TELANGANA TRIBAL WELFARE RESIDENTIAL DEGREE COLLEGE (M)

BOATH @ ADILABAD

Program outcomes of BA	
After completion of three-year graduation student acquire the following attributions	
PO1	The students acquire knowledge in the field of social sciences, literature and humanities which make them sensitive and sensible enough.
PO2	The B.A. graduates will be acquainted with the social, economic, historical, geographical, political, ideological and philosophical tradition and thinking.
PO3	The program also empowers the graduates to appear for various competitive examinations or choose the post graduate programme of their choice.
PO4	The B. A. program enables the students to acquire the knowledge with human values framing the base to deal with various problems in life with courage and humanity.
PO5	The students will be ignited enough to think and act over for the solution of various issues prevailed in the human life to make this world better than ever.
PO6	Programme provides the base to be the responsible citizen.
PO7	Students will develop a comprehensive understanding of the theories and practice of language use.
PO8	Students will demonstrate advanced critical thinking skills, inclusive of information literacy.
PO9	Students will be able to communicate to diverse audiences in a variety of contexts and genres.
PO10	Students will be prepared for a wide range of writing-related careers or graduate

Program outcomes of B.Com	
After completion of three-year graduation student acquire the following attributions	
PO1	The B. Com. graduates would be able to acquire basic and fundamental knowledge and skills for doing business and commercial activities of their choice.
PO2	The program also empowers the graduates to appear for various competitive exams or choose a profession of their choice such as CA, CS, ICWA, MBA, M.Com etc
PO3	The program enables the students to aquire the accounting knowledge, management principles, retail trading, banking and insurance transactions, business economics and financial management.
PO4	The students also acquire knowledge in the field of management accounting, corporate accounting, statistical and mathematical techniques and knowledge relating to corporate law and business laws
PO5	The students become capable of doing a business of their choice or choosing a profession or can become employees having basic knowledge and skill required for such activities.
PO6	This program could provide Industries, Banking Sectors, Insurance Companies, Financing companies, Transport Agencies, Warehousing etc., well trained professionals to meet the requirements
PO7	After completing graduation, students can get skills regarding various aspects like Marketing Manager, Selling Manager, over all Administration abilities of the Company.
PO8	Capability of the students to make decisions at personal & professional level will increase after completion of this course..
PO9	Students can independently start up their own business
PO10	The knowledge of different specializations in accounting, costing, banking and finance with the practical exposure helps the students to stand in organization

Program outcomes of B.Sc.	
After completion of three-year graduation student acquire the following attributions	
PO1	The B. Sc. Programme develops scientific temperament and attitude among the science graduates
PO2	The qualities of a science – observation, precision, analytical mind, logical thinking, clarity of thought and expression, systematic approach, qualitative and quantitative decision making are enlarged.
PO3	The program also empowers the graduates to appear for various competitive examinations or choose the post graduate programme of their choice .
PO4	This programme trains the learners to extract information, formulate and solve problems in a systematic and logical manner
PO5	This programme enables the learners to perform the jobs in diverse fields such as science, engineering, industries, survey, education, banking, development-planning, business, public service, self-business etc. efficiently
PO6	Students will be able to acquire core knowledge in Physics in the key areas, develop written & oral communication skills in communicating physics-related topics.
PO7	Design & conduct an experiment, demonstrate their understanding of the scientific methods & processes
PO8	Develop proficiency in acquiring data using a variety of instruments, analyse & interpret the data, learn applications of numerical techniques
PO9	Realize & develop an understanding of the impact of Physics & science on society.
PO10	Students will be able to acquire core knowledge in Physics in the key areas, develop written & oral communication skills in communicating physics-related topics.

Course Out Come BA Economics	
SEM-I	
CO1	Students will be able to learn Introduction and importance of economics.
CO2	Students will be able to learn Effect of price in demand of law.
CO3	Students will be able to learn Effect of production for supply of law
CO4	Students will be able to learn about Meaning of market and types of market.
CO5	Importance of rent and interest of Economics.
SEM-II	
CO1	Definition and difference of macro and micro economics.
CO2	JB se theory of market.
CO3	Meaning of investment function and effect of market.
CO4	Meaning and types of money.
CO5	The role of RBI in Indian Economics.
SEM-III	
CO1	General concept and importance of statistics.
CO3	Role of measures of tendency of Economics
CO4	Importance of two several of correlation
CO5	General concept of index number.
SEM-IV	
OC1	General introduction of GST and types of GST.
OC2	Budget importance and role of Indian economy

OC3	Federal finance
OC4	Different types of taxes
SEM-V	
CO1	Aware about Economics function of water land and Agriculture.
CO2	Importance of agriculture of economy.
CO3	Globalization and privatization of government sector
CO4	Importance of International Trade of FDI.
CO5	Imortance of service sector
SEM-IV	
CO1	Importance of International Trade of Economics sector.
CO2	Role of WTO in international trad
CO3	Concept of appreciation and depreciation of currency.

COURSE OUT COME BA POLITICAL SCIENCE	
SEM-Iunderstanding political Theory	
CO1	Brief History of Indian National Movement as well as Constitution after Independence
CO2	Along with Fundamental Rights and Duties, the Directive Principles of State Policy were explained to the students.
CO3	Children were told how the proceedings of Lok Sabha and Rajya Sabha are conducted in the Indian Parliament, as well as how the Supreme Court discharges its responsibility by being neutral.
CO4	How the executive discharges its responsibilities in the state government, information was provided to the students about the responsibilities of the fellow governor and the chief minister in the cabinet.

CO5	Along with the national and regional parties, information was provided to the students about electoral reforms from caste religion language to eradication of poverty.
SEM-II Western political Thought	
CO1	The main features of the US Constitution, as well as the powers of the President, as well as the executive, legislature and judiciary, and the Senate were told to the students.
CO2	The main features of the constitution of Switzerland, along with the executive legislature, the judiciary, were explained to the students about the direct democracy
CO3	Along with the main features of Democratic China, the students were made aware about the communist system and executive and legislature there
CO4	In the last minute, students are asked to do a comparative study of the President of America and the Prime Minister of the British and the Senate of America and the House of Lords and the General Assembly and China and other parties.
CO5	The role of RBI in Indian Economics.
SEM-IIIIndian Political Thought	
CO1	Features of Ancient Indian Political Thought Made the students aware of Kautilya's Saptang Principle.
CO3	The students were made aware about the characteristics of council or political thinking.
CO4	Introduced the students about why Machiavelli is called the infant of the modern age, explained the principle of utilitarianism of fellow Germy Bentham, how happiness and sorrow are part of human life
CO5	The communist thinker will explain to the students about Marx's dialectical materialism as well as explain the theory of class struggle in which the rich are getting richer and the poor are getting poorer.
SEM-IV Constitution and Indian politics	

OC1	Meaning definition of political science along with other social sciences sociology history make students aware about the relation of political science with psychology and geography
OC2	Students were made aware about the different theory of origin of state along with definite Bhopa government and sovereignty.
OC3	Rights and duties along with liberty, equality, justice, public welfare, state power and authority were explained to the students.
OC4	Types of Government in a Unitary Federal Parliament Atma Students were informed about Presidential Government
SEM-V government and politics in Telangana	
CO1	Good India The determining elements of the meaning of India's foreign policy were explained to the students on questions of national interest and in addition diplomacy.
CO2	The students were made aware of the development of India's foreign policy in the context of India's foreign policy and its salient features.
CO3	The principles of India's foreign policy were widely conveyed to the children about the purpose of foreign policy.
CO4	What is the basic fundamental of India's foreign policy, what is the geographical conditions of the historical, cultural and how it was created in the international dialogue, the students were made aware of it.
CO5	The students were briefed on India's foreign policy towards other neigh boring nations as well as India's relations with Afghanistan with other neigh boring nations such as Bangladesh Bhutan Nepal Myanmar.
SEM-VI Social Movements	
CO1	Telangana political system
CO2	Role of WTO in international trad
CO3	Disarmament , arm race NTP,CTBT

COURSE OUT COME BA HISTORY	
SEM-I History of India Upto 7 th Century	
CO1	After studying this unit, students should be able to Definitions - Nature and Scope of History - History and Its Relationship with other Social Sciences - Geographical Features of India - Sources of Indian History: Pre-History - Palaeolithic, Mesolithic, Neolithic, Chalcolithic and Megalithic Cultures.
CO2	After studying this unit, students will be able to Indus Valley Civilization - Its Features & Decline; Early Vedic and Later Vedic Civilizations - Vedic Literature - Society - Economy - Polity - Religion.
CO3	Studeents will be able to learn Rise of New Religious Movements in 6th century B.C - Charvakas, Lokayathas, Jainism and Buddhism; Mahajanapadas - Rise of Magadha; Alexander's Invasion and Its Impact.
CO4	Foundation of the Mauryan Dynasty; Ashoka and His Dharma - Polity - Administration - Society - Economy - Religion - Literature - Art and Architecture; Disintegration of the Mauryan Empire; Post-Mauryan Kingdoms - Indo-Greeks - Kushanas and Kanishka - Society - Economy - Literature - Art and Architecture; The Satavahanas; Sangam Age - Literary Development.
CO5	After studying this unit, students should be able to: Know the sources for the history of Guptas Analyse Political history of Guptas from the early ruler to the last ruler and their Achievements. 1)Describe the causes for the down fall of the Guptas dynasty. 2) Examine Guptas administration and economic conditions 3) Discuss Socio-Religious conditions 4) Understand Cultural conditions of Gupta age.
SEM-II History of india 7 th CEN -1526	
CO1	Students will be able to learn, Age of Rajputs Society, Economy and Culture - Rise of Regional States: Pallavas, Chalukyas of Badami, Rashtrakutas, Cholas; Local Self Government under Cholas; Society, Economy, Literature, Art and Architecture; Bhakti Movement in South India: Shaiva Nayanars and Vaishnava Alwars.

CO2	Students shoud be able to learn, Arab Conquest of Sind, Ghaznavids and Ghoris; Foundation of Delhi Sultanate: Slave, KhIljis, Tughlaqs, Sayyids and Lodis - Polity, Administration, Society - Religion - Economy - Art and Architecture - Growth of Education and Literature - and the decline of Delhi Sultanate.
CO3	Students should be able to learn, Bhakti and Sufi Movements, Prominent Bhakti and Sufi Saints, their Preachings - Impact on Society and Culture - Emergence of Composite Culture.
CO4	Students should be able to learn, Kakatiyas - Polity - Administration - Society and Economy - Literature and Religion - Art and Architecture - Yadavas - Hoysalas and Pandyas - Their contribution to South Indian Culture.
CO5	Students should be able to learn, Vijayanagar's - A Brief survey of Political History - Polity - Administration – Society and Economy - Religion - Art and Architecture - Language and Literature - The Brief History of Bahamanis and their Contribution to the Deccan Culture.
SEM-III History Of India 1526-1857CE	
CO1	Students should be able to learn, Establishment of Mughal Dynasty - Sources - Shershah Sur and His Students should be able to learn, Reforms - Brief Survey of Political History of Mughals - Akbar, Jahangir, Shah Jahan and Aurangzeb -Polity - Administration - Society - Economy – Technological Developments - Religion - Hindu-Muslim Relations - Emergence of Composite Culture - Education - Language and Literature - Art and Architecture - Disintegration of Mughal Empire.
CO2	Students should be able to learn, Rise of Regional Powers - Marathas - Shivaji his Military Achievements, and his Administration - The Rise of Peshwas - and their role in Maratha History - The Third Battle of Panipat - The Rise of Sikhs. - Ranjit Singh - Rise of Princeley States - Hyderabad - Avad - Junagarh - Mysore - Kashmir.
CO3	Students will be able to learn, Advent of European Powers - Portuguese, Dutch, English and French, Anglo French Rivalry - Expansion and Consolidation of British Power - Wellesley's Subsidiary Alliance - Dalhousie's Doctrine of Lapse.

CO4	Students should be able to learn, The communist thinker will explain to the students about Marx's dialectical materialism as well as explain the theory of class struggle in which the rich are getting richer and the poor are getting poorer.
CO5	Students should be able to learn, Three Stages of Colonialism - Mercantilism - Free Trade Policies - Finance Capital - e Settlements - Cornwallis and Permanent Revenue Settlement; Thomas Munroe and Ryotwari; Mahalwari System - Changes in the Agrarian Economy and Condition of Peasantry - Famines.
SEM-IV History Of India 1857-1964	
OC1	Students should be able to learn, Queens Proclamation - Beginning of Colonial Rule - Introduction of Western Education - Role of Christian Missionaries - Press, Communication and Emergence of Middle Classes - Lytton and Rippon: Impact of their policies.
OC2	Students should be able to learn, Socio-Religions Reform Movements - Brahma Samaj - Arya Samaj – Theosophical Society - Ramakrishna Mission - Aligarh Movement; Anti-Caste Movements - Jyotibha Phule - Narayana Guru - Periyar Ramaswamy Naicker and Dr. B.R. Ambedkar.
OC3	Students should be able to learn, Factors for the Rise of Nationalism - Formation of Indian National Congress – Three Phases of Freedom Struggle: Moderate Phase, Extremist Phase and Gandhian Era - Non-Cooperation, Civil Disobedience and Quit India Movement; Indian National Army and Subhash Chandra Bose.
OC4	Students should be able to learn, Revolutionary Movement: Gadhar Party - Bhagath Singh - Chandra Sekhar Azad and Others; Left-Wing Movement - Rise of Socialist and Communist Parties - Peasant and Workers Movements.
OC5	Students should be able to learn, Emergence of Communal Politics and Mohd. Ali Jinnah – Prelude to Partition of India - Sardar Vallabhai Patel and Integration of Princely States into Indian Union - Republic of India - Jawaharlal Nehru and His Policies.
SEM-V Modern World History 1453-1964	
CO1	Students should be able to learn, Decline of Medieval Socio-Political, Religious, Economic conditions - Characteristic features of Renaissance -

	Significance of Reformation and Counter Reformation movements in Europe - Geographical Discoveries and Rise of Colonialism - Colonization of America - Mercantilism and Commercial Revolution. Emergence of Nation States in Europe - Spain - France - England - Russia - Austria - Italy and Prussia - Nature of Absolute Monarchies and Feudalism in Europe and Asia.
CO2	Students should be able to learn : Age of Revolutions - Glorious Revolution (1688) - American Revolution (1776) - French Revolution (1789) - Napoleon - Wars - Reforms-Revolutions of 1830 and 1848 - Industrial Revolution - Unification Movements in Germany and Italy.
CO3	Students should be able to learn : Rise of Capitalism - Impact on Asia and Africa - Colonization of Africa - Asia and Latin America - Entry of European Powers in China - Opium Wars - Revolution in China - Boxer Revolt - Sun-Yat-Sen - Mao's Communist Revolution - Meizi Restoration and Modernization of Japan.
CO4	Students should be able to learn : World between 1914-1945 Rivalry among colonial powers Imperialist Hegemony - Causes and consequences of first World War - World between the Wars - League of Nations - Russian Revolution - Causes and consequences. Fascism in Italy, Nazism in Germany, Militarism in Japan.
CO5	Students should be able to learn : Causes and consequences of Second World War - UNO, Its Contribution to World Peace - Decolonization and National Liberation Movements in Asia, Latin America and Africa – Non-Alignment Movement - its Origin - Aims, Importance.
SEM-VI History Of Telangana upto 2014	
CO1	Students should be able to learn : Sources - Pre-History of Telangana – Asmaka Janapada and the Culture of Ancient Telangana – Jainism and Buddhism - Brief Political Survey of Satavahanas – Ikshvakus, Vishnukundins – Medieval Telangana from Kakatiyas to Qutb Shahis – Popular Revolts – Sammakka-Sarakka, Sarvai Papanna – Society, Economy and Culture; Fairs, Festivals, Folk,

	Batukamma, Bonalu, Urs, Moharram, etc. Telangana Food, Festivals, Arts, Folksongs, Symbols, Musical Instruments, Composite Culture.
CO2	Students should be able to learn : Foundation of Asaf Jahi Dynasty – A Brief Survey of The Political History of Asaf Jahis from 1724-1857 – Salarjungs Reforms and their Importance Mir Mahboob Ali Khan and Mir Osman Ali Khan - Modernization of Hyderabad under them – Growth of TRanspotation and Communication, Public Health, Industries and Osmania University - Public Health - Hospitals - Social, Cultural and Political Awakening in Telangana - Press, Journalism and Library Movements – Nizam Andhra Jana Sangham - Arya Samaj and Its Activities – Ittehadul Muslimin Party - Bhagya Reddy Varma and Dalit Movements.
CO3	Students should be able to learn : Political Developments in Hyderabad State 1900 to 1942 - The Andhra Maha Sabha – Hyderabad State Congress – Mulki-Non-Mulki Issue (1930) - Vandemataram Movement - Comrades Association, Student and Workers Organisations and Movements - Communist Party and Its Activities – The Role of Women in Hyderabad Freedom Movement.
CO4	Students should be able to learn : Anti-Nizam and Anti-Feudal Movements - Telangana Peasants Armed Struggle – Adivasis Revolt – Kumaram Bheem – Razakars and their Activities – Police Action - Formation of Popular Ministry under Burgula Rama Krishna Rao - Assertion of Mulki Identity and the City College Incident (1952) - Merger of Telangana and the Formation of Andhra Pradesh, (1956)
CO5	Students should be able to learn : Discrimination, Dissent and Protest - Violation of Gentlemen's Agreement - Agitation for Separate Telangana State: Formation of TPS – Role of Intellectuals, Students, Employees in 1969 Movement - Second Phase Movement for Separate Telangana - Formation of Various Associations – Telangana Aikya Vedika – Telangana Jana Sabha – Telangana Rashtra Samiti (2001) – Mass Mobilization - Sakala Janula Samme – Millennium March – Sagara Haram, Chalo Assembly – December 2009 Declaration and the Formation of Telangana State, June 2014.

COURSE OUT COME B.COM	
SEM-I FINANCIAL ACCOUNTING – I	
CO1	To enable the students to learn principles and concepts of Accountancy.
CO2	Students are enabled with the Knowledge in the practical applications ofaccounting
CO3	To enable the students to learn the basic concepts of Partnership Accounting,and allied aspects of accounting.
CO4	The student will get thorough knowledge on the accounting practice prevailing in partnership firms and other allied aspects.
CO5	To find out the technical expertise in maintaining the books of accounts.
BUSINESS ORGANISATION AND MANAGEMENT	
CO1	To make familiar the students with the emerging changes in the modern office environment and to develop organizational skills.
CO2	To build up the conceptual, analytical, technical and managerial skills of students for efficient office organization and records management
CO3	Technical skills among the students for designing and developing effective means to manage records , consistency and efficiency of work flow in the administrative section of an organization will be developed.
CO4	To develop employability skills among the students.
CO5	To understand the concept & functions and importance of management andits application.
FUNDAMENTALS OF INFORMATION TECHNOLOGY	
CO1	The main object is to introduction IT in a simple language to all undergraduate student regardless of their specialization
CO2	It will help them to pursue specialization programs leading to technical and professional careers and certification in the IT industry

CO3	Understand basic concept and terminology of information technology
CO4	Have a basic understanding of personal computer and their operations
CO5	Familiarize the types of the general insurance in India
SEM-II	
FINANCIAL ACCOUNTING –II	
OC1	This course builds on introduction financial accounting .
OC2	The course is essential for all individuals exposed to financial information in the workplace including accounting, auditors, financial analysts, managers bankers and oversights bodies
OC3	Involved in the preparation or user of company financial statements.
OC4	Evaluate different types of performance measurement system in accounting and commonly used financial control system
OC5	Helps to take financial decisions in real world setting
BUSINESS LAW AND COMPANY LAW	
CO1	To impart students with the knowledge of fundamentals of Company Lawand provisions of the Companies Act of 2013.
CO2	To apprise the students of new concepts involving in company law regime.
CO3	To acquaint the students with the duties and responsibilities of Key Managerial Personnel
CO4	The student will well verse in basic provisions regarding legal frame workgoverning the business world.
CO5	To know the students with the basic concepts, terms & provisions of Mercantile and Business Laws.
CO6	To develop the awareness among the students regarding these laws affecting trade business, and commerce.
PROGRAMMING WITH C AND C++	
CO1	Develop a C program . control the sequence od the program and give logical outputs

CO2	Implement strings in your c program
CO3	Store different data types in the same memory specific and measurable statements that define the knowledge skills and attitudes learns will demonstrate by this course
CO4	Makes technology –oriented with the knowledge ability to develop creative solution and better understanding the effects of future develops computer systems and technology on people and society as whole

SEM III	
BUSINESS STATISTICS-I	
CO1	To use and understand useful functions in business as well as the concept of EMI.
CO2	To understand the different concept of population and sample and to make students familiar with Calculation of various types of averages and variation.
CO3	To understand the students to solve LPP to maximize the profit and to minimize the cost.
CO4	To use regression analysis to estimate the relationship between two variables and to use frequency distribution to make decision.
CO5	To understand the techniques and concept of different types of indexnumbers
CO6	To learn the applications of matrices in business.
CO7	To understand the students to solve LPP to maximize the profit and to minimize the cost
CO8	To use regression analysis to estimate the relationship between two variables and to use frequency distribution to make decision.
CO9	To understand the techniques and concept of different types of index numbers.

ADVANCED ACCOUNTING	
CO1	To provide the knowledge of various accounting concepts
CO2	To impart the knowledge about accounting methods, procedures and techniques.
CO3	To acquaint students with practical approach to accounts writing by using software package and by learning various accounts.
RELATIONAL DATABASE MANAGEMENT SYSTEM	
CO1	Helps a design database .arranges database using relational algebra.
CO2	Organize database SQL. Discusses the relative merits of the relational environment
CO3	Incorporate functions in queries
CO4	Add filtering to queries
CO5	Join tables
CO6	Perform subqueries
SEM-IV	
BUSINESS STATISTICS -II	
OC1	To use and understand useful functions in business as well as the concept of EMI.
OC2	To understand the different concept of population and sample and to make students familiar with Calculation of various types of averages and variation.
OC3	To understand the students to solve LPP to maximize the profit and to minimize the cost.
OC4	To use regression analysis to estimate the relationship between two variables and to use frequency distribution to make decision.
OC5	To understand the techniques and concept of different types of index numbers.

OC6	To learn the applications of matrices in business.
INCOME TAX	
CO1	To understand the basic concepts and to acquire knowledge about computation of income tax submission of income tax return advance tax, and tax deducted at source tax collection authorities under the collection authorities under the income tax act 1961
CO2	Students realized financial reporting and corporate governance.
CO3	It helps to navigate the complexities of business taxes such as self-employment taxes deduction and business expenses Students will be versed in the fundamental concepts of Auditing and different aspects of tax.
CO4	Students can understand Income Tax system properly, and can get the knowledge of different tax provisions.
CO5	To give knowledge about preparation of Audit report, Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax Collection Authorities under the Income Tax Act, 1961.
WEB TECHNOLOGY	
CO1	To learn the skill how to use VBScript, transform Web pages from static text and images into functional, interactive, and dynamic e-commerce tools.
CO2	To embed VBScript code in an HTML document.
CO3	To use VBScript operators; write code that makes decisions based on existing conditions, using control structures and loops.
CO4	To enable students with a communication of Web page visitor using Message and Input boxes.
CO5	To use the DOM to control the layout of HTML pages, add effects, andget information from users.

SEM V	
BUSINESS ECONOMICS	
CO1	To provide students' knowledge of Micro Economic concepts and inculcate an analytical approach to the subject matter.
CO2	To arouse the students interest by showing the relevance and use of various economic theories.
CO3	To apply economic reasoning to solve business problems. To familiarize the students with the basic concept of Macro Economics andits application.
CO4	To aware students about Gross National Product (GNP), Net National Product (NNP), Income at Factor cost or National Income at Factor Prices
CO5	To Study the relationship among broad aggregates.
CO6	To apply economic reasoning to solve the problems of the economy To understand the concept & functions and importance of management andits application
CO7	To understand the concept & functions and importance of management and its application.
COMPUTERIZED ACCOUNTING	
CO1	Enables students to maintain accounting records
CO2	Develop financial reports and make effective use of financial information for analysis and decision making
CO3	Computerized accounting is beneficial use of current technological advances
COST ACCOUNTING	
CO1	Digital Marketing Strategy - Exploring Digital Marketing - Starting with the Website - Foundations of Analytics -
CO2	- Search Engine Optimization - Search and Display Marketing - Social Media Marketing - Video Marketing
CO3	Advantages & Limitations of Digital Marketing.
CO4	Online marketing tools and setup – E-Marketing: Segmentation, personalization and mobile marketing

CO5	Content marketing: Blogs for content marketing - Content marketing for staying relevant - Newsletters for content marketing.
SEM VI	
E-COMMERCE	
OC1	To analyse the impact of e-commerce on business models and strategy
OC2	Helps to identify the benefits of selling online
OC3	Know how to optimise and stay safe when selling online
OC4	To understand the risk around cyber security when trading and doing business online.
OC5	Helps to understand how to protect your online business, keeping your accounts secure and being aware of cybercrime.
COST ACCOUNTING AND MANAGEMENT ACCOUNTING	
CO1	It helps to determine product costs formulate budget and standards for planning and control
CO2	Understand the role of responsibility accounting and performance measurement and explain contemporary thinking in management accounting
CO3	Helps to identify the business drivers behind those costs
CO4	To calculate and record product cost using job order, process and activity-based costing methodologies.
THEORY AND PRATICE OF GST	
CO1	The course has been designed to make students the new indirect tax.
CO2	It helps them to understand the pratical implication of GST rules
CO3	To understand the development and different sub -srtuctures under GST
CO4	It helps to understand the taxation system and curb tax evasion in india the country.

CO5	By this student will get a better picture on the GST and rules in india

RESEARCH METHODOLOGY AND PROJECT WORK	
CO1	It helps to understanding the nature of problem to be studied and identifying the related area of knowledge.
CO2	Collecting data in an organised and controlled manner so as arrived at valid decisions.
CO3	student will be will able to take up and implement a research project /study.
CO4	the course will also enable them to collect the data. Edit it properly and analyse it accordingly.
CO5	Thus, it will facilitate students' property in higher education
MULTIMEDIA SYSTEM	
CO1	The main object of to introduce various aspects of multimedia components like images, audio, and computer graphics
CO2	It helps to enable students to become critical thinkers and creative producers of multiple modes od media
CO3	Including communication, film/video, graphic design, journalism and sports communication.
CO4	Partial Differential Equation

COURSE OUT COME B.SC. MATHEMATICS	
SEM-I	
DIFFERENTIAL AND INTEGRAL CALCULUS	
CO1	Functions of two variables, limit of function of two variables, partial derivatives
CO2	Theorems on total differentials, composite functions, differentiate of composite functions
CO3	Definition of curvature
CO4	Lenth of place curves
CO5	Volume and surface revolution
SEM-II	
DIFFERENTIAL EQUATIONS	
OC1	Differential equation of first order and first degree
OC2	Differential equation of first order but not first degree
OC3	Higher order linear differential equation
OC4	Partial Differential Equation
SEM-III	
REAL ANALYSIS	
CO1	Sequences: Limits of Sequences- A Discussion about Proofs-Limit Theorems for Sequences Monotone Sequences and Cauchy Sequences - Sub sequences-Limit sup's and Limit inf's – Series Alternating Series and Integral Tests
CO2	Continuity: Continuous Functions -Properties of Continuous Functions - Uniform Continuity - Limits of Functions
CO3	Differentiation: Basic Properties of the Derivative - The Mean Value Theorem - L'Hospital Rule - Taylor's Theorem.

CO4	Integration: The Riemann Integral - Properties of Riemann Integral- Fundamental Theorem of Calculus.
SEM-IV	
ALGEBRA	
CO1	Groups: Definition and Examples of Groups- Elementary Properties of Groups-Finite Groups - Subgroups -Terminology and Notation -Subgroup Tests - Examples of Subgroups. Cyclic Groups: Properties of Cyclic Groups - Classification of Subgroups Cyclic Groups.
CO2	Definition and Notation -Cycle Notation-Properties of Permutations -A Check Digit Scheme Based on D5. Isomorphisms ; Motivation- Definition and Examples - Cayley's Theorem Properties of Isomorphisms - Automorphisms-Cosets and Lagrange's Theorem Properties of Cosets 138 - Lagrange's Theorem and Consequences-An Application of Cosets to Permutation Groups -The Rotation Group of a Cube and a Soccer Ball.
CO3	Normal Subgroups and Factor Groups: Normal Subgroups-Factor Groups - Applications of Factor Groups -Group Homomorphisms - Definition and Examples -Properties of Homomorphisms -The First Isomorphism Theorem
CO4	Introduction to Rings: Motivation and Definition -Examples of Rings - Properties of Rings - Subrings. Integral Domains: Definition and Examples - Fields Characteristics of a Ring
CO5	Ideals and Factor Rings: Ideals -Factor Rings -Prime Ideals and Maximal Ideals. Ring Homomorphisms: Definition and Examples-Properties of Ring Homomorphisms.

SEM-V	
LINEAR ALGEBRA	
CO1	Vector spaces
CO2	Rank-Change of basis
CO3	Diagonalization
CO4	Orthogonality and least square
SEM-VI	
INTEGRAL TRANSFORMS	
CO1	Laplace Transformation
CO2	Inverse Transformation
CO3	Application to ordinary Differential equation
CO4	Fourier Transforms

COURSE OUT COME B.SC. CHEMESTRY	
SEM 1	
CHEMISTRY I	
CO1	INORGANIC CHEMISTRY .s, p-block elements, General Principles of Inorganic qualitative analysis
CO2	ORGANIC CHEMISTRY Structural Theory in Organic Chemistry, Acyclic Hydrocarbons, Alicyclic Hydrocarbons
CO3	PHYSICAL CHEMISTRY Atomic structure and elementary quantum mechanics, states of matter
CO4	GENERAL CHEMISTRY Chemical Bonding, Evaluation of analytical data
SEM II	
CHEMISTRY II	
OC1	INORGANIC CHEMISTRY Chemistry of Zero group elements, d-block elements
OC2	ORGANIC CHEMISTRY Chemistry of Aromatic Hydrocarbons, Arenes and Polynuclear Aromatic Hydrocarbons, Halogen compounds.
OC3	PHYSICAL CHEMISTRY Chemistry of Solutions, Dilute Solutions & Colligative Properties,
OC4	GENERAL CHEMISTRY Theory of Quantitative Analysis, Theories of bonding in metals, Material Science
SEM-II	
INORGANIC CHEMISTRY	
CO1	INORGANIC CHEMISTRY Chemistry of f-block elements, Symmetry of molecules, Non – aqueous solvents
CO2	ORGANIC CHEMISTRY Chemistry of alcohols , ethers, phenols, carbonyl compounds

CO3	PHYSICAL CHEMISTRY Chemistry of Phase rule, colloids and surface chemistry
CO4	GENERAL CHEMISTRY Chemistry of Nano materials, stereochemistry.
SEM-VI	
INORGANIC CHEMISTRY	
CO1	INORGANIC CHEMISTRY Chemistry of Coordination complexes, Bioinorganic chemistry
CO2	ORGANIC CHEMISTRY Chemistry of Carbohydrates, amino acids, proteins
CO3	To learn about green chemistry and its necessity. To study about the principles of green chemistry and designing the green synthetic routes. To know about the examples of green reactions and future trends in green reaction. To learn the synthesis, psychological properties, isolation medicinal
CO4	PHYSICAL CHEMISTRY Thermodynamics, chemical kinetics of reactions.
CO5	GENERAL CHEMISTRY Theory of carbanion synthesis, bonding in metals
SEM-V	
SPECTOSCOPY AND SEPERATION TECHNIQUES	
CO1	solvent extraction
CO2	column chromatography
CO3	ir, uv and nmr spectroscopy
CO4	mass spectrometry
SEM -VI	
MEDICINAL CHEMISTRY	
CO1	introduction and terminology
CO2	enzymes and receptors
CO3	synthesis of drugs
CO4	molecular messengers, micronutrients

COURSE OUT COME B.SC. PHYSICS	
SEM-I MECHANICS	
CO1	Demonstrate the simple phenomenon concerning motion in our daily life. Apply the conservation laws in many physical phenomenons. Formulate the mathematical relations based on physical phenomenon.
CO2	Demonstrate the ability to justify and explain their thinking and approach. Develop proficiency in the analysis of complex physical problems.
CO3	Understand the Philosophical views of Physics.Elaborate and explain the concept of relativity with applications
SEM-II : THERMAL PHYSICS	
CO1	Design many simple apparatus or machines based on thermal energy Develop many simple instruments based on optics. Explain the applications of thermal energy and optical phenomenon in daily life. Use the appropriate techniques to explain the thermodynamic and optical process.
CO2	Apply in chemistry, life science and automobile engineering etc Formulate many advance theories based on heat and light. Understand the working of thermometry and optical instruments in medical sciences
CO3	Develop the advance theories and experimental techniques based on heat and light. Understand and explain the practical applications of heat and light.
CO4	Develop proficiency in the analysis of complex thermodynamic system. Explain the application of thermodynamic and optics in Astrophysics. Understand the concept of thermal transport in nanoscience. To learn the complexometric and gravimetric estimation of different ions, chromatographic separation of (i) Ni (II) and Cu (II) ions, (ii) Fe (III) and Al (III) ions
SEM-III ELECTROMAGNETIC THEORY	
CO1	Design many electric circuits used for many purposes in daily life. Design many hydroelectric generators for generation of energy.

	Understand the working electrical machines. Understand the applications electricity magnetism in medical science.
CO2	Explain about the production of electromagnetic waves. Explain about the dangerous effect of electricity and magnetism to health Understand about the Atmospheric electricity. Develop the advance experimental techniques based on electricity and magnetism
CO3	Understand and explain about the properties of charge for energy generation. Apply the mathematical tools to explain the electric and magnetic phenomenon Understand the concept of charge transport in materials.
SEM-IV WAVES AND OPTICS	
OC1	Fundamentals of Waves -Transverse wave propagation along a stretched string, general solution of wave equation and its significance, modes of vibration of stretched string clamped at ends, overtones, energy transport, transverse impedance. Longitudinal vibrations in bars- wave equation and its general solution, Special cases: (i) bar fixed at both ends, ii) bar fixed at the midpoint, iii) bar free at both ends, iv) bar fixed at one end, Transverse vibrations in a bar - wave equation and its general solution. Boundary conditions, clamped free bar, free-free bar, bar supported at both ends, Tuning fork.
OC2	Principle of superposition – coherence – temporal coherence and spatial coherence – conditions for Interference of light. Interference by division of wave front: Fresnel's biprism – determination of wave length of light. Determination of thickness of a transparent material using biprism – change of phase on reflection – Lloyd's mirror experiment. Interference by division of amplitude: Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (Cosine law) – Colours of thin films – Non-reflecting films – interference by a plane parallel film illuminated by a point source – Interference by a film with two non-parallel reflecting surfaces (Wedge shaped film) – Determination of diameter of wire-Newton's rings in reflected light with and without contact between lens and glass plate, Newton's rings in transmitted light (Haidinger Fringes) – Determination of wave length of monochromatic light – Michelson Interferometer – types of fringes – Determination of wavelength of monochromatic light, Difference in wavelength of sodium D1,D2 lines and thickness of a thin transparent plate.

OC3	Introduction – Distinction between Fresnel and Fraunhofer diffraction, Fraunhofer diffraction:- Diffraction due to single slit and circular aperture – Limit of resolution – Fraunhofer diffraction due to double slit – Fraunhofer diffraction pattern with N slits (diffraction grating).
OC4	Resolving Power of grating – Determination of wave length of light in normal and oblique incidence methods using diffraction grating
OC5	Fresnel diffraction-Fresnel's half period zones – area of the half period zones –zone plate – Comparison of zone plate with convex lens – Phase reversal zone plate – diffraction at a straight edge – difference between interference and diffraction.
SEM-V MODERN PHYSICS	
CO1	Atomic Spectra: Introduction - Drawbacks of Bohr's atomic model – Sommerfeld's elliptical orbits -relativistic correction (no derivation). Stern & Gerlach experiment, Vector atom model and quantum numbers associated with it. L-S and j-j coupling schemes. Spectral terms, selection rules, intensity rules – spectra of alkali atoms, doublet fine structure, Zeeman Effect, Paschen-Back Effect and Stark Effect (basic idea).
CO2	Molecular Spectroscopy: Types of molecular spectra, pure rotational energies and spectrum of diatomic molecule. Determination of inter nuclear distance. Vibrational energies and spectrum of diatomic molecule. Raman effect, classical theory of Raman effect. Experimental arrangement for Raman effect and its applications.
CO3	Quantum Mechanics Inadequacy of classical Physics: Spectral radiation - Planck's law (only discussion). Photoelectric effect - Einstien's photoelectric equation. Compton's effect - experimental verification.
CO4	Matter waves & Uncertainty principle: de Broglie's hypothesis - wavelength of matter waves, properties of matter waves. Phase and group velocities. Davisson and Germer experiment. Double slit experiment. Standing de Brogile waves of electron in Bohr orbits. Heisenberg's uncertainty principle for position and momentum (x and px), Energy and time (E and t). Gamma ray microscope. Diffraction by a single slit. Position of electron in a Bohr orbit. Complementary principle of Bohr
SEM-VI ELECTRONICS	

CO1	Band theory of P-N junction: Energy band in solids (band theory), valence band, conduction band and forbidden energy gap in solids, insulators, semi conductors and pure or intrinsic semiconductors and impure or extrinsic semi-conductors. N-type semi-conductors, P-type semi-conductors, Fermi level, continuity equation. Diodes: P-N junction diode, Half-wave, full-wave and bridge rectifier. Zener diode & its characteristics. Zener diode as voltage regulator.industrial processes. To study experimentally the qualitative detection of known and unknown radicals and insoluble materials in a mixture
CO2	Bipolar Junction Transistor (BJT) – p-n-p and n-p-n transistors, current components in transistors, CB, CE and CC configurations – transistor as an amplifier -RC coupled amplifier – Frequency response (Qualitative analysis). Feedback concept & Oscillators: Feedback, General theory of feedback–Concepts of oscillators, Barkhausen's criteria, Phase shift oscillator – Expression for frequency of oscillation.
CO3	Special devices- Construction and Characteristics: Photo diode - Shockley diode -Solar cell, Optocouplers - Field Effect Transistor (FET) - FET as an Amplifier - Uni Junction Transistor (UJT), UJT as a relaxation oscillator - Silicon controlled rectifier (SCR) - SCR as a switch.
CO4	Binary number system, conversion of binary to decimal and vice-versa. Binary addition and subtraction (1's and 2's complement methods).Hexadecimal number system. Conversion from binary to hexadecimal and vice-versa, Decimal to hexadecimal and vice-versa. Logic gates: OR, AND, NOT gates, truth tables, realization of these gates using discrete components. NAND, NOR as universal gates, Exclusive – OR gate (EX-OR). De Morgan's Laws – Verification.

COURSE OUT COME B.SC BOTANY	
	SEM-I MICROBIAL DIVERSITY OF LOWER PLANTS
CO1	Understand the morphological diversity of Bryophytes and Pteridophytes and Gymnosperms. Understand the economic importance of the Bryophytes and Pteridophytes and Gymnosperms. Know the vegetative characteristics of the plant.

	Learn about the reproductive characteristics of the plant. Understand the plant morphology and basic taxonomy..
CO2	Know the evolution of Bryophytes and Pteridophytes and Gymnosperms. Understand the habit of the angiosperm plant body.
CO3	Know the evolution of Bryophytes and Pteridophytes and Gymnosperms. Understand the habit of the angiosperm plant body.
SEM-II : GYMNOSPERMS AND TAXONOMY OF ANGIOSPERMS	
CO1	Design many simple apparatus or machines based on thermal energy Develop many simple instruments based on optics. Explain the applications of thermal energy and optical phenomenon in daily life. Use the appropriate techniques to explain the thermodynamic and optical process.
CO2	Apply in chemistry, life science and automobile engineering etc Formulate many advance theories based on heat and light. Understand the working of thermometry and optical instruments in medical sciences
CO3	Develop the advance theories and experimental techniques based on heat and light. Understand and explain the practical applications of heat and light.
CO4	Develop proficiency in the analysis of complex thermodynamic system. Explain the application of thermodynamic and optics in Astrophysics. Understand the concept of thermal transport in nanoscience. To learn the complexometric and gravimetric estimation of different ions, chromatographic separation of (i) Ni (II) and Cu (II) ions, (ii) Fe (III) and Al (III) ions
SEM-III GYMNOSPERMS AND TAXONOMY OF ANGIOSPERMS	
CO1	Meristems: Types, histological organization of shoot and root apices and theories. 1. Tissues and Tissue Systems: Simple, complex and special tissues. 2. Leaf: Ontogeny, diversity of internal structure; stomata and epidermal outgrowths.

CO2	. Stem and root anatomy: Vascular cambium - Formation and function. 5. Anomalous secondary growth of Stem -Achyranthes, Boerhaavia, Bignonia, Dracaena; Root— Beta vulgaris. 6. Wood structure: General account. Study of local timbers — Teak (Tectona grandis), Rosewood, (Dalbergia latefolia), Red sanders, (Pterocarpus santalinus) Nallamaddi (Terminalia tomentosa) and Neem (Azadirachta indica).
CO3	7. History and importance of Embryology. 8. Another structure, Microsporogenesis and development of male gametophyte. 9. Ovule structure and types; Megasporogenesis; types and development of female gametophyte
SEM-IV CELL BIOLOGY AND PLANT PHYSIOLOGY	
OC1	Models of membrane structure, Functions, fluidity and Selective permeability of the membranes. 2. Cell Organelles: Structure and semiautonomous nature of Mitochondria and Chloroplast. 3. Structure and role of endoplamic reticulum, ribosomes, golgi complex, lysosomes, peroxisomes and glyoxisomes.
OC2	Nucleus: Ultra structure, types and functions of DNA & RNA. 4. Chromosomes: Morphology, organization of DNA in a chromosome, Euchromatin and Heterochromatin, Karyotype. Special types of chromosomes: Lampbrush and Polytene chromosomes. 5. Extra nuclear genome: Mitochondrial DNA and Plastid DNA.. Plasmids. 8. Cell division: Cell and its regulation; mitosis, meiosis and their significance
OC3	Plant -Water Relations: Physical properties of water, diffusion, imbibitions, osmosis; osmotic and pressure Potential, absorption and transport of water. 10. Mineral Nutrition: Essential macro and micro mineral nutrients, and symptoms of mineral deficiency. 11.Transpiration; Stomatal structure and movement. Mechanism of phloem transport. Mechanism of phloem transport. 12. Enzymes: Nomenclature, Characteristics, Classification and factors regulating enzyme activity.
OC4	Photosynthesis: Photosynthetic pigments, Mechanism of photosynthetic electron transport and evolution of oxygen, Photophosphorylation . Carbon assimilation pathways: C3, C4 and CAM. 14. Respiration: Aerobic and Anaerobic; Glycolysis, Krebs cycle and electron transport system. 15. Nitrogen Metabolism: Biological nitrogen fixation 16. Physiological effects of Phytohormones: Auxins, gibberellins, cytokinins, ABA, ethylene and Brassinosteroid

SEM-V BIODIVERSITY AND CONVERSATION	
CO1	Explanation on the aim and scope of taxonomy , Binomial system, chemotaxonomy, cytotaxonomy, numerical taxonomy and application of computers
CO2	Explain Engler and Prantle system of classification and their economic importance
CO3	Study of different characteristic of plants like Cucurbitacece, Apiaceae, Rubiaceae, Asteraceae, Ascclepidiaceae, Acanthaceae and Lamiaceae, including monocotyledoneae families
SEM-VI TISSUE CULTURE AND BIOTECHNOLOGY	
CO1	Explain the discovery, chemical nature and replication of genetic material, genetic engineering and Biotechnology
CO2	Define and explain the uses of microbes in industry and agriculture with reference to production of ethanol and antibiotics
CO3	study on application of vital and physical forces theories on plant physiology most preferably ascent of sap, transpiration, mineral nutrition in plants and phloem transport
CO4	A study on importance and organisation of call as fundamental unit of life, explanation on eukaryotic chromosomes, biarmed and heliocentric types.

COURSE OUT COME B.SC DATA SCIENCE	
SEM-I PROGRAMMING WITH C	
CO1	Understanding Computer Fundamentals
CO2	Understanding c tokens, data types and operators
CO3	To learn the implementations of mathematical theory of functions through C programming**.**
CO4	Working with User Defined Data Types like Structures, Unions. Also includes the concept sof external file handling through Cprogramming.
SEM-II : PROBLEM SOLVING AND PYTHON PROGRAMMING	

CO1	Understanding Python Programming
CO2	Understanding python tokens, data types and operators
CO3	To learn the implementations of mathematical theory of functions through Python programming**.**
CO4	Working with file handling through Python programming.
SEM-III DATA ENGINEERING WITH PYTHON	
OC1	Learning Slicing and indexing
OC2	Working with Modules like BS4, numpy,etc
OC3	Working with Numpy array ans Strings
OC4	Implementation of Pyplot using Python
SEM-IV	
Machine Learning	
OC1	Understanding Machine Learning Algorithms
OC2	Understanding ID3, K-nearest Neighbor Algorithms
OC3	Implementing the perceptions and Linear Models
OC4	Understanding Neural Networks and Probabilistic Modelling
	SEM-V
	NoSQL Databases
	Understanding NoSQL Databases
	Understanding Relational and Non-Relational Databases
	Implementing MongoDB, Redis, Cassandra and Neo 4J Databases
	Understanding Graph Databases, Column-family Databases, Document Databases, etc
	SEM-VI
	Big Data

	Understanding Big Data and structuring Big Data
	Understand Hadoop Ecosystem, Map Reduce and HBase
	Understanding Big Data Technology Foundations
	Storing Data in Databases and Data warehouses

COURSE OUT COME B.SC ZOOLOGY	
SEM-I ANIMAL DIVERSITY INVERTEBRATE	
CO1	Know the taxonomic positions and characteristics, life cycles, and even the parasitic mode of important lower animals.
CO2	Conceptual knowledge of ecology and its important attributes; biodiversity and its conservation and scope tourism sector
CO3	Comprehensive understanding of water ecosystem, types and their biomes; impact on water quality by different wastes.
CO4	Students are able to understand various organs and organ systems
SEM-II : ANIMAL DIVERSITY VERTEBRATE	
CO1	Distinguish the general features and classification of phylums Annelida, Arthropoda, Mollusca and Echinodermata.
CO2	Acquaint with the structure and function of various cell organelles, cell division and cell signalling.
CO3	Understand Environmental hazard and it sources, climatic change and its effect, pollutants, waste management technologies and some common diseases.
	Students are able to learn about uses of teeth and Aquatic adaptations in Mammals
SEM-III	
ANIMAL PHYSIOLOGY AND ANIMAL BEHAVIOUR	

CO1	Know the origin of chordate, general descriptions of Pisces, Amphibian, Reptilia, Aves and Mammals
CO2	Know the types of tissues, physiology of nervous and muscles, reproduction and endocrine system.
CO3	Comprehend the structure and functions of carbohydrates, lipids, proteins, nucleic acid and enzymes.
SEM-IV	
CELL BIOLOGY AND GENETICS AND DEVELOPMENTAL BIOLOGY	
OC1	Comprehend the structure and functions of carbohydrates, lipids, proteins, nucleic acid and enzymes.
OC2	Biology of bee; their diseases and enemies. Prospect in economy and entrepreneurship
OC3	Know the physiology of digestion, excitable tissue, respiration, excretion, circulation, endocrine and reproduction.
OC4	Know the anatomy of vertebrates; integumentary, circulatory, digestive, respiratory.urinogenital and nervous systems; sense organs in vertebrates
OC5	Students are able to understand about Animal Behaviour, Communications,
SEM-V	
IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY	
CO1	Conceptual knowledge of the Mechanism involved in digestion, respiration, blood, renal and heart.
CO2	Explain Engler and Prantle system of classification and their economic importance
CO3	Understand the metabolism of carbohydrates, protein, lipids and protein; mechanisms involved in oxidative phosphorylation.
CO4	Know the concept of Invitro Fertilization, Stem cells,PCR
SEM-VI	

ECOLOGY ZOOGEOGRAPHY AND EVOLUTION	
CO1	Understand the concept of DNA as a genetic material and their behavior.
CO2	Understand mendelian genetics; Mutation, role of chromosomes in sex determination; recombinant bacteria and viruses
CO3	Understand the historical evolution of ethology and chronobiology; biological Rhythm and clocks and its effect on animal behavior.
CO4	Know the anatomy of male and female reproduction; Hormones and its role in fertilization and reproductive health

IQAC Co-ordinator

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TTWRDC (Boys) Boath
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Vice -Principal

Principal

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