TELANGANA TRIBAL WELFARE RESIDENTIAL DEGREE COLLEGE(GIRLS), KOTHAGUDEM
Bhadradri Kothagudem District, Telangana State – 507101
(Affiliated to Kakatiya University, Warangal, Telangana)
Website: https://ttwrdcs.ac.in/.Kothagudem

COURSE OUTCOMES

(COs)

Department of Commerce

B. Com (General&CA)

S.No.	Paper Title & Paper Code	CO	Course Outcomes
1	FINANCIAL ACCOUNTING – I DSC101	CO1	The student gains the knowledge about principles of accounting, accounting standards, and basic knowledge on journal, Ledger and trial balance.
		CO2	Student acquires knowledge on types of cash book and subsidiary books.
		CO3	Student will be able to know the reasons for Differences between cash book and passbook.
		CO4	Students learn how to rectify the errors and types of depreciation.
		CO5	Student gains the knowledge in preparing the final accounts of a sole trader.
2	BUSINESS ORGANIZATION AND MANAGEMENT DSC102	CO1	Acquires basic knowledge on business and forms of business.
		CO2	Student gains the knowledge on preparation of important documents of joint stock company.
		CO3	Student learns about functions and principles of management.
		CO4	Learns about planning and organizing.
		CO5	Knows the meaning of authority and responsibility, techniques of effective coordination.
3	FINANCIAL ACCOUNTING-II DSC201	CO1	Student gains the knowledge on negotiable instruments.
		CO2	Learns the accounting treatment of consignment.
		CO3	Gains knowledge on methods of keeping records for joint venture accounts.
		C04	Determines the ascertainment of profit in Single entry system.
		C05	Learns the accounting treatment of non-profit organizations.
4	BUSINESS LAWS DSC202	CO1	Understands the basic contract act, essentials of a valid contract, and types of contracts.
		CO2	Gains knowledge on consumer protection act and sale of goods act.
		CO3	Learns about the types of intellectual property rights.
		CO4	Gains knowledge on duties and responsibilities of company director, meetings, minutes etc.

		C05	Learns about the modes of winding up of a Company.
5	ADVANCED ACCOUNTING D8C301	CO1	Learns the accounting treatment of partnership.
		CO2	Student gains knowledge on dissolution and insolvency of a partner.
		CO3	Student knows about the types of shares, issue of share capital etc.
		CO4	Student learns about the different types of company's acts.
		CO5	Student acquires knowledge about goodwill and valuation of goodwill.
6	BUSINESS STATISTICS-I D8C302	CO1	Acquires knowledge about origin and development of statistics, statistical investigation, primary and secondary data, Tabulation of data.
		CO2	Students will be able to do diagrammatic and graphical presentations of frequency Distributions.
		CO3	Gains knowledge to solve 5 types of averages.
		CO4	Acquires knowledge on dispersion and skewness.
		CO5	Gains knowledge on Karl Pearson's Correlation and rank correlation.
7	INCOME TAX-I D8C402	CO1	Gains knowledge on cannons of taxation, basic concepts of income tax.
		CO2	Will be able to compute agricultural and non-agricultural income.
		CO3	Gains knowledge on computation of income from salary.
		CO4	Gains knowledge on computation of income From house property, deductions undersection 24.
		CO5	Will be able to compute the income from business and profession.
8	CORPORATE ACCOUNTING D8C403	CO1	The student will be able to compute the liquidator's final statement of account.
		CO2	Gains basic knowledge and accounting

			Treatment on amalgamation.
		CO3	Gains knowledge in preparation of final statement after reconstruction.
		CO4	Learns about the accounts of banking companies.
		CO5	Gains knowledge on accounts of insurance companies and insurance claims.
9	BUSINESS STATISTICS-II DSC402	CO1	The student will be able to compute regression lines.
		CO2	Learns about different types of index numbers and tests of consistency.
		CO3	Learns about the components of time series, their uses and limitations.
		CO4	The students will be able to compute probability and theorems of probability.
		CO5	The students gain knowledge on theoretical Distributions.
10	FOREIGN TRADE DSC103	CO1	Understand the pattern and direction of India's external trade
		CO2	Comprehend the export promotional infrastructure in India
		CO3	Learn functions of export promotional organizations
		CO4	Evaluate current Foreign Trade Policy of India
		CO5	Analyze the concept of Quality and its significance in export trade
11	AUDITING DSE503	CO1	Will be able to understand Auditing as per AASB.
		CO2	Learns about Auditors qualifications, qualities, remuneration, rights and duties.
		CO3	Learn about internal control, internal check and internal audit.
		CO4	Will be able to do vouching of trading transactions and vouching of cash transactions.
		CO5	Learns about verification and valuation of assets.
12	COST ACCOUNTING DSE501	CO1	Gains knowledge in cost concepts and cost Classification.
		CO2	Acquires knowledge on inventory control techniques.
		CO3	The students will be able to compute wages payment methods, methods of allocation and Apportionment of overheads.
		CO4	Will be able to compute tenders and estimated costs, job cost sheet.
		CO5	Will be able to solve contract and process Accounts, compute normal and abnormallosses.

13	BANKING &FINANCIAL SERVISCES DSC203	CO1	Understand the importance and relevance of Investment Bankers in any Financial System.
		CO2	Understand the entire process of raising funds from primary markets along with the concerned regulations applicable in India.
		CO3	Understand the various financial services available in financial markets particularly in India along with the latest innovations and technological integration in the field of finance.
14	BUSINESS ECONOMICS GE	CO1	Understand Basic problems of an economy and concept of business cycles
		CO2	Learn the theory of Demand and related concepts
		CO3	Understand the theory of supply and Consumer Behavior.
		CO4	Obtain knowledge about the theory of Production, Costs and Revenue.
		CO5	Identify various types of Markets.
15	PROJECT REPORT & RESEARCH METHODOLOGY PR	CO1	Students will be able to take up and implement a research project/ study. The Students will develop skills in qualitative and quantitative data analysis and presentation. .
		CO2	The course will also enable them to collect the data, edit it properly and analyse it accordingly. Thus, it will facilitate students' prosperity in higher education.
		CO3	The Students will develop skills in qualitative and quantitative data analysis and presentation.
		CO4	Students will be able to demonstrate the ability to choose methods appropriate to research objectives
	COMPUTERIZED ACCOUNTING	CO1	Compute and record financial transactions that are unique to governmental and not-for-profit institutions such as hospitals, colleges, and universities

16	DSE502	CO2	Analyze financial statements, prepare managerial reports, and suggest appropriate actions to alleviate or eliminate problems, Implement an effective system of internal control
		CO3	Utilize the computer to record accounting information and perform spreadsheet analysis
		CO4	Research printed and electronic resources, evaluate the quality of the information, and report findings orally and/or in written reports.
17	COST CONTROL & MANAGEMENT ACCOUNTING DSE601	CO1	Understand various costing methods and management techniques
		CO2	Apply Cost and Management accounting methods for both manufacturing and service industry
		CO3	Prepare cost sheet, quotations, and tenders to organization for different works
		CO4	Analyze cost-volume-profit techniques to determine optimal managerial decisions
		CO5	Compare and contrast the financial statements of firms and interpret the results. Prepare analysis of various special decisions, using relevant management techniques
18	FINANCIAL INSTITUTIONS AND MARKETS DSC303	CO1	The student gets an overview of Indian Financial System.
		CO2	Gains the knowledge on role of financial Institutions in economic development.
		CO3	Learns about state level development banks.
		CO4	Acquires knowledge on money market.
		CO5	Acquires knowledge on capital market.
19	THEORY & PRACTICE OF GST DSE602	CO1	Know about importance of Indirect taxes in India and the journey of GST in India since the year 2004.Know about the application of GST in Tally.
		CO2	List out the accounts to be maintained as per GST laws and various returns to be filed to get the input tax credit. Know about the application of GST in case of businesses which are service-oriented and rates for service businesses and their application mechanism.
		CO3	Know about Application of GST in tally ERP 9, recording business transaction in relating to business transaction and other relevant areas which have to be filed by the business entity as per GST law.
		CO4	Creating GST invoices etc in Tally ERP 9 (Basic Introduction) understand the reasons behind the implementation of GST in India and its effect on all the sectors of Economy.

		CO5	Practical exposure to GST in businesses.
20	ACCOUNTING STANDARDS DSE603	CO1	Exemplify to prepare and analyse the financial statements
		CO2	Acquire the basic concept of accounting terms
		CO3	Journalize the ability to rectify the errors in bank reconciliation statement
		CO4	Exposed to various methods of depreciation and insurance accounting
		CO5	Demonstrate insight into single and double entry system of accounting.

Department of History

S.No.	Paper Title	CO	Course Outcomes
1	Semester I History of India (from earliest times to 700CE)	CO1	Students will be able to understand the nature and scope of history and role of sources as construction of Indian History.
		CO2	Students will understand the features of Indian Civilization which is one of the ancient civilizations of the world.
		CO3	Students will be able to understand the features of ancient culture of India. i.e. Harappan Culture and Vedic Culture.
		CO4	Students will be known the principles of Buddhism and Jainism and their impact in our country and world.
		CO5	Students will be understanding the first and efficient administration of Mauryas.
		CO6	Students will be able to understand the factors responsible for the Golden Age of the Guptas.
2	Semester II History of India (700 CE to 1526 CE)	CO1	Students will be able to understand about the regional kingdoms of south India.
		CO2	Students will be able to understand the foundation Muslim rule i.e., Delhi Sultanate and its impact in India.
		CO3	Students will be understanding the role of Bhakthi and Sufi movements in Medieval India.
		CO4	Students will be able to understand the contribution of South India Kingdom to South Indian Culture.
		CO5	Students will be able to understand the role of Krishna Tungabhadra Doab on emergence of Vijayanagara and Bahamani kingdom.
3	Semester III History of India (1526CE-1857CE)	CO1	Students will be able to understand the about role of Mughal dynasty in Arts and Architecture and its impact on emergence of composite culture.
		CO2	Students will be able to understand the contribute regional powers during and after Mughals.
		CO3	Students will be able to understand the advent of European powers and contribution of British power.

		CO4	Students will be able to understand the different revenue settlements of Britishers responsible for changes in agrarian economy and man-made calamities.
		CO5	Students will be able to understand the responsibility of Britishers for decline of cottage Industries and suffering by all sections led to revolt of 1857CE.
4	Semester IV History of India (1858CE-1964CE)	CO1	Students will be able to understand the change of power from East India Company to between after the revolt of 1857CE.
		CO2	Students will be able to understand the various socio-religious movements in 19th century and their impact in Indian society.
		CO3	Students will be able to understand the formation of Indian National Congress at National Level to fight against Britishers in different phases.
		CO4	Students will be able to understand the different revolutionary activities against Britishers.
		CO5	Students will be able to understand the role of communal politics for partition of India and role of Sardar Vallabhai Patel in integration of Indian Union.
5	Semester V History of the Modern World (1453CE-1964CE)	CO1	Students will be able to understand the emergence of modern world with Renaissance, Reformation and Geographical discoveries.
		CO2	Students will understand the courses of different revolutions and its impact on Modern Europe.
		CO3	Students will be able to understand the process of colonization in Asia and Africa by European countries.
		CO4	Students will know the causes for the two world wars between 1914CE -1945CE and their impact.
		CO5	Students will understand the importance of UNO for keeping peace in the world.
6	Semester VI History and Culture of Telangana (From earliest times of 2014CE)	CO1	Students will understand the history of Ancient Telangana and importance of different periods.
		CO2	Students will understand the contribution of Asaf Jahis in the field of Administration and Culture in Deccan.

		CO3	Students will understand the political developments in relating to freedom movement in Hyderabad state.
		CO4	Students will understand the activities in Nizam ruling areas and merger of Telangana in Indian Union.
		CO5	Students will understand causes of the different movements in Telangana and formation of Telangana.

Department of Economics

S.No.	Paper Title	CO	Course Outcomes
1	SEM-I MICROECONOMICS	CO1	Students understand the relevance of microeconomics to the real world.
		CO2	The student should be able to build on these concepts in the future to develop deeper understanding of the Economy
		CO3	To understand the economic behaviour of individuals, firms and markets.
		CO4	It is mainly to equip the students in a rigorous and comprehensive understanding with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm.
2	SEM-II MACROECONOMICS	CO1	Macro Economics helps to analyze the National Development and overall development in the different fields like poverty, employment, inflation, income inequalities etc..
		CO2	Provides elementary theoretical foundation of key issues and policies
		CO3	The course attempts to discuss the functional relationships between aggregates.
		CO4	To understand the overall structure of the economy in theoretical and contemporary perspectives for under graduate students.
3	SEM-III ECONOMICS OF STATISTICS	CO1	To develop mathematical approach in analysis of economic problems. It mainly focuses on those mathematical techniques which are directly useful in economic analysis.
		CO2	To introduce the students to elementary concepts in develop the ability to explain core economic terms, concepts, and theories.
		CO3	To make informed decisions using data, and to

			communicate the results effectively.
		CO4	Students will work in small groups in this course; this will develop the skills required to work effectively and inclusively in groups, as in a real work environment.
4	SEM-IV CONTEMPORARY ISSUESOF THE INDIAN ECONOMY: ECONOMIC SURVEY	CO1	This course provides fundamental foundation of basic growth and development issues, approaches and models.
		CO2	It helps to understand the overall static and dynamic perspectives of the economy in a purely theoretical perspective.
		CO3	This course provides basic knowledge on national income accountings, various issues involved in agricultural, industrial, financial, trade sectors, public institutions and finally human resources development.
5	SEM-V AGRICULTURE ECONOMICS	CO1	The paper makes students aware of different theories on agricultural development to cement their skills in undertaking research in the field of agricultural economics.
		CO2	It provides details views of the process of agricultural development in the country since independence
6	SEM-V PUBLIC ECONOMICS	CO1	Considering the increasing role of Government in economy, this course aims to generate theoretical and empirical understanding of students about different aspect of Governmental activities and their rationality.
		CO2	It covers fundamental concepts of public economics, public expenditure, public revenue, and public debt with special reference of Indian economy.
7	SEM-VI INTERNATIONAL ECONOMICS	CO1	To provide strong theoretical background to the students on the subject of international trade.
		CO2	It also helps understand the empirical aspects such as trade reforms and their impact on India economy.
8	SEM-VI ECONOMICS OF DEVELOPMENT	CO1	The course makes students to understand the basic growth and development issues, approaches and models.
		CO2	Its focus is on improving the potential for the mass of population through health and education.

Department of Political Science

S.No.	Paper Title	CO	Course Outcomes
1	SEM-I UNDERSTANDING POLITICAL THEORY	CO1	It enlightens the student about the basic theories of the state, different political concepts And ideologies.
		CO2	It also enlightens the students about the significance of Multiculturalism, gender justice and the structures of the government.
2	SEM-II WESTERN POLITICAL THOUGHT	CO1	It enables the students to know and understand the great ideas of great philosophers from ancient times to modern times, that is, from Plato and Aristotle to Hegel and Karl Marx.
		CO2	It brings out and broadens the intellectual potential of the students
3	SEM-III INDIAN POLITICAL THOUGHT	CO1	It enables the students to understand great ideas of Indian philosophers in general and their Political Thinking in particular.
		CO2	It enlightens the students on the great Indian ethos of diversity, plurality and tolerance.
4	SEM-IV CONSTITUTION AND POLITICS OF INDIA	CO1	The students know about the constitutional Values, structure and functioning of the government.
		CO2	It enables the students to know divergent political trends during the last seven decades of the functioning of Indian constitution.
5	SEM-V INTERNATIONAL RELATIONS	CO1	It enables the students to understand the nature of the Sovereign State System and its evolution.
		CO2	It also enables the students to know nature and dynamics of international relations and the History of international relations.
6	SEM -VI GLOBAL POLITICS	CO1	It enlightens the students on the basic concepts of power, national interest and world peace.
		CO2	Students also come to know about the politics of global issues like global warming, Human Rights and Terrorism and sensitize themselves of these issues.

Department of Journalism

S.No.	Paper Title	CO	Course Outcomes
1	SEM-I INTRODUCTION TO JMC	CO1	Students know about the scope and evolution of Journalism and Mass Communication.
		CO2	They also know about Principles of Journalism, types of mass media and various communication theories.
2	SEM –II MASS MEDIA IN INDIA	CO1	Students learn the techniques of reporting, reporting of special events.
		CO2	Students also learn column writing and editing which are immensely useful for better career in Journalism.
3	SEM-III DEVELOPMENT COMMUNICATION	CO1	It enables the students to have a proper perspective about the development.
		CO2	They also know about development communication, participatory development and multi- media approach to development issues.
4	SEM-IV BROADCAST JOURNALISM – NEW MEDIA	CO1	The students learn about the concept of broadcasting and its history.
		CO2	They also know about the emergence of commercial broad casting, emergence of new media and the ethical issues involved in them
5	SEM-V REPORTING & EDITING FOR ELECTRONIC MEDIA	CO1	The students learn about writing for radio, principles of news writing, writing for television.
		CO2	The students also learn reporting political news and writing for radio and television documentary.
6	SEM-V PAPER VI(B) MEDIA LAWS & ETHICS	CO1	The students are enlightened about the constitutional values in general and the freedom of the press under article 19 in particular.

		CO2	They also know about the various acts like official secrecy act, Cinematography Act, Press council of India Act etc.,
7	SEM-VI PAPER VII – PUBLIC RELATIONS & ADVERTISING	CO1	The concept of Public Relations, significance of community relations, advertising and its effects, various advertising agencies would provide good career opportunities to the students of journalism.
8	SEM-VI PAPER VIII (B): SPECIALISED REPORTING FOR ELECTRONIC MEDIA (FIELD WORK)	CO1	This field work on reporting for electronic media gives good exposure to the students to learn nuances of report writing in general and reporting for electronic media in particular.

Department of Telugu

S.No.	Paper Title	CO	Course Outcomes
1	DHARMJUNIVAKCHATURYAM.	CO1	The students will learn about Mahabharata visheshalu.
		CO2	The students will learn about Tikkana natakeeyata.
		CO3	The students will learn about Parichina Telugu padabandalu.
		CO4	The students will learn about Parichina kavitvam.
2	GUNANIDHIKATHA	CO1	The students will learn about Sreenadhuni kavitvam.
		CO2	The students will learn about Puruni prdhanyata
		CO3	The students will learn about Vidya radhanyata
		CO4	The students will learn about Chatuvulu
3	NARASIHASATAKAM	CO1	The students will learn about Satakam viseshaalu
		CO2	The students will learn about Dhariamsalu
		CO3	The students will learn about Neeti visheshalu
		CO4	The students will learn about Bhakthi visheshalu
4	ARDHARATRI ARUNODAYA	CO1	The students will learn about Vachana kavitvam visheshalu
		CO2	The students will learn about Telagana samajikamsalu
		CO3	The students will learn about Naijam palana
		CO4	The students will learn about Rajakarla duscharyalu
5	NIVURUTOLAGINANIPPU	CO1	The students will learn about Katha sahityam visheshalu
		CO2	The students will learn about Patrowchityam

		CO3	The students will learn about Atmavisvasam, pattudala
		CO4	The students will learn about Jrutagyatabhavam
6	CHALICHEEMALU	CO1	The students will learn about Natakavisheshalu
		CO2	The students will learn about Gramarajikeeyalu
		CO3	The students will learn about Devalayam aastulu
		CO4	The students will learn about Gramasarpanch adhikara durviniyogam.

Department of English

S.No.	Paper Title	CO	Course Outcomes
1	**GENERAL ENGLISH COURSE**	CO1	Be aware of correct usage of English grammar in writing and speaking.
	English for Advancement **Semester I&II** This course includes well-crafted stories and compelling characters. each unit includes sections on listening, reading, writing, grammar, vocabulary and soft skills. **English for Excellence-** **Semester III&IV** This course adopts the learner-centric approach to improve Students' interpretative skills and to help them learn and communicate fluently. **English for Careers** **Semester V&VI** The course is designed to improve the English communication skills of undergraduate students.	CO2	Help improve their speaking ability in English both in terms of fluency and comprehensibility
		CO3	Increase their reading speed and Comprehension of academic articles.
		CO4	Improve their reading fluency skills through extensive reading.
		CO5	Strengthen their ability to write academic papers, essays and summaries using the process approach. Students will attain and enhance competence in the four modes of literacy: Writing, speaking, reading and listening.
		CO6	Develop their ability as critical readers and Writers.
		CO7	Produce a short research paper using the Drafting process.
		CO8	Achieve these outcomes through the development of the following skills: focused reading skills work and exams; discussions of longer articles; and summary writing including the drafting process.

Department of Botany

S.No.	Paper Title	CO	Course Outcomes
1	SEM-I MICROBIAL DIVERSITY OF LOWER PLANTS	CO1	The students will develop understanding about the diversity, identification, classification and economic importance of lower plants.
		CO2	To understand life cycles of different algal species.
		CO3	To know the evolution of sporophytes in bryophytes.
		CO4	To understand the stellar evolution and seedformation habit in pteridophytes.
2	SEM-II GYMNOSPERMS, TAXONOMY OF ANGIOSPERMS AND ECOLOGY	CO1	The course focuses on morphology, anatomy, reproduction and evolution in Bryophytes, Pteridophytes and Gymnosperms and Understand the significance of Palaeobotany and its applications.
		CO2	The students develop the basic understanding of important characteristics, anatomy, reproduction and evolution along with economic importance of these two groups.
		CO3	To gain proficiency in the use of keys and identification manuals to identify any unknown plants to species level.
		CO4	To gain knowledge about life cycles of gymnosperm plants.
3	SEM-III PLANT ANATOMY AND EMBRYOLOGY	CO1	Understand the scope & importance of Anatomy Embryology and Palynology.
		CO2	Know various tissue systems and understand the normal and anomalous secondary growth in plants and their causes.
		CO3	Understand structure and development in microsporangium and megasporangium and process of microsporogenesis and megasporogenesis and male and female gametophytes
		CO4	Know Polllinationation, fertilization, endosperm and embryogeny
4	SEM-IV CELL BIOLOGY AND PLANT PHYSIOLOGY	CO1	Students will be able to understand the various physiological life processes in plants.
		CO2	They will also gain about the various uptake and transport mechanisms in plants and are able to coordinate the various processes.
		CO3	They understand the role of various hormones and enzyme kinetics.
		CO4	To relate photosynthesis with the formation of Primary and secondary metabolites.

5	SEM-V BIODIVERSITY & CONSERVATION	CO1	Students will gain knowledge about important approaches and practices in biodiversity conservation and management
		CO2	The students will understand the concept, types, development and functions of various ecosystems and their communication and about various environmental factors governing these ecosystems
		CO3	To understand the importance of Climatic factors like light, temperature, in related to Growth of plant.
		CO4	To know how to conserve the threatened plants in environment.
6	SEM-VI TISSUE CULTURE & BIOTECHNOLOGY	CO1	Student will understand the basic properties of plant cell and with apply their basic knowledge of PTC in various fields for conservation, medicine, product development etc.
		CO2	Students will learn about Concepts, tools and techniques related to in vitro propagation of Plants.
		CO3	To know different methods used for genetic transformation of plants, use of *Agrobacterium* as a vector for plant transformation, components of a binary vector system.
		CO4	To understand Various case studies related to basic and applied research in plant sciences using transgenic technology.

Department of Zoology

S.No.	Paper Title	CO	Course Outcomes
1	SEM-I ANIMAL DIVERSITY-INVERTEBRATES	CO1	To acquire the knowledge of microscopic living organisms, General characters & classification of the animals, and the comparison, origin and evolution of cell and acellular.
		CO2	To the knowledge acquire about the invertebrates Diseases (viral, bacterial fungal helminths protozoal).
		CO3	To the know cells and spicules coral, and coral reef formation bio-indicators vectors regeneration and symmetry.
		CO4	To acquire the knowledge of Economic importance of invertebrates.
2	SEM-II ANIMAL DIVERSITY-VERTEBRATES	CO1	To acquire the knowledge of General characters & classification of the animals, and the comparison origin and evolution vertebrates.
		CO2	To know the General characters &classification of vertebrates.
		CO3	To gain knowledge about Digestive, Respiratory, Circulatory Nervous& Reproductive system of vertebrates.
		CO4	To acquire the knowledge of Economic importance of vertebrates.
3	SEM-III ANIMALPHYSIOLOGY AND ANIMAL BEHAVIOUR	CO1	To know the Homeostasis and Osmoregulation Hormone regulation of blood glucose levels in human being.
		CO2	To gain knowledge about Digestive, Respiratory, Circulatory Nervous& Reproductive system of vertebrates.
		CO3	To know the Endocrine system, glands-Structure Secretions and functions.
		CO4	To know the Animal behavior Learning & memory biological rhythms.
4	SEM-IV CELL BIOLOGY, GENETICS & DEVELOPEMNTAL BIOLOGY	CO1	To gain knowledge regarding of the unit of life that is cell, cell structure types, cell functions, various organelles of the cell and their function's structure.
		CO2	To gain knowledge about DNA, RNA –types structure &functions which is very useful at molecular level of genes in various aspects of life quality of genetically characters and forensicmethod of the living organisms.
		CO3	To Acquire the knowledge about Genetical aspects.
		CO4	To acquire the knowledge of the development

			of male and female (oogenesis and spermatogenesis) reproductive organs embryo the fertilization methods to develop with new genetically combinations leading to new Varieties.
5	SEM-V IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY	CO1	To know about immune system-types structure, function & Antigen-antibody reactions.
		CO2	To know about Cloning, cloning methods, vectors.
		CO3	To know the Vaccines-types and their reactions.
		CO4	To know about Recombinant DNA technology, stem cells types and their applications.
6	SEM-VI ECOLOGY, ZOOGEOGRAPHY & EVOLUTION	CO1	The students will learn about Ecosystem Structure and its functions.
		CO2	To learn concepts of spices, Population Dynamics and Growth curves.
		CO3	To know about Zoogeographical regions.
		CO4	To learn about theories of evolution.

Department of Chemistry

S. No.	Paper Title	CO	Course Outcomes
1	Semester – I **Paper - I**	CO1	Describe the synthesis & list the various types of B, C, and Si & N compounds.
		CO2	Interpret the diagonal relationship of s block elements & understand physical &chemical reaction of Aliphatic & Alicyclic hydrocarbon
		CO3	Based on bond polarization acidity & basicity & stability of reactive intermediate of different hydrocarbs can be determined
		CO4	By considering principles of solubility product & common ion effect cation can be discriminated by anions in a salt mixture
		CO5	Have an idea of critical & vandarwaals constant. By taking the criteria of wave function particle in a 1D box can be explained
		CO6	Predict the bond order & magnetic behavior for various molecules on the basis of MOED. In a given, mathematical data, accuracy, precision & error can be explained

2	Semester – II **Paper -II**	CO1	Acquire Knowledge about various preparation and chemical reactivity of aromatic compounds, halogen compounds and alkyl benzene
		CO2	Able to understand the physical and chemical properties of oxides
		CO3	The study of colligative properties helps to determine molecular masses of solutes, Nernst distribution law used to determine association & dissociation of solute in solvent, by using Bragg's equation various crystal structure can be determined & by qualitative analysis one can determine the weight of chemical substances
		CO4	Band theory is useful to differentiate between conductors, insulators &semiconductors. Have an idea about material science
		CO5	By kinetic study one can judge the order of reaction of halogen compound & by taking criteria of optical activity one can express the stereochemistry of SN1 &SN2
3	Semester – III **Paper -III**	CO1	Defines the properties of f-block elements and non-aqueous solvents
		CO2	Differentiate the symmetry elements, operations in molecules, lanthanides and actinides
		CO3	Explore the methods of preparation and properties of alcohols, ethers and carbonyl compounds and current applications
		CO4	Design the Phase equilibria of one component and two component system, compound with congruent and incongruent melting point.
		CO5	Demonstrate the methods of preparations and properties, of colloids, analyze adsorption isotherms and its industrial applications to reduce pollution and compute the surface area of adsorbent
		CO6	Know the synthetic techniques of Nano structured materials, its current Applications.
		CO7	Classify stereoisomers based on symmetry criteria and energy criteria
		CO8	Interpret Rand S configuration, D/L Nomenclature and E/ Z Configuration

4	Semester – IV **Paper -IV**	CO1	Describe the postulates and limitations of Werner's theory, Sidgwick's and VBT theory.
		CO2	Acquire knowledge on the IUPAC Nomenclature and solve the EAN of coordination compounds.
		CO3	Categorize the Organometallic compounds of Li Mg Al and Metal carbonyls. Discuss its applications
		CO4	Have an idea on all named reactions and mechanisms of carboxylic acids and nitrohydro compounds and focus on its industrial applications
		CO5	Acquire knowledge on Hittorf's method, Kohlrausch law, Arrhenius theory, Ostwald dilution law, Debye Huckle Onsager equation and predicts its applications.
		CO6	Accomplish the Nernst equation, EMF of a cell, Single electrode potential, Standard hydrogen electrode, electrochemical series
5	Semester – V **Paper - V**	CO1	Understand the theories of coordination compounds and stability of metal Complexes.
		CO2	List and judge the applications of coordination compounds in various fields
		CO3	Know about the clusters with the examples of Borane and carborane.
		CO4	Compare the property and reactivity of different class of amines and design the synthesis pathway of different organic compounds using amines
		CO5	Classify heterocyclic compounds and compare their aromatic character and reactivity
		CO6	Develop concept on reaction kinetics with special reference to factors influencing the rate and evaluate the merits of different theories of reaction rate.
5	Semester – V **Paper - V- Spectroscopy & Chromatography**	CO7	Know about electromagnetic radiation and understand the interaction of Electromagnetic radiation with molecules - various types of molecular spectra.
		CO8	Learn to analyze the consequences of light absorption with reference to various photo physical processes and photochemical reactions with normal and abnormal quantum yield
6		CO1	Understand the concept of

	Paper - VI Medicinal Chemistry		Inorganic reaction mechanism with respect to octahedral and Tetrahedral complexes.
		CO2	Know about the Biological significance of essential elements and toxicity of heavy metals.
		CO3	Acquire knowledge about carbohydrate chemistry with reference to definition, classification and evaluation of Structure from reactions.
		CO4	Acquire knowledge about chemistry of amino acids – essential amino acids, Biological importance. Learn to relate the peptide bond formation for the synthesis of protein
		CO5	Have an extensive knowledge on Thermodynamics with reference to different Thermodynamic functions, processes, work of expansion and laws of Thermodynamics
		CO6	Understand the applications of Thermodynamics in basic sciences for deriving equations, in engineering science for calculating efficiency of machine and evaluation of spontaneity of process. Learn to derive the equation of spontaneity, Gibb's equation and Maxwell's relations
		CO7	Understand the principle of Nuclear Magnetic Resonance, concept of chemical shift and splitting of signals – spin –spin coupling. Implement the concept in analyzing the NMR spectrum for identification of organic compounds

Department of Microbiology

S.No.	Paper Title	CO	Course Outcomes
1	SEMESTER – I INTRODUCTORY MICROBIOLOGY	CO1	Awareness about basics of microbiology.
		CO2	Introduction to different techniques.
		CO3	Realization of scope of microbiology
		CO4	Mechanism to handle microscope
		CO5	Making a contamination free laboratory.
		CO6	Getting the idea about control of Microorganisms
		CO7	Brief ideas about staining techniques
2	SEMESTER – II CYTOLOGY, PHYSIOLOGY AND BIOCHEMISTRY	CO1	Studying the cell fundamentals, physiology of cell and Metabolic process.
		CO2	Understanding the depth of molecular microbiology.
		CO3	Developing awareness for understanding of ongoing issues.
		CO4	Ability to apply the knowledge in Genetics, Genetic engineering & Biochemistry
		CO5	Acceptance of the challenges in genetic.
3	SEMESTER – III INTRODUCTION OF MEDICAL MICROBIOLOGY &BASICS OF IMMUNOLOGY	CO1	Studying basic knowledge of pathogens, diseases and their control.
		CO2	Knowledge about different techniques used for microorganisms' isolation is inculcated among students.
		CO3	Instrumental knowledge and their use along with Awareness to equipment's is studied.
		CO4	Knowledge of the underlying principle of immunology and its application in solving problems in biology systems.
		CO5	Dealing with clinical and emerging areas in immunology such as immune mechanisms that protect against pathogens and the implication for vaccine development and global health.
4	SEMESTER – IV MOLECULAR BIOLOGY AND MICROBIAL GENETICS	CO1	Knowledge of microbial techniques.
		CO2	Knowledge of bacterial genome replication.
		CO3	Knowledge of creating and recombinant bacteria.
		CO4	Idea to Design the genetically modified organisms.
		CO5	Knowledge of microbial techniques.
5	SEMESTER – V FOOD AND INDUSTRIAL MICROBIOLOGY	CO1	Educating concepts and techniques currently used in the area of Industrial Microbiology.
		CO2	Getting known with industrial methodology
		CO3	Understanding classification of industrial products and their use.
		CO4	Brief idea about statistical analysis of data
		CO5	Getting knowledge related to foodstuffs and contamination of food products.

6	SEMESTER – VI ENVIRONMENTAL MICROBIOLOGY	CO1	Knowledge of environmental factors and pollution issues.
		CO2	Awareness and understanding air microbiology.
		CO3	Recognize the polluted water and treatment using Proper methods.
		CO4	Awareness for hygienic practices.
		CO5	Knowledge of environmental factors and pollution issues.

Department of Mathematics

Year/Semester	Course	CO	Course Outcomes
I/I	Differential and integral calculus	CO1	This course is aimed at exposing the students to some basic notions in differential calculus.
		CO2	By the time students complete the course they realize wide ranging applications of the subject.
I/II	Differential Equations	CO1	The main aim of this course is to introduce the students to the techniques of solving differential equations and to train to apply their skills in solving some of the problems of engineering and science.
		CO2	After learning the course, the students will be equipped with the various tools to solve few types differential equations that arise in several branches of science.
II/I	Real Analysis	CO1	The course is aimed at exposing the students to the foundations of analysis which will be useful in understanding various physical phenomena.
		CO2	After the completion of the course students will be in a position to appreciate beauty and applicability of the course.
II/II	Algebra	CO1	The course is aimed at exposing the students to learn some basic algebraic structures like groups, rings etc.
		CO2	On successful completion of the course students will be able to recognize algebraic structures that arise in matrix algebra, linear algebra and will be able to apply the skills learnt in understanding various such subjects.
III/I	Linear Algebra	CO1	The students are exposed to various concepts like vector spaces, basis, dimension, eigen values etc.

		CO2	After completion of this course students appreciate its interdisciplinary nature.
III/II	Numerical Analysis	CO1	Calculate errors induced in the values by truncation of a series expansion and find roots of linear and non-linear system (algebraic and transcendental)equations
		CO2	Fit polynomials to a given set of data points and solve differential and integral equations numerically

Department Of Physics

Course Code	Name of the course	CO	Course Outcomes
PHY1	Mechanics	CO1	Students can understand concepts of Vector Analysis, Applications of Mathematical tools in understanding the concepts of Mechanics (gradient of scalar field, divergence and curl of vector fields) Analyze line, surface and volume integrals With this knowledge, students can understand Gauss Divergence theorem, Stokes theorem and Green's theorem, and apply these theorems in relevant situations.
		CO2	Understand the concept of variable mass system and working of multi stage Rockets, collisions in 2d and 3d. Impact parameter and concept of scattering cross section. Understand the analogy between translational and rotational dynamics, and application of both motions simultaneously in analyzing rolling with sliding. Euler's equations
		CO3	Understand the concepts of Central forces. Derive Kepler's law and apply to describe the motion of planets and satellite in circular orbit, through the study of law of Gravitation

		CO4	Understand the concept of Relativity, frames of reference, null result of Michelson – Morley Experiment, Lorentz transformations and its consequences, mass energy equivalence. Appreciate the nuances of Special Theory of Relativity (STR)
PHY2	**Thermal Physics**	**CO1**	Know the fundamentals of the kinetic theory of gases, Maxwell-Boltzmann distribution law, Applications of kinetic theory of gases (Transport phenomenon)
		CO2	Understand the basic concepts, laws and applications of thermodynamics. Learn the concept of entropy and the associated theorems, and the thermodynamic potentials, Maxwell's equations and their applications
		CO3	Understand the concepts of Low temperature Physics, understand the concepts of Quantum theory Radiation. Learn about the black body radiations, Stefan- Boltzmann's law, Rayleigh-Jean's law and Planck's law and their significances
		CO4	Understand the concepts of Statistical Mechanics. Learn classical and quantum statistical distributions, viz., the Maxwell- Boltzmann, Bose-Einstein and the Fermi-Dirac statistics, and its applications
PHY3	**Electromagnetic Theory**	**CO1**	Understand the concepts of electric flux and Gauss law and its applications. Understand the energy in an electric field, calculation of potential from electric field for a spherical charge distribution
		CO2	Analyze electric field and potential due to magnetic shell and Understand Biot Savart's law and apply it to long straight wire, loop and solenoid. Understand construction and working of Ballistic galvanometer.
		CO3	Understand Faraday's laws and Lenz's law of electromagnetic induction. Review the basic laws of electricity and magnetism, leading to Maxwell's equations and application in electromagnetic waves

		CO4	Understand the concepts of varying and alternating currents, and Resonant circuits. Understand Network theorems
PHY4	**Waves and Optics**	**CO1**	Understand the nature of transverse vibrations of a stretched string and Longitudinal vibrations in bars. Transportation of energy across a boundary in bars and strings
		CO2	Understanding the principle of superposition, Interference and its applications. Newton's rings and its uses. Construction and working of Michelson interferometer
		CO3	Acquire the knowledge of Diffraction and its applications. Able to differentiate Fresnel and Fraunhofer differentiation. Understand the concepts of Phase reversal and zone plate
		CO4	Understanding the difference between polarized and un polarized light, how to get a polarized light and the types of polarized light. Optical Activity and analysis of Laurent's half shade polarimeter.
PHY5(A)	**Paper-V:(A) Modern Physics DSE-1**	**CO1**	Understand the evolution of the Atomic Models, Spectra of different elements. The effect of Electric and Magnetic field on the spectra. Types of Molecular Spectra and the experimental and theoretical understanding of Raman Effect, and experimental arrangement of Raman effect and its applications
		CO2	Understanding the postulates of Quantum Mechanics and limitations of classical Physics. Understanding the DE Broglie hypothesis, Heisenberg's Uncertainty Principle with an experiment and an example. Solution of Schrodinger's time dependent and independent wave equations and its applications.
		CO3	Understanding the nucleus and the properties of the nucleus, the models associated with it. Different types of Nuclear Reactions. Analyze the theories behind alpha and beta decays. Different detectors used to detect alpha , beta and gamma radiations
		CO4	Basic understanding of the Crystal Structure and

			Experimental study of the crystal structures. Understanding of X-ray diffraction and bonding in crystals.
PHY6(A)	**Paper-VI:(A) Electronics DSE-1**	**CO1**	Understand the band theory of solids, different kinds of diodes and its characteristics, different kinds of rectifiers. Zener diode as voltage regulator
		CO2	Understand the construction of Bipolar junction transistors. Analyze different current components in transistors. Amplifier-frequency response. Concept of feedback and Oscillators
		CO3	Understand the construction and Characteristics of Special devices (Photo diode, Shockley diode, Solar cell, opto couplers, FET, UJT and SCR
		CO4	Understand the concepts of different number systems and numeric conversions from one number system to other number systems. Understand the construction and working of Logic gates and its applications, de Morgan's theorems

Department of Computer Science

S.No.	Paper Title	CO	Course Outcomes
1	Semester -I Programming in C	CO1	Know the fundamentals of computers.
		CO2	Understand applying logical skills for problem solving.
		CO3	Learn C programming language concepts.
		CO4	Apply C programming language concepts for problem solving
		CO5	Gain knowledge in using memory management techniques in c programming
		CO6	Develop modular programming using functions
2	Semester – II Programming in C++	CO1	Know the differences between procedural language and object-oriented languages.
		CO2	Gain knowledge of Object-Oriented Paradigm for problem solving.
		CO3	Will be able to gain practical knowledge of OOP concepts using C++.
		CO4	Apply reusability concepts like inheritance, polymorphism in application development.
		CO5	Use generic programming concepts.
		CO6	Develop modular programming using classes.
3	Semester – III Data Structures and Algorithms	CO1	Implement the basics of data structures in handling real world applications.
		CO2	Represent data using linear data structures such as queues, circular queues, dequeue, priority, queue, and using non-linear data structures such as trees and graphs.
		CO3	Represent and retrieve the data in the form of various non-linear data structures like trees and graphs.
		CO4	Search for data with the help of various searching techniques.
4	Semester – IV Database Management System	CO1	State the importance of DBMS and compare DBMS with traditional file processing.
		CO2	Analyze and design the database that includes E-R model and normalization techniques.
		CO3	Describe query evaluation and query optimization technique.
		CO4	Categorize database recovery techniques and security issues.
5	Semester – V	CO1	Implement OOP concepts using java.

	Object Oriented Programming with Java	CO2	Utilize reusability concepts like inheritance, polymorphism, exception handling.
		CO3	Interface sand packages in application development.
		CO4	Design effective GUI applications.
6	Semester – VI Web technologies	CO1	Design a static web page using HTML Tags, CSS properties, java scripts.
		CO2	Design and develop a dynamic web page using JDBC, XML schema, servlets.
		CO3	Design and develop a web page to access data from the databases using JSP concepts.
		CO4	Design and demonstrate on secured web page with PHP scripting, MySQL.

B.Com Computer Applications

S.No.	Paper Title	CO	Course Outcomes
1	Semester -I Fundamentals of Information Technology	CO1	Understand and apply the basic vocabulary and principles of computer software, hardware and networks
		CO2	Make informed technology purchasing decisions for information centers
		CO3	Create web pages utilizing basic markup languages and style
		CO4	Apply knowledge of database construction to developing database, effectively using existing professional databases and to evaluating database searching
		CO5	Collaborate and communicate effectively in an online environment using audio, video, chat and formal written discourse
		CO6	Understand social justice issues relating to technology use and provide information and instruction for diverse users in thoughtful, inclusive and accessible ways.
2	Semester – II Programming in C and C++	CO1	Know the fundamentals of computers, Understand applying logical skills for problemsolving.
		CO2	Learn C programming language concepts, Apply C programming language concepts for problem solving.
		CO3	Gain knowledge in using memory management techniques in c programming and
		CO4	Know the differences between procedural language and object-oriented languages and Gain knowledge of Object-Oriented Paradigm forproblem solving.

		CO5	Will be able to gain practical knowledge of OOP concepts using C++. Apply reusability concepts like inheritance,polymorphism in application development, Use generic programming concepts.
		CO6	Develop modular programming using functions
3	Semester – III Relational Database Management System	CO1	Identify the fundamental elements of relational database management systems.
		CO2	Design and explain the basic concepts of relational data model, entity-relationship model, and relational database design.
		CO3	Apply the relational database theory to formulate basic and advanced SQL queries and relational algebra expressions for the queries
		CO4	Identify the use of normalization and functional dependency in database design.
		CO5	Understand the concept of transactions and serializability in database management system.
		CO6	Classify the implementation details of Concurrency control protocols and discuss various database recovery methods.
4	Semester – IV Web Technologies	CO1	Design a static web page using HTML Tags, CSS properties, java scripts.
		CO2	Design and develop a dynamic web page using JDBC, XML schema, servlets.
		CO3	Design and develop a web page to access data from the databases using JSP concepts.
		CO4	Design and demonstrate on secured web page with PHP scripting, MySQL.
5	Semester – V E-Commerce	CO1	Understand the basic concepts and technologies used in the field of management information systems
		CO2	Have the knowledge of the different types of management information systems
		CO3	Understand the processes of developing and implementing information systems
		CO4	Be aware of the ethical, social, and security issues of information systems;
6	Semester – VI Cyber security	CO1	Understand the field of digital security and concepts of access control mechanism
		CO2	To introduce keywords and jargons involved in securing browser
		CO3	Understanding network basic and familiarize on security of network protocols
		CO4	Awareness and understanding on cyber-attacks and data privacy

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