts including threats and counter measures
Advances in Mathematical, Physical & Chemical sciences	MAJOR 2	CO 1	Apply mathematical principles in physics & chemistry to solve real world problems
		CO 2	Study renewable energy sources, quantum communication and biophysics for advanced material applications
		CO 3	Understand computer aided drug design, nano sensors and chemical pollutant effects on ecosystems
		CO 4	Analyse mathematical, physical and chemical systems for advanced applications, including binary & transmission media.
SEMESTER – II			
Introduction to data science & R programming	MAJOR - 1	CO 1	Understand the interdisciplinary nature of data science and its key processes, including problem identification, data collection, preparation modelling, evaluation and visualisation
		CO 2	Recognise and address challenges in data science projects
		CO 3	Gain proficiency in using R/Python and relevant libraries for data analytics and visualisation
		CO 4	Select appropriate algorithms based on problem types
Descriptive statistics	MAJOR - 2	CO 1	Acquire insights into data exploration, correlation, regression analysis and diagnostics.
		CO 2	Gain statistical knowledge and practical skills applicable to data science domains
		CO 3	Understand data types, organisation & summary measures like central tendency and dispersion
		CO 4	Learn concepts of data quality, independence & association between attributes
Introduction to data science & R programming	MINOR	CO 1	Understand the interdisciplinary nature of data science and its key processes, including problem identification, data collection, preparation modelling, evaluation and visualisation
		CO 2	Recognise and address challenges in data science projects
		CO 3	Gain proficiency in using R/Python and relevant libraries for data analytics and visualisation
		CO 4	Select appropriate algorithms based on problem types

PROGRAMME NAME : BATCHELOR OF SCIENCE IN BIOTECHNOLOGY (HONOURS)

Programme outcomes

Programme Name			After completion of the programme a student is able to
B.Sc., (BIOTECHNOLOGY)		PO 1	To gain knowledge on analytical and identify the issues relates to biotechnology
		PO 2	To promote biobased technical skills and maintains environmental integrity
		PO 3	To obtain knowledge in industrial environment plant and animal biotechnology
		PO 4	To provide knowledge about research towards biotech product development

Course outcomes

SEMESTER – I			
Course Title			After completion of the programme a student is able to
Introduction to classical biology & Introduction to applied biology	MAJOR	CO 1	To Learn the principles of classification and preservation of biodiversity
		CO 2	To understand the plant anatomical, physiological and reproductive processes
		CO 3	To learn the cell components, cell processes like cell division, heredity and molecular processes
		CO 4	To learn the structure and functions of macromolecules
		CO 5	To Demonstrate the bioinformatics and statistical tools in comprehending the complex biological data
SEMESTER – II			
Biomolecules	MAJOR - 1	CO 1	To understand the techniques of estimation of nucleic acids
		CO 2	To learn about classification, structure and properties of carbohydrates
		CO 3	To learn about structure and functions of DNA, RNA
		CO 4	To learn the principles of centrifugation chromatography and electrophoresis
		CO 5	To learn about spectroscopy, microscopy and techniques
Analytical tools and techniques	MAJOR - 2	CO 1	To learnt about the structure of amino-acids and functions of proteins
		CO 2	To comprehend the structure and functions of nucleic – acid
		CO 3	To know the structure of different classes of lipids and their roles in biological systems
		CO 4	To impart knowledge about the microscopy techniques
Analytical tools and techniques	MINOR	CO 1	To learnt about the structure of amino-acids and functions of proteins
		CO 2	To comprehend the structure and functions of nucleic – acid
		CO 3	To know the structure of different classes of lipids and their roles in biological systems
		CO 4	To impart knowledge about the microscopy techniques

PROGRAMME NAME : BATCHELOR OF SCIENCE IN BOTANY (HONOURS)

Programme outcomes

Programme Name			After completion of the programme a student is able
B.Sc., (BOTANY)		PO 1	To know about different types of lower & higher plants their evolution from algae to angiosperms and their life cycles & origin of life
		PO 2	To acquire knowledge of life sciences, physical and chemical sciences, scientific domain knowledge day to day life / activities
		PO 3	To apply critical thinking capability analyse and evaluate evidence, arguments, claims, polices and theories based on experimental evidence

Course outcomes

SEMESTER – I			
Course Title			After completion of the programme a student is able
Introduction to classical biology & Introduction to applied biology	MAJOR	CO 1	To gain Knowledge on animal classification, physiology, embryonic development and their economic importance.
		CO 2	To learn the principles of classification and preservation of biodiversity
		CO 3	To understand the plant anatomical, physiological and reproductive processes.
		CO 4	To outline the cell components, cell processes like cell division, heredity and molecular processes.
SEMESTER – II			
Non-Vascular Plants (Algae, Fungi, Lichens and Bryophytes)	MAJOR - 1	CO 1	To realize the characteristics and diversity of non-vascular plants.
		CO 2	To recognize the ecological and economic value of algae, fungi, lichens and bryophytes.
		CO 3	To understand the habit, habitat, morphological features and life cycles of selected genera of non-vascular plants
		CO 4	To distinguish the characteristics of different groups of algae
Origin of life and diversity of microbes	MAJOR - 2	CO 1	To illustrate diversity of viruses, multiplication and economic value.
		CO 2	To discuss the general characteristics, classification and economic importance of special groups of bacteria.
		CO 3	To compile the value and applications of microbes in agriculture
		CO 4	To study the structure, nutrition, reproduction and significance of eubacteria
Non-Vascular Plants (Algae, Fungi, Lichens and Bryophytes)	MINOR	CO 1	To realize the characteristics and diversity of non-vascular plants.
		CO 2	To recognize the ecological and economic value of algae, fungi, lichens and bryophytes.
		CO 3	To understand the habit, habitat, morphological features and life cycles of selected genera of non-vascular plants
		CO 4	To distinguish the characteristics of different groups of algae

PROGRAMME NAME : BATCHELOR OF ARTS IN POLITICAL SCIENCE (HONOURS)

Programme outcomes

Programme Name			After completion of the programme a student is able to
B.A. (POLITICAL SCIENCE)		PO 1	Students understand the nature and importance of political science and its relationship with other social sciences
		PO 2	Students understand the different approaches to study political science especially importance of philosophy, historical events and human behaviour in the shaping and studying of political science
		PO 3	Students understand what is state and how it is evolved over a period of time and elements of the state
		PO 4	Students understand different theories of origin of state and objectives of modern state.

Course outcomes

SEMESTER – I			
Course Title			After completion of the programme a student is able to
Fundamentals of social sciences & Prospectives on Indian society	MAJOR	CO 1	To learn about the significance of human behaviour and social dynamics.
		CO 2	Student understand the nature and various organs of the state, importance of behaviour and social interactions of the present society.
		CO 3	Student understand the comprehensive philosophical foundations of Indian constitution
		CO 4	Comprehend the nature of Polity and Economy
SEMESTER – II			
Fundamentals of political science	MAJOR - 1	CO 1	To learn nature, importance, and relationship with other social sciences.
		CO 2	To know the origin and evolution of the state
		CO 3	To comprehend the development of social contract theory
		CO 4	To understand the birth of modern state
Concepts & Ideologies of political science	MAJOR - 2	CO 1	To learn the significance of concepts
		CO 2	To understand the law and liberty
		CO 3	To know equality and power and its constituents
		CO 4	To experience the rights and its theories
Fundamentals of political science	MINOR	CO 1	To learn nature, importance, and relationship with other social sciences.
		CO 2	To know the origin and evolution of the state
		CO 3	To comprehend the development of social contract theory
		CO 4	To understand the birth of modern state

PROGRAMME NAME : BATCHELOR OF SCIENCE IN MATHEMATICS (HONOURS)

Programme outcomes

Programme Name			After completion of the programme a student is able to
B.Sc., (MATHEMATICS)		PO 1	To objective of this course is student should be able to recall basic factors about mathematics and should be able to display knowledge of conventions such as notations terminology
		PO 2	A student should get adequate exposure to global and local concerns that explore them many aspects of mathematical sciences
		PO 3	Apply critical thinking skills to solve complex problems involving complex numbers, trigonometric ratios, vectors, and statistical measures.
		PO 4	To develop students' critical thinking, problem-solving, and analytical skills in these areas, enabling them to apply scientific principles to real-world situations

Course outcomes

SEMESTER – I			
Course Title			After completion of the programme a student is able to
Essentials and applications of mathematical, physical and chemical sciences & Advances in mathematical, physical and chemical sciences	MAJOR	CO 1	To apply critical thinking skills to solve complex problems involving complex numbers, trigonometric ratios, vectors, and statistical measures.
		CO 2	To understand the interplay and connections between mathematics, physics, and chemistry in various applications. Recognize how mathematical models and physical and chemical
		CO 3	To aims to broaden students' knowledge beyond the foundational concepts and expose them to the latest developments in these disciplines, fostering critical thinking, research skills, and the ability to contribute to scientific advancements.
		CO 4	To understand and convert between different number systems, such as binary, octal, decimal, and hexadecimal
SEMESTER – II			
Differential Equations	MAJOR - 1	CO 1	To solve first order first degree linear differential equations.
		CO 2	Convert anon-exact homogeneous equation to exact differential equation by using an integrating factor.
		CO 3	Know the methods of finding solution of a differential equation of first order but not of first degree.
		CO 4	solve higher-order linear differential equations for both homogeneous and nonhomogeneous, with constant coefficients
		CO 5	Understand and apply the appropriate methods for solving higher order differential equations
Analytical Solid Geometry	MAJOR - 2	CO 1	Understand planes and system of planes
		CO 2	Know the detailed idea of lines
		CO 3	Understand sphere sand their properties
		CO 4	Know system of spheres and coaxial system of spheres
		CO 5	Understand various types of cones
Differential Equations	MINOR	CO 1	To solve first order first degree linear differential equations.
		CO 2	Convert anon-exact homogeneous equation to exact differential equation by using an integrating factor.
		CO 3	Know the methods of finding solution of a differential equation of first order but not of first degree.
		CO 4	solve higher-order linear differential equations for both homogeneous and nonhomogeneous, with constant coefficients
		CO 5	Understand and apply the appropriate methods for solving higher order differential equations

PROGRAMME NAME : BATCHELOR OF ARTS IN ECONOMICS (HONOURS)

Programme outcomes

Programme Name			After completion of the programme a student is able to
B.A. (ECONOMICS)		PO 1	Learn the basis of economic theory and how to apply it to real world issues
		PO 2	Understand the role of economic policies and its implications in different sectors like agriculture, industry and service sector
		PO 3	Know the current monetary policies
		PO 4	Develop the skills that make them employable in a variety of fields, including banking, education and industries

Course outcomes

SEMESTER – I			
Course Title			After completion of the programme a student is able to
Fundamentals of social sciences & Perspectives on Indian society	MAJOR	CO 1	Know the difference between micro and macro economics
		CO 2	Get the comprehensive knowledge about nature of polity and economy
		CO 3	Analyse the functioning of different markets and their differentiations
		CO 4	Comprehensive knowledge on Indian economy
		CO 4	Get the knowledge about monetary and fiscal policies in the economic development
SEMESTER – II			
Microeconomics	MAJOR – 1	CO 1	Analyses the demand of a product and estimate elasticity of demand
		CO 2	Understand the consumer and producer behaviour
		CO 3	Analyse the how the government polices change the market equilibrium
		CO 4	Examine the determination of rent, wage, interest and profit
Mathematical methods for economics	MAJOR – 2	CO 1	Learn the rules of differentiation and apply the same to economic problems
		CO 2	Students understand the interpretation of the different mathematical methods in economics
		CO 3	Learn and use maxima and minima to Optimization problems in economics
		CO 4	Solve the economic problems through the application of the Matrix Theory
Microeconomics	MINOR	CO 1	Analyses the demand of a product and estimate elasticity of demand
		CO 2	Understand the consumer and producer behaviour
		CO 3	Analyse the how the government polices change the market equilibrium
		CO 4	Examine the determination of rent, wage, interest and profit

PROGRAMME NAME : BATCHELOR OF COMMERCE (COMPUTER APPLICATIONS AND GENERAL) HONOURS

Programme outcomes

Programme Name			After completion of the programme a student is able to
B.Com., (C A) & B.Com., (GEN)		PO 1	To acquire conceptual knowledge of financial accounting
		PO 2	To develop the skills for classification and recording of business transactions
		PO 3	To learn the computerisation of accounting system
		PO 4	To study the accounting procedure of non-profit organisations
		PO 5	To acquire the knowledge of various accounting standards
		PO 6	To learn the preparation of cash flow statement and funds flow statement
		PO 7	To study the importance of income tax and computation of income under various heads

Course outcomes

SEMESTER – I			
Course Title			After completion of the programme a student is able to
Fundamentals of commerce	MAJOR 1	CO 1	Identify the role of commerce in economic development
		CO 2	Studying of basic concepts of macroeconomics, taxation and accounting
		CO 3	Acquire the knowledge of Indian taxation system
		CO 4	Develop the fundamental knowledge of computers
Business organisation	MAJOR 2	CO 1	Study of importance of business
		CO 2	Acquire the knowledge of various business organisations
		CO 3	Develop the concepts of plant location and plant layout
		CO 4	Study the fundamentals of computers
SEMESTER – II			
Financial accounting	MAJOR - 1	CO 1	To identify, analyse, classify and record of business transactions
		CO 2	To develop the knowledge of preparation of subsidiary books
		CO 3	To acquire the skills of preparation of final accounts
		CO 4	To study the special business aspects like consignment and joint venture
Principles of management	MAJOR - 2	CO 1	To learn the various principles of management
		CO 2	To study the importance of planning, decision making, organising etc
		CO 3	To develop the leadership skills
		CO 4	To acquire the knowledge of various motivation theories
Business economics	MINOR	CO 1	To study the procedure of application various economic concepts to solve the business problems
		CO 2	To learn the concept of Break-even analysis
		CO 3	To study the various types of markets and their characteristics
		CO 4	To acquire the knowledge of national income, GNP, NNP, per capita income

PROGRAMME NAME : BATCHELOR OF SCIENCE IN PHYSICS (HONOURS)

Programme outcomes

Programme Name			After completion of the programme a student is able to
B.Sc., (PHYSICS)		PO 1	Focussed on job oriented programmes and values added education
		PO 2	Provides requirements of students for developing skills and competence in career
		PO 3	Students will be enriched with recent trends in physics
		PO 4	Provides motivation towards higher studies and research activities

Course outcomes

SEMESTER – I			
Course Title			After completion of the programme a student is able to
Essentials and applications of mathematical, physical and chemical sciences	MAJOR	CO 1	Provides the knowledge of basic principles and concepts of physics and to connect their knowledge to everyday situation
		CO 2	Provides the knowledge of applications of physics in aerospace industries, quality control and robotics
		CO 3	This course will provide the knowledge of renewable energy resources and latest technologies like nano-technology
		CO 4	This course will enrich students about various radiation theorapies and applications of nuclear medicines
SEMESTER – II			
Mechanics and properties of matter	MAJOR - 1	CO 1	Provides fundamental understanding of the behaviour and properties of light and its interaction with matter
		CO 2	Provides the knowledge of the principles of heat and energy transfer and their applications in various fields
		CO 3	This course provides students with a fundamental understanding of electronic devices and their applications in various circuits
		CO 4	This course enriches students with fundamental understanding of the principles of analog and digital circuits and their utility in various technologies
	MAJOR - 2	CO 1	
		CO 2	
		CO 3	
		CO 4	
Waves and oscillations	MINOR	CO 1	Enriches the understanding of the behaviour and properties of light
		CO 2	Provides understanding of interference, diffraction polarisation of light
		CO 3	This course will comprehend the principles of LASER and its applications
		CO 4	This course will enrich the fibre optic communication and explore the field of holography and non linear optics

PROGRAMME NAME : BATCHELOR OF ARTS IN TELUGU (HONOURS)

Programme outcomes

Programme Name			After completion of the programme a student is able to
B.A. (SPECIAL TELUGU)		PO 1	విద్యార్థులు తెలుగు సాహిత్యాన్ని గురించి, ప్రసిద్ధ రచయితలను గురించి తెలుసుకుంటారు.
		PO 2	తెలుగు కథ, నవల, ఇతర రచనలను గురించి, అందులోని నైపుణ్యాలను గురించి తెలుసుకుంటారు. వ్రాత నైపుణ్యాలను అభివృద్ధి చేసుకుంటారు.
		PO 3	విద్యార్థులు విమర్శనాత్మక విశ్లేషణాత్మక నైపుణ్యాలు తెలుసుకుంటారు.
		PO 4	తెలుగు వ్యాకరణం పై చక్కని అవగాహన పెంచుకుంటారు. జర్నలిజం, మాధ్యమాల రచన గురించి తెలుసుకుంటారు.

Course outcomes

SEMESTER – I			
Course Title			After completion of the programme a student is able to
సాహితీ సౌరభం General Telugu	MAJOR	CO 1	తెలుగు సాహిత్యం యొక్క ప్రాచీనతను, విశిష్టతను గుర్తిస్తారు. నన్నయ కాలం నాటి భాషా సంస్కృతులను, రాజ నీతి భాష సామర్థ్యాలను పొందగలరు
		CO 2	జాషువా కాలం నాటి మాట పరిస్థితులను, గబ్బిలం కావ్య విశేషాలు గ్రహిస్తారు.
		CO 3	అలరాస పుట్టిళ్ళు కథా నేపథ్యాన్ని, సంపన్న కుటుంబాలలోని పరిస్థితులను అవగాహన చేసుకుంటారు. కథారచన ఎలా చేయాలో తెలుసుకుంటారు.
		CO 4	చదువు నవల కాలం నాటి సామాజిక పరిస్థితులు, మానవ సంబంధాలు, జాతీయోద్యమ ప్రభావం. చదువు యొక్క ప్రాధాన్యతను గ్రహిస్తారు.
		CO 5	వేటూరి ప్రభాకర శాస్త్రి గారి జీవిత చరిత్రను, తిరుమల రామచంద్ర రాసిన విధానాన్ని అధ్యయనం చేయడంతో పాటు జీవిత చరిత్ర ప్రక్రియను గురించి తెలుసుకుంటారు.
SEMESTER – II			
ప్రాచీన కవితా పరిచయం – పాఠ్య ప్రణాళిక	MAJOR - 1	CO 1	శివ కవి యుగం నాటి మాత, ధార్మిక పరిస్థితులను, భాష విశేషాలను గ్రహిస్తారు.
		CO 2	తిక్కన భారత రచనా విశిష్టత, కావ్య శిల్పం, ఉపాఖ్యానాలలోని సందేశం గ్రహిస్తారు
		CO 3	పోతన భాగవతం విశిష్టత, భక్తి తత్వం తెలుసుకుంటారు.
		CO 4	ప్రబంధ యుగం విశిష్టత, అల్లసాని పెద్దన కవితలోని జాగిబిగిని ఆస్వాదిస్తారు
ఆధునిక కవిత పరిచయం – పాఠ్య ప్రణాళిక	MAJOR - 2	CO 1	ఆధునిక తెలుగు కవిత్వం తీరు తెన్నులు, సౌందర్యాన్ని అవగాహన చేసుకుంటారు
		CO 2	సమాజంలోని అసమానతలను ఖండించడం, కవిత్వాన్ని రాయడం నేర్చుకుంటారు
		CO 3	వ్యవహారిక భాషలో ఆధునిక వచన కవిత్వాన్ని పరిశీలించి మార్పులను గ్రహిస్తారు.
		CO 4	దీర్ఘ కావ్య ప్రక్రియను గురించి, భావ ప్రకటనలో వచ్చిన మార్పులను గురించి అవగాహన చేసుకుంటారు.
ఆధునిక కవిత పరిచయం – పాఠ్య ప్రణాళిక	MINOR	CO 1	ఆధునిక తెలుగు కవిత్వం తీరు తెన్నులు, సౌందర్యాన్ని అవగాహన చేసుకుంటారు
		CO 2	సమాజంలోని అసమానతలను ఖండించడం, కవిత్వాన్ని రాయడం నేర్చుకుంటారు
		CO 3	వ్యవహారిక భాషలో ఆధునిక వచన కవిత్వాన్ని పరిశీలించి మార్పులను గ్రహిస్తారు.
		CO 4	దీర్ఘ కావ్య ప్రక్రియను గురించి, భావ ప్రకటనలో వచ్చిన మార్పులను గురించి అవగాహన చేసుకుంటారు.

2.6.1: Teachers and students are aware of the stated Programme and course outcomes of the Programmes offered by the institution.

Programme name: BATCHELOR IN SCIENCE IN CHEMISTRY, BOTANY AND ZOOLOGY

PROGRAMME OUTCOMES

Programme Name & Code	After the completion of the programme a student is able to
B.Sc, CBZ	❖ PO-1:Acquire the knowledge of plant diversity ,its importance, thretts, and conservation methods ❖ PO-2: Understand the basics of life, significance of evolution and ecology ❖ PO-3: Corelate the understanding of different fields of botany and basic sciences ❖ PO-4:Get awareness and development of basic experimental skills , field observation of plants and biological techniques used for scientific research. ❖ PO-5: Acquire the knowledge of animal diversity its, importance, thretts, and conservation methods. ❖ PO-6: understand the basics of life ,significance of evolution and ecology. ❖ PO-7 : corelate the understanding of different fields of zoology and basic sciences. ❖ PO-8 : Get awareness and development of basic experimental skills , field observation of plants and biological techniques used for scientific research.
Programme specific outcomes	❖ PSO-1 : will have the knowledge of various chemicals used in pharmaceutical and pesticide industry ❖ PSO-2 : will have the knowledge of water pollution and water purification ❖ PSO-3 : wiil acquire the knowledge of different diseases causing organism and their control measures ❖ PSO-4 : will be aprised about uses and importance of different plant speecies in economic botany ❖ PSO-5: will acquire the basic foundation for bettr understanding of zoology specific fields such as genetics,molecular biology animal physiology, entomology, fish and fisheries. ❖ PSO-6 : will get knowledge of different disease causing organisms and their control measures in the fields of parasitology medicinal entomology and applied zoology

Chemistry

Course Title	After the completion of the programme a student is able to
III Semester Inorganic and Organic chemistry	➢ CO-1: To gain knowledge on catalysts, complexes and construction materials. ➢ CO-2: To understand the electrical properties of solids using band theory. ➢ CO-3: To understand the use of metal carbonyls in organic synthesis and as catalysts ➢ CO-4: To understand the main properties of organic compounds and their uses. ➢ CO-5: Knowledge of the synthesis of alcohols and ether.
IV SEMESTER Spectroscopy and physical chemistry	➢ CO-1: Knowledge to analyze and interpret geological systems. ➢ CO-2: To acquire knowledge to determine the molecular mass of a solute ➢ CO-3: Knowledge on the basic principle used in the formation of cells and batteries. ➢ CO-4: Knowledge on the use of electrical energy for initiating chemical reaction. ➢ CO-5: Knowledge on detection of concentrations of different substances and detection of impurities. ➢ CO-6: Knowledge on structure elucidation of organic compounds. ➢ CO-7: Knowledge on IR is useful in forensic analysis.
V SEMESTER, Organic Chemistry, Physical And General Chemistry	➢ CO-1: Knowledge on its applications towards biological system ➢ CO-2: Knowledge on the interaction of metal ions with biological ligands. ➢ CO-3: Knowledge of synthesis of medicines, dyes, fertilizers, explosive compounds etc. ➢ CO-4: Acquire Knowledge to compute Thermodynamic quantities from Thermodynamic tables. ➢ CO-5 : Student will able to acquire knowledge on the role of metal ions. ➢ CO-6 : To understand the applications of chemical kinetics in studying enzyme mechanisms. ➢ CO-7 : To understand photosynthesis vision, and the formation of D vitamin with the sunlight. ➢ CO-8:To understand their importance in pharmaceuticals, agrochemicals and veterinary products ➢ CO-9:To understand the important functions of carbohydrates in humans, animals and plants. ➢ CO-10:Knowledge of biomedical importance of proteins
VI Semester Internship	➢ Six months Long term internship.

BOTANY

Course Title	After the completion of the programme a student is able to
III SEMESTER Plant Taxonomy and Embryology.	➢ CO-1. Describe the plants by following ICBN rules. ➢ CO-2. Recognize taxonomic status of plants. ➢ CO-3. Prepare herbarium. ➢ CO-4. Compare and analyze various systems of classification. ➢ CO-5. Construct a phylogenetic tree. ➢ CO-6. Explain economic importance of families. ➢ CO-7. Identify the plants using observation skills.
IV SEMESTER Plant physiology and metabolism	➢ CO-1. Design experiment to examine the hypothesis. ➢ CO-2. Analyze the role of nutrients in plant life. ➢ CO-3. Identify the nutrient deficiency symptoms in plants. ➢ CO-4. Describe the phenomenon of biological nitrogen fixation, protein synthesis and enzyme action. ➢ CO-5. Explain various pigments present in the plant body. ➢ CO-6. Illustrate the relationship light with photosynthesis. ➢ CO-7. Distinguish aerobic and anaerobic respiration. ➢ CO-8. Outline the steps in glycolysis, TCA cycle and electron transport. ➢ CO-9. Describe the phenomenon of lipid metabolism and oxidative phosphorylation.
V SEM, PAPER -5 Cell Biology, Genetics & Plant Breeding	➢ CO-1. Distinguish the structure of prokaryotic and eukaryotic cells. ➢ CO-2. Draw the structure of cell organelle. ➢ CO-3. Explain structure and function of cell membrane. ➢ CO-4. Outline the structure of genetic material. ➢ CO-5. Distinguish the structure of DNA & RNA. ➢ CO-6. Describe replication of DNA. ➢ CO-7. Recall the Mendel's law of inheritance. ➢ CO-8. Construct the punnet board to explain the Mendal laws. ➢ CO-9. Select and apply experimental procedures and skills to solve genetics problems. ➢ CO-10. Describe plant breeding.
VI SEM,	➢ Six months Long term internship.

Zoology

Course Title	After the completion of the programme a student is able to
III Semester Cytology	➢ CO-1·To understand the basic unit of the living organisms and to differentiate the organisms by their cell structure. ➢ CO-2· Describe fine structure and function of plasma membrane and different cell organelles of eukaryotic cell.
Genetics	➢ CO-1·To understand the history of origin of branch of genetics, gain knowledge on heredity, interaction of genes, various types of inheritance patterns existing in animals
Evolution	➢ CO-1· Acquiring in-depth knowledge on various of aspects of genetics involved in sex determination, human karyotyping and mutations of chromosomes resulting in various disorders ➢ CO-2· Understand the central dogma of molecular biology and flow of genetic information from DNA to proteins. ➢ CO-3· Understand the principles and forces of evolution of life on earth, the process of evolution of new species and apply the same to develop new and advanced varieties of animals for the benefit of the society ➢ CO-4· Acquainting and skill enhancement in the usage of laboratory microscope
IV Semester Embryology Physiology Ecology	➢ CO-1·Understand the functions of important animal physiological systems including digestion, cardio-respiratory and renal systems. ➢ CO-2·Understand the muscular system and the neuro-endocrine regulation of animal growth, development and metabolism with a special knowledge of hormonal control of human reproduction. ➢ CO-3· Describe the structure, classification and chemistry of biomolecules and enzymes responsible for sustenance of life in living organisms ➢ CO-4· Develop broad understanding the basic metabolic activities pertaining to the catabolism and anabolism of various biomolecules ➢ CO-5·Describe the key events in early embryonic development starting from the formation of gametes upto gastrulation and formation of primary germ layers.
V Semester Animal Biotechnology Animal husbandry	➢ CO-1·Understand the applications of Biotechnology in the fields of industry and agriculture including animal cell/tissue culture, stem cell technology and genetic engineering. ➢ CO-2·Get familiar with the tools and techniques of animal biotechnology.
VI Semester	➢ Six months Long term internship.

Bachelor of Science in Microbiology, Zoology, Chemistry

Programme name &code	After the completion of the programme a student is able to
B.Sc, MZC	➢ PO-1: Understand, demonstrate theory and practical skills in microscopy and their handling techniques. ➢ PO-2: Understand the basic ideas and practices from the scientists contribution in the history and applications of microbiology. ➢ PO-3: Acquire knowledge of the standard rules of classification systems from two kingdom to Carl Woes domain concept along with Bergey's manual to categories microorganisms. ➢ PO-4: Know various Culture media and their applications, understand various physical and chemical means of sterilization and also isolation & preservation of microbes. ➢ PO-5: Understand the characteristics, properties and biological significance of the biomolecules of life and enzymes and also different metabolic processes in microorganisms. ➢ PO-6: Understand the knowledge to handle pathogenic microbes and basic instrumentation used routinely in microbiological laboratory and various techniques to isolate, physiological and morphological characteristics of microbes. ➢ PO-7: Operate and use of various instruments like Microscope, Colorimetry, Chromatography, Spectrophotometry, Centrifugation, Gel electrophoresis for various analysis. ➢ PO-8: Understands the principles/concept of Prokaryotic genetics and application in research. ➢ PO-9: Will gain basic knowledge and understanding the production of industrially important alcohols like ethanol, organic acids, Vitamins and their applications. ➢ PO-10: Will acquire knowledge in microbial food spoilage and various methods in control of microbial deterioration of food. ➢ PO-11: Gain knowledge in Mutagenesis, Mutation and mutants and their significance in microbial evolution. ➢ PO-12: Have a conceptual knowledge about the structure of DNA & RNA, enzymology, and replication strategies and the molecular mechanisms involved in transcription and translation for protein synthesis, Understanding of tools and techniques involved in molecular cloning in genetic engineering. ➢ PO-13: Demonstrate and understnads the key concepts in immunology, organization of immune system, understand the salient features of antigen antibody reaction & its uses in diagnostics like ELISA, Immunoflourescence, RIA etc and various other studies. ➢ PO-14: Understands the significance of microbial diversity, community structure and role of microorganisms in biogeochemicl cycles, role of microorganisms in sustainable development and bioremediation of various pollutants using microorganisms. ➢ PO-15: Understands the information about Inter-relationship of soil and microorganisms, different group of beneficial microorganisms in agriculture, microbes as a biofertilizer (*Rhizobium*, *Azospirillum*, VAM) plant pathogen and biocontrol agent (*Pseudomonas spp*). ➢ PO-16: Understands the concept of pathogenesis of various pathogens, its underling mechanisms along with molecular interactions, leading to development of disease in the host. Develops principles of pathogen, host and environment in terms of its varied existence and interactions, leading to epidemiological events in medical microbiology. ➢ PO-17: Corelate the understanding of different fields of microbiology and its applications in various fileds like pharmaceutical industries etc. ➢ PO-18: Acquire knowledge about different disease causing microorganisms in plants & animals and their control measures. ➢ PO-19: Understand the concept of Solid and liquid waste management system and their management. ➢ PO-20: Understand and demonstrate a knowledge of Intellectual property rights, Biosafety regulations etc. ➢ PO-21: Understand the knowledge on the concept of biofertilizers, Biopesticides and their application and also Concept of Composting and biofuels, types and applications.

Programme name &code	After the completion of the programme a student is able to
B.Sc, MZC	➢ PSO-1: Microbes are exceptionally attractive models for studying fundamental life process. ➢ PSO-2: Will gain basic knowledge in microbial concepts, prons and cons of microorganisms in various applications in day to day life with special reference to environmental sustainability and industry. ➢ PSO-3: Acquire the skill in the safe use and maintenance of basic instrumentation, performing the safe basic laboratory procedures like collection, isolation and processing of various pathogenic microbes etc. ➢ PSO-4: Acquire the basic knowledge in isolation, identification, treatment and prevention of various plant and animal diseases caused by pathogenic microorganisms. ➢ PSO-5: Will gain ample knowledge in the production and applications of various industrially products important to human wellbeing in day to day life. ➢ PSO-6: The various skills enriched in the subject will motivate the learners interest towards further research in their area of microbiology and its related subjects. ➢ PSO-7: The Microbial field is very immense due to its involvement in many fields like agriculture, biotechnology, pharmacy, water industry, food industry, industrial, clinical research etc. ➢ PSO-8: It will also help the learners to be eligible for higher studies, jobs in various sectors and Entrepreneurship abilities. ➢ PSO-9: Will help the learners to acquire basic knowledge in relationship between microbes and food, methods and techniques used in processing of food and also understands the role of microbes in the eco system. ➢ PSO-10: It will make learers specialists in a discipline, they will play a key part in future advances and breakthroughs in the subject, allowing the discipline to advance. ➢ PSO-11: It will helps the learners to apply their microbiological knowledge and expertise to solve microbiology problems that arise in society from time to time.

MICROBIOLOGY

Course Title	After the completion of the programme a student is able to
SEMESTER- III Microbial Genetics and Molecular Biology	➢ CO-1: Molecular Biology basically deals with study of DNA and other biomolecules essential for life and varied mechanisms involved at molecular level. ➢ CO-2: The emergence of mutations and their influence on the survival of organisms and the DNA repair methods and mechanism of recombination. ➢ CO-3: Topic includes involvement of RNA types and Genetic code importance in protein synthesis. ➢ CO-4: Studied the transcription & translation methods and gene expression methods. ➢ CO-5: Students get knowledge basic molecular techniques like PCR and their applications in industry, medicine and agriculture. ➢ Students handle and independently work on lab protocols involving molecular techniques which has major job opportunities in the research areas of biotechnology.
SEMESTER- IV munology and Medical Microbiology	➢ CO-1: Understanding the types of cells, organs of the immune system and functioning of T and B lymphocytes which plays major role in resistance. ➢ CO-2:The students learn about molecular basis of antigen recognition, hypersensitivity reaction, antigen-antibody reactions. Begin to appreciate the significance of maintaining a state of immune tolerance sufficient to prevent the emergence of autoimmunity. ➢ CO-3: The course develops in the student an overview of normal flora of human body, hospital infections and various methods and principles used in laboratory diagnosis. ➢ CO-4: The course develops in the student an account of antimicrobial substances, tests for antimicrobial susceptibility toward drugs and about viruses. ➢ CO-5: Discussed about the causal organism, pathogenesis, epidemiology, diagnosis, prevention and control of various microbial diseases have applications in diagnostic laboratory mainly. ➢ Students will be knowledge about the blood and blood components estimation which have a great future in many clinicals, hospitals, nursing homes and many diagnostic laboratories as a microbial technician.

SEMESTER- V (A) Environmental and Agricultural Microbiology	➢ CO-1: Appreciate the diversity of microorganisms and learn the abundance, distribution and significance of microorganism in the terrestrial, aquatic, atmosphere and extreme environment. ➢ CO-2: Expertized to perform established, well-validated tests on water, food, agricultural, environmental samples to detect different types of microbes and about the relationship between microbes and the environment. ➢ CO-3: Get expertise in methods of solid waste and liquid waste management and sewage treatment methods employed in waste-water treatment. ➢ CO-4:Learn in detail the types and mechanisms of nitrogen fixation and applications of diazotrophs as biofertilizers which are harmless. ➢ CO-5: Learn about the various microorganisms causing plant diseases and principles of plant disease control. ➢ Considers the biological processes that take place in the soil and their importance to soil fertility, plant growth, and environmental quality. Deals with the biochemical basis for soil processes, including microbial ecology, the carbon and nitrogen cycles, mineral transformation, and ecological interrelationships. ➢ Learners will understand the procedures to be followed in treatment & safety of water along with the methods followed in solid waste and liquid waste management which shows a path to get opportunities in water industries.
SEMESTER- V (B) Food and Industrial Microbiology	➢ CO-1: Understand the significance and activities of microorganisms in various food and role of intrinsic and extrinsic factors on microbial growth in foods leading to spoilage, and understand the principles underlying the preservation methods will be used in many food processing industries. ➢ CO-2: Used to recognize and describe the characteristics of important food borne pathogens and learn various methods for their isolation, detection and identification which causes food spoilage. ➢ Learners will grasp the isolation of microorganisms in spoiled foods and the methods to be followed in milk quality by MBRT methods have great opportunities in milk industries. ➢ Get acquainted with fermentation techniques for the production and estimation of ethanol and citric acid has opportunities in beverage industry.
Semester VI	➢ Six months Long term internship.

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Bachelor of Science in Biotechnology, Botany, Chemistry

Programme name &code	After the completion of the programme a student is able to
B.Sc, BBC	➢ PO 1: Demonstrate knowledge skills of biotechnology concepts. ➢ PO 2: Acquire technical knowledge and hands-on experience necessary for biotechnology research. ➢ PO 3: Able to communicate effectively on the technical aspect of the subject. ➢ PO 4: will provide knowledge of genetic engineering techniques to manipulate living organisms genetically to produce valuable therapeutic products to treat diseases. ➢ PO 5 : Acquire knowledge about use of genetically modified microbes to clean the environmental toxicants. ➢ PO 6 : Able to provide knowledge on analysis and interpretation of research data using statistical tools. ➢ PO 7 : will acquire Knowledge of molecular biology techniques. ➢ PO 8: Acquire knowledge about the usage of Calorimeters, Spectrophotometer and PCR.
	➢ PSO 1: will gain basic knowledge of cell and its components. ➢ PSO 2: Acquire skill to operate various instruments in the laboratory. ➢ PSO 3: Understand the importance of genetic engineering approaches in Biotechnology. ➢ PSO 4: understand the basic molecular biology techniques which are useful for research. ➢ PO 5: Gain knowledge about the production of different fermentative products. ➢ PO 6: Acquire basic knowledge of isolation of DNA and different cell organelles. ➢ PO 7: will gain ample of knowledge about the production of valuable plants by tissue culture technology. ➢ PO 8: can understand operation of microscopes and visualizing the microorganisms in different cultures.

BIOTECHNOLOGY

Course Title	After the completion of the programme a student is able to
III SEMESTER Biophysical techniques	➢ CO-1: Students will able to develop the basic concepts of biophysical techniques, handling and operating of common instruments used in Biotechnology laboratory. ➢ C0-2: After successful completion of the semester students will able to acquire knowledge about spectrophotometry, colorimetry, chromatography, Electrophoresis, applications of radio isotopes and different centrifugation techniques.
IV SEMESTER Immunology	➢ CO-1: students will get basic knowledge about the techniques for identifying antigen antibody interactions, immunological response against tumor, blood transfusion and transplantation. ➢ CO-2: Get knowledge about role of vaccines and vaccine production. Different types of immunity, structure and functions of antibodies, hyper sensitivity reactions, role of vaccines in immunity and different Immunological techniques.
V SEMESTER PAPER-5 Molecular Biology	➢ CO-1: Structure of DNA, Genome, replication, transcription, regulation of replication and features of genetic code. ➢ CO-2: Molecular Biology gives ample knowledge of biological mechanisms in the system. ➢ CO-3: Better understanding of biology prepares them for studying abnormalities and diseases and to explore their solutions. ➢ CO-4: Will provide skill on molecular biology techniques which are useful in research laboratories.
V SEMESTER: PAPER-6 r- DNA Technology	➢ CO-1: This course will provide students to learn the versatile techniques involved in recombinant DNA technology. ➢ CO-2: Also they will have an understanding on application of genetic engineering techniques and proficiency in designing and conducting experiments involving genetic manipulations.
VI SEMESTER	➢ Six months Long term internship.

Bachelor of Science in Mathematics, Physics, Chemistry

Programme name &code	After the completion of the Programme a student is able to
B.Sc, MPC	➢ PO-1: Understand the concept and apply appropriate methods for solving differential equations. ➢ PO-2: Understand the ring theory concepts with the help of knowledge in group theory and to prove the theorems. ➢ PO-3: Understand the behavior of permutations and operations. ➢ PO-4: Understand the homomorphism and isomorphism with applications.
	➢ PSO-1: Understand the concepts of vector spaces, subspaces, basics, dimension and their properties. ➢ PS-2: Recognize the different methods of finding Laplace transforms and Fourier transforms of different functions.

MATHEMATICS

Course Title	After the completion of the programme a student is able to
SEMESTER-III Abstract Algebra	➢ CO-1: Acquire the basic knowledge and structure of groups, subgroups and cyclic groups. ➢ CO-2: Get the significance of the notation of normal subgroups. ➢ CO-3: Get the behavior of permutations and operations on them. ➢ CO-4: Study the homomorphism and isomorphism with applications. ➢ CO-5: Understand the ring theory concepts with the help of knowledge in group theory and to prove the theorems. ➢ CO-6: Understand the applications of ring theory in various fields.
SEMESTER-IV Real Analysis	➢ CO-1: Get clear idea about the real numbers and real valued functions. ➢ CO-2: Obtain the skills of analyzing the concepts and applying appropriate methods for testing convergence of a sequence/ series. ➢ CO-3: Test the continuity and differentiability and Riemann integration of a function. ➢ CO-4: Know the geometrical interpretation of mean value theorems.
SEMESTER-V Ring Theory and Vector Calculus	➢ CO-1:Scalar and cross product of vectors in 2 and 3 dimensions represented as differential forms or tensors, ➢ CO-2: The vector-valued functions of a real variable and their curves and in turn the geometry of such curves including curvature, torsion and the Frenet-Serre frame and intrinsic geometry. ➢ CO-3: Scalar and vector valued functions of 2 and 3 variables and surfaces, and in turn the geometry of surfaces. ➢ CO-4: Gradient vector fields and constructing potentials. ➢ CO-5: Integral curves of vector fields and solving differential equations to find such curves. ➢ CO-6: The differential ideas of divergence, curl, and the Laplacian along with their physical interpretations, using differential forms or tensors to represent derivative operations, ➢ CO-7: The integral ideas of the functions defined including line, surface and volume integrals - both derivation and calculation in rectangular, cylindrical and spherical coordinate systems and understand the proofs of each instance of the fundamental theorem of calculus ➢ CO-8: Examples of the fundamental theorem of calculus and see their relation to the fundamental theorems of calculus in calculus 1, leading to the more generalized version of Stokes' theorem in the setting of differential forms.
SEMESTER-VI	➢ Six months Long term internship.

PHYSICS

Course Title	After the completion of the programme a student is able to
SEMESTER-III Optics & Laser Physics	➢ CO-1: Understand the phenomenon of interference of light and its formation in (i) Lloyd's single mirror due to division of wave front and (ii) Thin films, Newton's rings and Michelson interferometer due to division of amplitude. ➢ CO-2: Distinguish between Fresnel's diffraction and Fraunhoffer diffraction and observe the diffraction patterns in the case of single slit and the diffraction grating. ➢ CO-3: Describe the construction and working of zone plate and make the comparison of zone plate with convex lens. ➢ CO-4: Explain the various methods of production of plane, circularly and polarized light and their detection and the concept of optical activity. ➢ CO-5: Comprehend the basic principle of laser, the working of He-Ne laser and Ruby lasers and their applications in different fields. ➢ CO-6: Explain about the different aberrations in lenses and discuss the methods of minimizing them. ➢ CO-7: Understand the basic principles of fibreoptic communication andexplore the field of Holography and Nonlinear optics and their applications.
SEMESTER-IV Thermodynamics & Radiation Physics	➢ CO-1: Understand the basic aspects of kinetic theory of gases, Maxwell-Boltzman distribution law, equipartition of energies, mean free path of molecular collisions and the transport phenomenon in ideal gases. ➢ CO-2: Gain knowledge on the basic concepts of thermodynamics, the first and the second law of thermodynamics, the basic principles of refrigeration,the concept of entropy,the thermodynamic potentials and their physical interpretations. ➢ CO-3: Understand the working of Carnot's ideal heat engine, Carnot cycle and its efficiency. ➢ CO-4: Develop critical understanding of concept of Thermodynamic potentials,the formulation of Maxwell's equations and its applications. ➢ CO-5: Differentiate between principles and methods to produce low temperature and liquefy air and also understand the practical applications of substances at low temperatures. ➢ CO-6: Examine the nature of black body radiations and the basic theories.
SEMESTER-V PAPER-5 Electricity, Magnetism And Electronics	➢ CO-1: Understand the Gauss law and its application to obtain electric field in different cases and formulate the relationship between electric displacement vector, electric polarization, Susceptibility, Permittivity and Dielectric constant. ➢ CO-2: Distinguish between the magnetic effect of electric current and electromagnetic induction and apply the related laws in appropriate circumstances. ➢ CO-3: Understand Biot and Savart's law and Ampere's circuital law to describe and explain the generation of magnetic fields by electrical currents. ➢ CO-4: Develop an understanding on the unification of electric and magnetic fields and Maxwell's equations governing electromagnetic waves
SEMESTER-V PAPER-6 Modern Physics	➢ CO-1: Develop an understanding on the concepts of Atomic and Modern Physics, basic elementary quantum mechanics and nuclear physics. ➢ C0-2: Develop critical understanding of concept of Matter waves and Uncertainty principle. ➢ C0-3: Get familiarized with the principles of quantum mechanics and the formulation of Schrodinger wave equation and its applications. ➢ C0-4: Examine the basic properties of nuclei, characteristics of Nuclear forces, salient features of Nuclear models and different nuclear radiation detectors. ➢ CO-5: Classify Elementary particles based on their mass, charge, spin, half life and interaction.
Semester VI	➢ Six months Long term internship.

Programme name &code	After the completion of the programme a student is able to
B.Sc, MPCs	➢ PO-1. An ability to apply knowledge of Computer Science and Mathematics to a variety of computational problems. ➢ PO-2. An ability to design and conduct experiments and also to analyse and interpret data. ➢ PO-3. An ability to design a system, component or process to meet the desired needs within realistic constraints such as environmental, economic, social, political, ethical and safety, healthy ,manufacturability and sustainability. ➢ PO-4. An ability to gain required programming skills, formulate and solve practical problems. ➢ PO-5. An understanding of professional and ethical responsibility. ➢ PO-6. An ability to communicate effectively. ➢ PO-7. An ability to function on multidisciplinary teams. ➢ PSO-1. Ability to apply knowledge of computing, mathematics, and basic sciences that may be relevant and appropriate to the domain. ➢ PSO-2. Ability to analyse a problem, identify and define the computing requirements, which may be appropriate to its solution. ➢ PSO-3. Ability to use current techniques, skills, and tools necessary for computing practices. ➢ PSO-4. Ability to apply problem-solving skills and the knowledge of computer science to solve real world problems. ➢ PSO-5. Ability to understand, Analyse and Develop computer programs for efficient design of computer-based systems of varying complexity. ➢ PSO-6. Ability to develop technical project reports and present them orally among the users. ➢ PSO-7. Ability to develop proficiency in the practice of computing.PSO-8. Prepare for continued professional development.

COMPUTER SCIENCE

Course Title	After the completion of the programme a student is able to
SEMESTER-III Object Oriented Programming using Java	➢ CO-1. Use object oriented programming concepts to solve real world problems. ➢ CO-2. Identify classes, objects, members of a class and relationships among them needed for a specific problem. ➢ CO-3. Achieve the Knowledge of developing simple java programs. ➢ CO-4. Develop computer programs to solve real world problems. ➢ CO-5. Demonstrate the behaviour of programs involving the basic programming constructs like control structures, constructors, string handling and garbage collection. ➢ CO-6. Use overloading methodology on methods and constructors to develop application programs. ➢ CO-7. Demonstrate the implementation of inheritance (multilevel, hierarchical and multiple) by using extend and implement keywords. ➢ CO-8. Describe the concept of interface and abstract classes to define generic classes. ➢ CO-9. Understand the impact of exception handling to avoid abnormal termination of program using checked and unchecked exceptions. ➢ CO-10. Demonstrate the user defined exceptions by exception handling keywords (try, catch, throw, throws and finally). ➢ CO-11. Use multithreading concepts to develop inter process communication. ➢ CO-12. Illustrate different techniques on creating and accessing packages. ➢ CO-13. Design simple GUI interfaces to interact with users, using Applets. ➢ CO-14. Understand and implement concepts on file streams and operations in java programming for a given application programs.
SEMESTER-IV Data Structures	➢ CO-1. Implement abstract data types using arrays and linked list. ➢ CO-2. Describe how arrays, records, linked structures, stacks, queues, trees, and graphs are represented in memory. ➢ CO-3. Ability to describe stack, queue and linked list operation. ➢ CO-4. Apply the different linear data structures like stack and queue to various computing problems. ➢ CO-5. Implement different types of trees and apply them to problem solutions. ➢ CO-6. Demonstrate different methods for traversing trees ➢ CO-7. Discuss graph structure and understand various operations on graphs and their applicability. ➢ CO-8. Ability to analyse algorithms and algorithm correctness. ➢ CO-9. Analyse the various sorting and searching algorithms.
SEMESTER-V PEPAE-5 MDBMS	➢ CO-1. Describe DBMS architecture, physical and logical database designs, database modelling, relational, hierarchical and network models. ➢ CO-2. Able to Identify basic database storage structures and access techniques such as file organizations, indexing methods including B-tree, and hashing. ➢ CO-3. Learn and apply Structured query language (SQL) for database definition and database manipulation. ➢ CO-4. Use ER model for Relational model mapping to perform database design effectively ➢ CO-5. Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database. ➢ CO-6. Understand various transaction processing, concurrency control mechanisms and database protection mechanisms. ➢ CO-7. Students can use DML,DDL,DCL commands to manipulate data in the database. ➢ CO-8. Analyse and design a real database application. ➢ CO-9. Apply normalization concepts for designing a good database with integrity constraints.

SEMESTER-V PEPAE-6 Software Engineering	➢ CO-1. Plan a software engineering process life cycle , including the specification, design, implementation, and testing of software systems that meet specification, performance, maintenance and quality requirements. ➢ CO-2. Identify the key activities in managing a software project and recognize different process model. ➢ CO-3. Able to elicit, analyse and specify software requirements through a productive working relationship with various stakeholders of the project. ➢ CO-4. Analyse and translate a specification into a design, and then realize that design practically, using an appropriate software engineering methodology. ➢ CO-5. Know how to develop the code from the design and effectively apply relevant standards and perform testing, and quality management and practice. ➢ CO-6. Able to use modern engineering tools necessary for software project management, time management and software reuse.
Semester -VI	➢ Six months Long term internship.

STATISTICS (WM)

Course Title	After the completion of the programme a student is able to
SEMESTER-III Statistical Inference	➢ Concept of law large numbers and their uses. ➢ Concept of central limit theorem and its uses in statistics. ➢ Concept of random sample from a distribution, sampling distribution of a statistic, standard error of important estimates such as mean and proportions. ➢ Knowledge about important inferential aspects such as point estimation, test of hypotheses and associated concepts. ➢ Knowledge about inferences from Binomial, Poisson and Normal distributions as illustrations. ➢ Concept about non-parametric method and some important non-parametric tests.
SEMESTER-IV Sampling Techniques and Design of Experiments	➢ CO-1) Introduced to various statistical sampling schemes such as simple, stratified and systematic sampling. ➢ CO-2) an idea of conducting the sample surveys and selecting appropriate sampling techniques, ➢ CO-3) Knowledge about comparing various sampling techniques. ➢ CO-4) carry out one way and two way Analysis of Variance, ➢ CO-5) understand the basic terms used in design of experiments, ➢ CO-6) Use appropriate experimental designs to analyze the experimental data.

STATISTICS (NM)

Course Title	➢ After the completion of the programme a student is able to
PAPER - III : Statistical Methods And Probability	➢ CO-1) Knowledge related to concept of attributes. ➢ CO-2) Knowledge of other types of data reflecting quality characteristics including concepts of independence and association between two attributes. ➢ CO-3) knowledge to conceptualize the probabilities of events including frequent and axiomatic approach. Simultaneously, they will learn the notion of conditional probability. ➢ CO-4) knowledge related to concept of discrete and continuous random variables and their probability distributions including expectation and moments, ➢ CO-5) knowledge related to concept of random variable, Probability mass function and probability density function. ➢ CO-6) knowledge related to concept of Mathematical expectation.
PAPER – IV : Probability Distributions, Correlation And Regression	➢ CO-I. Ability to distinguish between discrete and continuous distributions. ➢ CO-2. Knowledge related to concept of curve fitting. ➢ CO-3. Knowledge of important discrete and continuous distributions such as Binomial, Poisson, rectangular, normal, distributions. ➢ CO-4. Acumen to apply standard discrete and continuous probability distributions to different situations. ➢ CO-5. Knowledge related to concept of correlations.
PAPER – V : Statistical Applications	➢ CO-1) Concept of Criteria of a good estimator. ➢ CO-2) Knowledge of large sampling. ➢ CO-3) Knowledge of small sampling. ➢ CO-4) Knowledge of Exact sampling ➢ CO-5) Concept of random sample from a distribution, sampling distribution of a statistic, standard error of important estimates such as mean and proportions, ➢ CO-6) knowledge about important inferential aspects such as point estimation, test of hypotheses and associated concepts, ➢ CO-7) knowledge about inferences from Binomial, Poisson and Normal distributions as illustrations, ➢ CO-8) concept about non-parametric method and some important non-parametric tests.

Catering, Tourism and Hotel Management

Programme name &code	After the completion of the programme a student is able to
B.Sc,CT&HM	➢ PO-1. An ability to apply knowledge of Computer Science and Mathematics to a variety of computational problems. ➢ PO-2. An ability to design and conduct experiments and also to analyse and interpret data. ➢ PO-3. An ability to design a system, component or process to meet the desired needs within realistic constraints such as environmental, economic, social, political, ethical and safety, healthy ,manufacturability and sustainability. ➢ PO-4. An ability to gain required programming skills, formulate and solve practical problems. ➢ PO-5. An understanding of professional and ethical responsibility. ➢ PO-6. An ability to communicate effectively. ➢ PO-7. An ability to function on multidisciplinary teams.
	➢ PSO-1. Ability to apply knowledge of computing, mathematics, and basic sciences that may be relevant and appropriate to the domain. ➢ PSO-2. Ability to analyse a problem, identify and define the computing requirements, which may be appropriate to its solution. ➢ PSO-3. Ability to use current techniques, skills, and tools necessary for computing practices. ➢ PSO-4. Ability to apply problem-solving skills and the knowledge of computer science to solve real world problems. ➢ PSO-5. Ability to understand, Analyse and Develop computer programs for efficient design of computer-based systems of varying complexity. ➢ PSO-6. Ability to develop technical project reports and present them orally among the users. ➢ PSO-7. Ability to develop proficiency in the practice of computing.PSO-8. Prepare for continued professional development.

Course Title	After the completion of the programme a student is able to
SEMESTER-III Pilgrimage Tourism and Hospitality Management – II	➢ Label the concepts of tourism.• Name different types of tourism. ➢ Identifies different travel agencies and tourist guides. ➢ Recognizes Tourism as a revenue generator in a country. ➢ Reviews tourism destinations in the world. ➢ Explains the merits and demerits of tourism as a destination.
	➢ Interprets employment generation in Tourism sector. ➢ Learn about globalization of world through tourism. ➢ Visit to different Tourist accommodations. ➢ Visit to various Tourism destinations. ➢ Dealing and analysing the history of tourist destination.
Food Production - II	➢ CO-1 The principles of cooking. ➢ CO-2 Concept of International, National and regional cuisines. ➢ CO-3 Knowledge related to standardization of quantity cooking. ➢ CO-4 Reviews standardization of different cuisines. ➢ CO-5 Explains difference between Northern Indian and South Indian cuisine and also cooking methods of different cuisines. ➢ CO-6 Judges suitable techniques for purchase and storage of quantity cooking ➢ CO-7 Learning about quality cooking by visiting hotels. ➢ CO-8 Visiting different cuisines offering North and South Indian styles. ➢ CO-9 Preparation of different cuisines. ➢ CO-10 Preparation of quality cooking. ➢ CO-11 Preparation of food using different types of cooking

Food And Beverage Service - II	➢ CO-1 Names of different alcoholic and non-alcoholic beverages. ➢ CO-2 Identifies different types of beverage/es ➢ CO-3 Understands about history of alcoholic and non-alcoholic beverages. ➢ CO-4 Uses the knowledge about storage of cocktails and mock tails. ➢ CO-5 Apply knowledge in analysing and standardizing the method of making different beverages. ➢ CO-6 Explains about quality of different alcoholic and non-alcoholic beverages. ➢ CO-7 Observing the preparation of mock tails and cocktails by visiting bars and hotels. ➢ CO-8 Knowing about different types of glass wares for the table arrangements. ➢ CO-9 Preparation non-alcoholic beverages. ➢ CO-10 Services of Tea, Coffee.
SEMESTER - IV Tourism Marketing-III	➢ CO-1 Identifies new trends of tourism marketing.. ➢ CO-2 List out 5 A's in Tourism marketing. ➢ CO-3 Understands challenges in marketing. ➢ CO-4 Uses the knowledge to market tourism as a product. ➢ CO-5 Explains about the importance of advertising and publicity in tourism. ➢ CO-6 Analyzes challenges in promotion of tourism. ➢ CO-7 Identifies and solves problems in the market skills in tourism. ➢ CO-8 Visit to travel agencies. ➢ CO-9 Learn how to sell various tourism products. ➢ CO-10 Observing a Tourist guide. ➢ CO-11 Preparation of Itinerary for tourists. ➢ CO-12 Preparing a product according to guest requirement.
Front Office-II	➢ CO-1 Defines the concepts of reservation and terminology of Reception. ➢ CO-2 Identify the concepts that explains E-commerce. ➢ CO-3 Understands the concept of concierge. ➢ CO-4 Express clearly about different shifts in a hotel. ➢ CO-5 Problems encountered in manual reserve/ation ➢ CO-6 Apprehend the process of massage handling. ➢ CO-7 Applies knowledge of foreign exchange. ➢ CO-8 Observing and learning about Bell Desk Staff by visiting hotels. ➢ CO-9 Learn about the duties of a Guest Relaxation Executive by visiting hotels. ➢ CO-10 Receiving guest and filling forms according to the type of guest. ➢ CO-11 Collect different forms used in hotel during a hotel visit.
Accommodation Operation-II	➢ CO-1 Labels housekeeping inventories and textiles terminologies. ➢ CO-2 Identifies different surfaces used and methods of cleaning ➢ CO-3 Understands the importance of a guest ➢ CO-4 Uses knowledge of Science of Cleaning/
	➢ CO-5 Analysis lost and found procedure ➢ CO-6 Analysis the concepts of par stock. ➢ CO-7 Observing the co-ordination with other departments. ➢ CO-8 Concepts of linen and uniform room. ➢ CO-9 Practice of different types of cleaning. ➢ CO-10 Partials on maid trolley by hotel visit maintenance of records.
SEMESTER-V Internship Training Programme	➢ Meaning of the terms like larder, Guerdon Service and continental cuisine. ➢ Principles and scope of hospitality Industry ➢ Concepts of appetizer and garnishes. ➢ Understands the importance of training and supervision ➢ Uses knowledge about registers used in food production. ➢ Explains different servicing techniques. ➢ Analyses the concepts of total quality management in food production. ➢ Learning about quality cooking by visiting hotel. ➢ Standardization of ingredients of continental cuisines. ➢ Planning different countries continental cuisines. ➢ Hands on experience on techniques used in continental cuisine. Preparation of basic recipes of different countries continental cuisines .

Semester-VI Food And Beverage Services **- III**	➢ CO-1 Understanding the concepts good restaurant layout. ➢ CO-2 Learn about a concepts food and beverage services. ➢ CO-3 Knowing about different types of kitchen design. ➢ CO-4 Understanding the concepts of table plan and seating arrangements. ➢ CO-5 Analyze the concepts of formal and informal banquets. ➢ CO-6 Critically evaluate different types of guest services. ➢ CO-7 Observing the duties and responsibilities of food and beverage staff by visiting various hotels. ➢ CO-8 Planning of buffet. ➢ CO-9 Learn about service still room. ➢ CO-10 Knowing about guardian service. ➢ CO-11 leaning the techniques of food preservation.
Front Office - III	➢ CO-1 Learn the term Night Audit, Front Office Cashier. ➢ CO-2 Understand of Yield management.. ➢ CO-3 Understand importance's of HRM in Hotel. ➢ CO-4 Learn the process of Recruitment. ➢ CO-5 Explain the importance of Night Auditor inHotel. ➢ CO-6 Study Hotel Security and Staff. ➢ CO-7 Visit Reception and Front Office various Organisation ➢ CO-8 Learn to handle different Keys. ➢ CO-9 Learn fire safety and First Aid. ➢ CO-10 Learn about different types of Accounts.
Hotel Law	➢ CO-1 Define terms like license, permit and Hotel Law. ➢ CO-2 Explained important of Hotel Law in Hotel Industry. ➢ CO-3 Understand important of Hotel Law in staff life. ➢ CO-4 Uses of Knowledge of law in getting Hotel permission ➢ CO-5 Explained the importance of Building height soil testing before starting Hotel. ➢ CO-6 Described importance of hotel and Tourism learn in the World ➢ CO-7 Observing the causes for cancelation of license. ➢ CO-8 Analyses and understand the Hotel law for staff and guest. ➢ CO-9 Understand apprentices, child and other Terminology . ➢ CO-10 Study in keeper lien. ➢ CO-11 Study safety and hygiene provision.
Accommodation Operation	➢ CO-1 Described importance how to deal with pest. ➢ CO-2 Visit various Hotels house keeping department. ➢ CO-3 Learn different carpet and covering cleaning. ➢ CO-4 Prepare and learn different flower arrangement. ➢ CO-5 Learn different types of cleaning. ➢ CO-6 Explain the Principles of designs ➢ CO-7 Understand important of guest and employee ➢ CO-8 Uses of Knowledge of flower arrangement in Hotel ➢ CO-9 Explained the importance of Horticulture in Hotel. ➢ CO-10 Described importance how to deal with pest ➢ CO-11 Visit various Hotels house keeping department ➢ CO-12 Learn different carpet and covering cleaning. ➢ CO-13 Prepare and learn different flower arrangement ➢ CO-14 Learn different types of cleaning

Travel and tour management	➢ Define and study documents needed for international travel. ➢ Explain the Important the honorary . ➢ Understand Tour operation. ➢ Study CRS. ➢ Explained the importance of Warso convention. ➢ Described various Tour package. ➢ Visit various Travel Agencies. ➢ Analysis various Tour packages. ➢ Prepare Tour Brochures. ➢ Learn automatic and manual ticketing.

HEAD
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TIRUPATI - 517 501

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S.G.S. ARTS COLLEGE
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Co-ordinator
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