

MANJARA CHARITABLE TRUST

Smt. Sushiladevi Deshmukh College of Arts, Science & Commerce
 (Affiliated to University of Mumbai)
 Sector-04, Alandi, Navi Mumbai-400708

Class	Course	Outcomes
FY.B.M.S Sem-1	Foundations Of Human Skills	Understand the basic behaviour pattern of human, which is the most important resource of a business and to deal with them in an apt manner. To learn group dynamics, organizational process and systems. Deal & negotiate with different kinds of human nature with greater awareness of the human behaviour
	Introduction of Financial Accounts	Understand the changes of depreciation on various assets. Have a basic knowledge of Indian accounting standard. To understand the preparation of Trial Balance and Final Accounts Deal with Bank reconciliation statements
	Business Law	Identify the fundamental legal principles behind contractual agreements Understand the legal and economic structure of different forms of business organizations and their responsibilities as an employer Examine how businesses can be held liable for the actions of their employees To know about Company Laws and IPR laws
	Business Statistics	To familiarize the students with fundamental statistical tools which can help them in analyzing the business data To understand statistical definition and concept and use them correctly To Analyse and contrast techniques and biases of quantitative methods within the context they are to be applied. To analyzing the statistical tool in the business data
	Business Communication-1	Draft business correspondence like mails, letters The business ethics and the different social problems which surface out in the society are given, hands on experience, with these case studies which help the students become the responsible citizens Understand the theory of communication, its concepts, channels and objectives to understand the writing skills, report writing etc
		To make students capable of understanding and studying the vibrant Indian culture classify the general characteristic of Indians



	Foundation Course-I	To understand the concept of relating to the realization of Indian society and its hierarchy, concept of party and pollution Social Interdisciplinarity, Varma, Caste, and Other Divisions; concept of human rights; understanding to Indian constitution and important constitutional rights; Environment, and ancient scientific development with new science To understand the general characteristics on Indian constitution and local self-government and its implication on every Indian citizen
	Business Economics-I	Demonstrate knowledge and proficiency in the overall foundations of an economy as it relates to supply and demand and its impact on the domestic and world economy To apply the economic rules and principles in day to day daily life Evaluate the effects of government interventions in individual markets and in the macro economy.
Class	Course	Outcomes
FY.B.M.S Sem-II	Business Environment	Analyze the environment of a business from the legal & regulatory, macroeconomic, cultural, political, technological and natural perspectives. Understand business environment and its analysis Conduct an in-depth analysis of a specific component of the business environment and relate it to your own organization Understand the concept of GATT, WTO, MNC Construct and present scenarios that synthesize business environment information. To get knowledge of investment opportunities for Indian Industry.
	Industrial Law	To understand the different labour laws which help in understanding the meaning of socialism/socialist word involved in the constitution under the 42nd amendment act To understand Industrial disputes act, Trade unions act, factories act To understand ESIC act, Provident fund act To understand payment of wages act, payment of bonus act To understand the concept of Marketing and its scope Critically Analyse the marketing theories & concepts and understand the relevance in perspective to current business scenario in India To develop basic marketing skills among students in order to cater to the marketing industries To understand the Segmentation, Targeting and Positioning in Marketing
	Principles of Marketing	Have clear understanding of effective principles of effective presentation tools To get personally develop with the fundamentals of communication Get exposure to Group discussions and various types of mock interviews. To built up leadership capabilities and group dynamics Be able to analyze and understand summarization of content
	Business Communication-II	To understand the basic concepts, functions and methods of mathematical techniques Demonstrate understanding of basic mathematics concepts. Demonstrate an understanding of the common body of knowledge in mathematics. Apply graphs, equations, ratio and proportion, percentage, and measurement systems to solve typical business problems viz calculation of
	Business Mathematics	



	Foundation Course-II	Aware about the Indian society, human rights & the environment Understand the meaning of stress & conflict, its effects on humans & how can we manage & overcome them
	Principles of Management	To understand the process of management Study of the basic managerial functions of planning, organizing, staffing, directing and controlling resources to accomplish organizational goals To inculcate basic managerial skills Analyze the business decisions made by organizations using various tools and techniques to remain competitive.
Class	Course	Outcomes
SYBMS Sem-III	Information Technology in Business Management-I	Familiarise the basic concepts and its applications in managing business. Reproduce a working knowledge of concepts and terminology related to information technology in open source The ability to work effectively in teams to accomplish organizational goals.
	Foundation Course-III (Environmental Management)	Develop an activity using various strategies to control, reduce and monitor all environmental problems that might arise as a result Provide skills and an improved understanding of how firms and organisations work with sustainability issues such as environmental and natural resource management. To understand the links between human and natural systems.
	Accounting for Managerial Decisions	To gain in depth knowledge of the professional standards, principles and procedures regarding preparation of financial statement. To acquaint management learners with basic accounting fundamentals. To carry out necessary adjustment in funds from operation to arrive at the figure of cash operations. To apply or analyse various techniques to various domains concerned with Accounting based applications and solutions
	Business Planning & Entrepreneurial Management	Understand areas of discipline of management & entrepreneurship Know functions of EDPs conducted by various Government initiated institutions Develop responsibility of full line of management function of a company with special reference to SME sector. To know, understand, and apply the strategic management process to analyze and improve organizational performance Understand what managers do in the strategic management process. Understanding the impact of social, economic and political forces on the design, planning and implementation of organization's policy
	Strategic Management	Develop an understanding about the consumer decision-making process and its application to the marketing function of a firm. Identify marketing forces of consumer behaviour.

Marketing group(O1, B)



	1. Consumer Behaviour	Have basic knowledge about the issues & dimensions of consumer behaviour. Students are expected to develop the skill of understanding & analysing consumer information
	2. Advertising	<p>To understand and examine the growing importance of advertising</p> <p>To understand the construction of an effective advertisement</p> <p>To understand the role of advertising in contemporary scenario</p> <p>To understand the future and career in advertising</p>
	Human Resource Group(OLD)	
	1. Recruitment & Selection	<p>To introduce key concepts of Recruitment and Selection</p> <p>To familiarize the students with principles and procedure of Recruitment and Selection in an Organization</p> <p>To understand the sources of Recruitment</p> <p>To understand the Technique of Recruitment.</p> <p>The objective is to familiarize the students with concepts and principles, procedure of Recruitment and Selection in an organization.</p>
	3. Organisational Behaviour and HRM	<p>To gain knowledge of the leadership strategies for motivating people and changing organizations</p> <p>To study how leaders facilitate group development and problem solving and work through problems and issues as well as transcend differences</p> <p>To acquaint the students about practical approaches to Motivation and Leadership & its application in the Indian context.</p>
	Finance(OLD)	
	1. Introduction to cost Accounting	<p>Understanding the cost accounting</p> <p>Ability to create cost accounting journal</p> <p>To understand the concept of accounting</p>
	2. Corporate Finance	<p>Show case knowledge of relating to legal, accounting, & practical implication of corporate restructuring.</p> <p>Comprehend the process of internal & external restructuring of business.</p> <p>Manage businesses with different tools and techniques</p>
	Marketing Group(NEW)	
	1. Consumer Behaviour	<p>Develop an understanding about the consumer decision making process and its application to the marketing function of a firm</p> <p>Understanding types of consumer behaviour</p> <p>Have basic knowledge about the issues & dimensions of consumer behaviour. Students are expected to develop the skill of understanding & analysing consumer information</p>
	2. Advertising	<p>To understand and examine the growing importance of advertising</p> <p>To understand the construction of an effective advertisement</p> <p>To understand the role of advertising in contemporary scenario</p> <p>To understand the future and career in advertising</p>



Class	Course	Outcomes
SY B.A.S Sem-IV	Business Economics-II	<p>Understanding, through application of macroeconomics, of the functioning of market economies at regional, national, and global levels</p> <p>Understanding, through application of microeconomics, of the interaction of individuals and organizations in markets, and of the role of public policy in shaping those interactions</p> <p>To understand about the foreign exchange market</p>
	Business Research Methods	<p>To apply a range of quantitative and / or qualitative research techniques to business and management problems / issues</p> <p>Learn formulation of Hypothesis</p> <p>To empower and develop research methods and strategies in Research projects for enhanced Career Options</p> <p>To learn the layout of Research Report</p>
	Information Technology in Business Management-II	<p>Analyze how information technology impacts a firm</p> <p>Interpret how to use information technology to solve business problems.</p> <p>To learn and understand relationship between database management and data warehouse approaches, the requirements and applications of data warehouse.</p>
	Production & Total Quality Management	<p>Gain basic knowledge in total quality management relevant to both manufacturing and service industry including IT sector</p> <p>demonstrate the tools and techniques of quality management to manufacturing and services processes</p> <p>Implement the basic principles of TQM in manufacturing and service-based organization</p> <p>Understand quality improvement techniques and SQM</p>
	Foundation Course- IV(Ethics & Governance)	<p>To work in teams, execute task assigned and perform on time lines set</p> <p>Understand the importance and application of ethics in modern business practices</p> <p>To understand the need and importance of good governance</p> <p>Through case studies, students will develop a moral and ethical perspective of looking at business problems</p> <p>To work in teams, execute task assigned and perform on time lines set</p>
	1. Integrated Marketing Communications & Advertising	<p>To equip the students with knowledge about the nature, purpose and complex construction in the planning and execution of an effective Integrated Marketing Communication (IMC) program.</p> <p>To understand the various tools of IMC and the importance of coordinating them for an effective marketing communication program.</p>



		<p>To understand different elements of Marketing like advertising, PR, Internet marketing, Sales promotion</p> <p>To be able to strategize the entire marketing activities for a brand</p> <p>Know the agriculture & rural marketing environment so that they understand consumer & marketing characteristics</p> <p>Understand the emerging challenges in upcoming global economic scenario</p>
2 Rural Marketing		
		Human Resource Group(OLD)
		<p>It has been successful managerial performance depends on the individual's ability to observe, interpret the issues and modify his approach and behavior</p> <p>All organizations need to pay adequate attention to equip their employees</p> <p>Rapid progress in technology has changed not only in the physical facilities but also in the abstract qualities required of the men who are using them</p> <p>This paper will attempt to orient the students to tailor themselves to meet the specific needs of the organizations in training and development activities</p>
1 Training & Development in HRM		
		<p>Recognize the nature of conflict and its impact on interpersonal relationships and organizations</p> <p>Apply different approaches and strategies in resolving conflicts at the workplace</p> <p>Develop and execute effective negotiation strategies and tactics for different scenarios</p>
2 Conflict and Negotiation		
		Finance(OLD)
		<p>Understand the concept of Strategic Management</p> <p>State the nature of strategy formulation, implementation and evaluation activities</p> <p>Understand how Benchmarking can be used to find better ways in having things done for the corporation</p> <p>Demonstrate the knowledge and abilities in formulating strategies and strategic plans</p>
1 Strategic Cost Management		
		<p>To apply auditing knowledge to undertake auditing processes in a variety of professional settings</p> <p>Explain the meaning of concepts that are fundamental to auditing</p> <p>Design an audit plan</p>
2 Auditing		
		Marketing Group(NEW)
		<p>To equip the students with knowledge about the nature, purpose and complex construction in the planning and execution of ineffective Integrated Marketing Communication (IMC) program</p> <p>To understand the various tools of IMC and the importance of coordinating them for an effective marketing communication program</p> <p>To understand different elements of Marketing like advertising, PR, Internet marketing, Sales promotion</p> <p>To be able to strategize the entire marketing activities for a brand</p> <p>Know the agriculture & rural marketing environment so that they understand consumer & marketing characteristics</p> <p>Understand the emerging challenges in upcoming global economic scenario</p>
1 Integrated Marketing Communication & Advertising		
2 Rural Marketing		



Class	Course	Outcomes
TYBMS Sem V	Logistics & supply Chain Management	<p>Highlight the importance of all activities of the supply chain and an understanding of concepts like inbound and outbound logistics, offshore and inshore logistics.</p> <p>To understand inventory planning, transportation, warehousing, pickpicking & other functions in detail.</p> <p>Demonstrate a clear understanding of the key concepts applied in logistics and supply chain management.</p>
	Corporate Communications & Public Relations	<p>Comprehend various aspects of corporate communication</p> <p>To understand importance of coordinating elements of corporate communication and public relations</p> <p>To understand various theories and practices associated with corporate communication and public relations</p> <p>Comprehend various aspects and theories of Public Relations</p> <p>Comprehend various aspects of corporate communication</p>
	Marketing Group(OLD)	
	1.Service Marketing	<p>To Define and Examine service concepts used by service industries and by discussing the rationale for the application.</p> <p>To formulate effective service design for both consumer and business products & services.</p>
	2.E-Commerce & Digital Marketing	<p>Understand the increasing significance of e-commerce and its application in various business sectors.</p> <p>To provide an insight on Digital Marketing activities on various Social Media platforms and its emerging significance in Business.</p> <p>Get an insight on digital marketing activities on various social media platforms and its emerging significance in business</p>
	3.Sales & Distribution Management	<p>To understand role and scope of sales management and distribution management in a company.</p> <p>Understand distribution channel management with its effective distribution strategy and channel designing.</p> <p>To ability the working of Distribution Channel Management.</p> <p>Understand ethics and trends in sales and distribution management.</p>
	4.Industrial Marketing	<p>To understand concept of Industrial Marketing</p> <p>To learn how to implementation of Marketing</p> <p>To understand new trends in CRM, challenges and opportunities for organisations</p>



Human Resource Group	
1 Industrial Relations	Define labor relations, industrial relations systems, and participatory processes at work. Concept of liberalisation, privatisation and globalisation and its impact on industrial relations in India. Distinguish the procedure concerning worker participation and participatory institutions and instruments of trade union representation Enhance their skills in setting clear expectations and objectively measuring individual performance using objectives and competencies as key measures. To study the aspects of conflict management and how to handle them effectively To get insight into negotiations and negotiation process
2. Performance Management	Comprehend various aspects of corporate communication Comprehend various aspects and theories of Public Relations
3. Finance for HR Professionals & Compensation Management	Integrated perspective on role of HRM in modern business. Ability to plan human resources and implement techniques of job design Ability to handle employee issues and evaluate the new trends in HRM
4. Strategic Human Resource Management & HR Policies	Understanding Investment and Banking To Understanding Portfolio
1 Investment Analysis & portfolio Mgt	Finance
2 Financial Accounting	Understand the various dimensions of Compensation Management used by the companies To Understand financial concept
3 Direct Taxes	To Define and Examine service concepts used by service industries and by discussing the rationale for the application. To provide the appropriate theories, models, and other tools to make better decisions in services To offer diverse learning opportunities to develop analytical and soft skills
4 Risk Management	Understand fundamental aspects of risk management & controls Have a comprehensive overview of risk governance & assurance with respect to insurance sector
1. Service Marketing	Marketing Group(NEW) To Define and Examine service concepts used by service industries and by discussing the rationale for the application. To formulate effective service design for both consumer and business products & services.
2. E-Commerce & Digital Marketing	Understand the increasing significance of e-commerce and its application in various business sectors. To provide an insight on Digital Marketing activities on various Social Media platforms and its emerging significance in business.
3 Sales & Distribution Management	To understand role and scope of sales management and distribution management in a company. Understand distribution channel management with its effective distribution strategy and channel designing
To understand concept of Industrial Marketing	



To understand new trends in CRM, challenges and opportunities for organisations



Class	Course	Outcomes
IYHMS Sem VI		
	1. Operation Research	<p>Demonstrate mathematical concepts and models for the required industry</p> <p>Understand the mathematical tools that are needed to solve optimization problems</p> <p>Interpret and apply the results of an operations research model to an organisation</p> <p>Develop a report that describes the model and the solving technique, analyse the results and propose recommendations in language understandable to the decision-making processes in Management Engineering.</p>
	2. Marketing Group	
	1. Brand Management	<p>To Define and Examine brand concepts used by Companies by discussing the rationale for the application.</p> <p>To provide the appropriate theories, models, and other tools to make better branding decisions.</p> <p>To understand the meaning and significance of Brand Management.</p>
	2. Retail Management	<p>Familiarize students with details retail managements concepts & operations</p> <p>Aware of the various legal & ethical aspects of retail management</p> <p>To understand merchandise management</p>
	3. International Marketing	<p>Get an insight on the dynamics of International Marketing Environment</p> <p>Understand International Marketing, its Advantages and Challenges</p> <p>To understand the relevance of international marketing mix decisions and recent developments in Global Market</p>
	4. Media Planning & Management	<p>Understand the different types of media used by modern day businesses</p> <p>To know the basic characteristics of all media to ensure most effective use of advertising budget</p> <p>Promotion being one of the pillars of marketing, choosing which media or type of advertising to use, especially for challenging firms with limited budgets & know-how</p> <p>Human Resource Group</p>
	IHRM in Global Perspective	<p>Equip the students with requisite knowledge, skills & right attitude necessary to provide effective leadership in a global environment</p> <p>A career in diverse sectors of the industry domestically and globally</p> <p>Develop competent management professionals with strong ethical values, capable of assuming a pivotal role in various sectors of the Indian Economy & Society</p>
	2. Organisational Development	<p>Understand the process designed to improve the effectiveness of an organisation by incorporating individual, group and system level requirements</p> <p>Analyse and evaluate the role of HRD and OD in relation to organisational outcomes such as organisational effectiveness, productivity and quality of working life.</p>
	3. HRM in Service Sector Management	<p>To study the concept and the growing importance of HRM in service sector</p> <p>To recognize and evaluate how human resources are managed in service sector</p> <p>To understand the significance of Human element in creating customer satisfaction through service quality.</p>



4 Indian ethos in Management	Familiarise the process and approaches of Human Resources Accounting Collaborate effectively with others for sharing and extending knowledge to complete complex JIRD task A career in diverse sectors of the industry domestically and globally
Innovative Financial Services	Finance
Project Management	To familiarize with fundamental aspects of various issues associated with various financial services To give comprehensive overview of financial services Students will be equipped with the fundamental aspects of various issues associated with Project Management Get a comprehensive overview of Project Management as a separate area of Management
Strategic Financial Management	Comprehend fundamental aspects of corporate finance management Have a comprehensive overview of corporate governance and assurance with respect to finance sector.
Indirect Taxes	To Define and Examine service concepts used by service industries and by discussing the rationale for the application To provide the appropriate theories, models, and other tools to make better decisions in services
1.Brand Management	2. Marketing Group To Define and Examine brand concepts used by Companies by discussing the rationale for the application To provide the appropriate theories, models, and other tools to make better branding decisions To understand the meaning and significance of Brand Management.
2. Retail Management	Familiarize students with details retail managements concepts & operations Aware of the various legal & ethical aspects of retail management To understand merchandise management
3 International Marketing	Get an insight on the dynamics of International Marketing Environment. Understand International Marketing, its Advantages and Challenges. To understand the relevance of international marketing mix decisions and recent developments in Global Market



Business Law	It provides Knowledge and understanding of Indian Contract Act 1872. To understand natural justice, Constitution of India. It provides Knowledge of Consumer Protection Act, 1986
Financial Accounting-II	It helps student to understand valuation of goodwill and Buyback of equity shares and redemption of Preference shares Redemption of debentures To understand the Legal provisions and treatment with reference to Redemption of preference shares
Business Communication -II	To Understand of presentation skills and making of power point presentation The stage fear is reduced and they become fluent in English communication even though they are from vernacular Understanding of group communication –interviews, meetings, conference
Organisational Behaviour	To Study organisational behaviour with respect to motivation in banking and insurance sector. To understand model relating to organizational behaviour To Develop organizational culture and organizational development
Quantitative Methods-II	It helps student to understand Testing of Hypothesis and Calculation of Ratio, Proportion and percentage Application of statistics in Investments Understanding of decision making problems and formulation of the same as mathematical problem Ability to solve real decision making problems through application of graphical method or simplex method
Foundation Course-II	It focus on understanding the concepts of liberalization, privatization and globalization and its requirement in the economy.



Class	Course	Outcomes
SY B.B.I	Financial Management-I	To understand Concept of finance and sources of finance Knowledge and understanding of financial management Financial planning and Capital budgeting And it also aims to provide an detailed knowledge of Financial goal setting and Role of Finance manager and To understand the Concept of Cost of Capital
SEM-III	Management Accounting	To understand the concept of Management Accounting. To impart basic management accounting knowledge as applicable to business To learn the estimation of working capital requirements in organization
	Organizational Behavior	To provide basic knowledge of key approaches and Models relating to Organizational Behavior To provide basic knowledge of key approaches and Models relating to Organizational Behaviour To understand ways of acting effectively and finding ways for controlling human Behavior To apply different concepts relating to managing of conflicts, change, time and stress
	Information Technology in Banking & Insurance	To learn basic concepts of Information Technology, its support and role in Management for managers. Understand about Banking terminology with respect to IT. Knowledge and understanding of e-commerce and cyber security Learn MS- Excel and MS-Word
	Direct Taxation	To understand the concept of residential status of assessee To impart knowledge of the basic principles underlying provisions of income tax and service tax To understand the calculation of income from all sources To understand the calculation of total income
	Financial Markets	Knowledge and understanding of financial markets Knowledge and understanding of commodity markets Knowledge and understanding of derivative markets Know the different types of financial instruments available in the money market
	Foundation Course-III	To Understand banking industry To Learn aspects and areas of banking like rural banking, retail banking and corporate banking and universal banking.



Class	Course	Outcomes
SY B.B.I	Financial Management-II	Successful completion of Financial Management, the student will be able to:
SEM-IV		The subject provides : Understanding Working capital management and its components Knowledge and understanding of financial planning; Study of strategic financial management
	Foundation Course-IV/(Contemporary Issues)	To understand health insurance process and various insurance plan Knowledge and understanding of life, health, home and motor insurance Knowledge and understanding the role of insurance in logistics and fire insurance
		The syllabus aims to test the student's ability to understand the Conceptual framework of Cost accounting To impart basic cost accounting knowledge as applicable to banking and insurance with suitable illustrations To identify the reasons for difference in profit shown by different set of accounts.
	Cost Accounting in Banking & Insurance	
	Information Technology in Banking & Insurance-II	After completion of this course, the students should be able to understand and usage of Banking Softwares, Outlook Express. To understand basic concepts of Email, Internet and websites, domains and security therein. To recognize security aspects of IT in business, highlighting electronic transactions, advanced security features.
	Corporate Laws & Security Laws	Gives an understanding to the students about the company law Understanding and overview of Company law and Study the regulatory framework of SEBI and Securities contract regulation Act, 1956 Knowledge of Depositories Act, 1996. To make the students understand about the basic laws governing capital markets which are helpful for
	Business Economics-II	To understand the basic concepts of micro economics The subject is covering the major aspects of macroeconomics and international theories. It helps students to understand the basic topics like inflation, monetary policy, Balance of Payment and foreign investment
	Entrepreneurship Management	To explain the key ingredients to be a successful entrepreneur To appreciate the value of entrepreneurship in daily life It provides knowledge and understanding entrepreneur and business planning Knowledge and understanding key areas of
Class	Course	Outcomes
TY B.B.I	Business Ethics &	Understand importance and types of business ethics

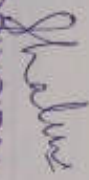


SEM-V	
Corporate Governance	To highlight the role of Corporate Governance practices in maintaining Transparency in business transaction To highlight the importance of commitment to values and ethical conduct of Business.
Strategic Management	To develop an understanding of the general and competitive business environments. To enable to understand and resolve cases through strategic decision making.
Financial Reporting & Analysis in Banking & Insurance	To understand the statutory format of Banking final account and certain banking terms To Prepare financial statements of banking and insurance company. Knowledge and understanding of cash flow in banking and insurance companies
Auditing-I	The syllabus aims to develop an understanding on the concept of Auditing and its principles, Audit planning, The understand, Principles of audit, Types of audit, Errors and Frauds To understand auditors & management responsibilities & objectives with respect to Vouching and Verification The subject also gives in depth knowledge of Auditing techniques under in audit procedure.
International Banking & Finance	To understand fundamentals of international finance The paper will discuss the concepts and broad activities of International Banking and Finance besides studying developments in India in this context
Research Methodology	To understand research and its significance. The course is designed to inculcate the analytical abilities and research skills among the students The course intends to give hands on experience and learning in Business Research.



Class	Course	Outcomes
TY BBA SEM-VI	Security Analysis & Portfolio Management	To understand the concept of portfolio management Knowledge and understanding and valuation of portfolio management. Knowledge and understanding of fundamental and technical analysis
	Human Resources Management	To understand evolution and significance of HRM To understand various processes involved in increasing the value of human assets To understand ways for maintaining high employees morale and sound human relations by sustaining and improving the various conditions and facilities.
	Turnaround Management	To enable students to understand need for revival of sick and stressed business unit To make students aware of the different turnaround strategies
	Central Banking	To understand the basic banking concepts Knowledge and understanding of central banking Knowledge and understanding of role of RBI as central bank
	Project Work in Banking & Insurance	To equip project Students with the critical skills and knowledge required to effectively manage resource and To inculcate the element of research analysis and scientific temperament among learners. To Create awareness among learners regarding methodology of formulation and preparation of the project work
	Marketing in Banking and Insurance	To develop concepts in marketing To explain the scope of marketing management-analyzing opportunities, selecting target segments, developing the market mix, managing the marketing effort




PRINCIPAL
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Class	Course	Outcome
F.Y.B.Com SEM I	Accountancy & Financial Management	To covers all relevant level of knowledge expected for undergraduate students and at the same time meeting the needs for various professional courses like CA, ICWA, CS, MBA etc. Students will get an insight into the AS-1, 2 and 9. Students will be able to solve practical problems on Inventory valuation by FIFO and Weighted Average Method. Students will be able to solve practical problems regarding Departmental Accounting
	Commerce-I	To understand fundamentals of business Gain knowledge of Business planning process and aspects of feasibility and project report Learn about problems and promotion of women entrepreneurship and get encouraged from study of entrepreneurship competencies and discover about Entrepreneur concept.
	Business economics - I	To understand meaning and scope of Business Economics, basic tools, use of marginal decision making, market equilibrium. Students are introduced to basic tools for economic analysis and know how they operate in case of an individual economic unit Students are able to appreciate the impact various output scale and input combination decisions made by the individual firms.
	Mathematics & Statistical Techniques- I	Students will be able to understand concept of Shares and Mutual fund, able to determine profit, rate of interest etc for the investment. Students will know how to determine optimal solution graphically Students will be able to calculate probability of basic real life problems
	Business Communication-I	To participate effectively in groups with emphasis on listening, critical and reflective thinking, and responding After successful completion of the course the learner should be able to enhance his Listening, Speaking, Reading and Writing skills to meet the challenges of the world. To understand and appropriately apply modes of expression, i.e., descriptive, expository, narrative, scientific, and self-expressive, in written, visual, and oral communication
	Environmental Studies	It will help to understand the complexities of our natural environment and relations between different components of environment Understands the seriousness behind conservation of resources and concepts related to sustainable development Learners develops responsible environmental behavior and informed decision making and bring in changes in the attitude towards environment.
	Foundation Course-I	Students are made to understand the religious, linguistic and cultural diversity of the Indiansociety and its characteristics Students are able to describe the nature of inequality and its causes and consequences on the society. Understanding to Indian constitution and important constitutional rights, Environment, and



Class	Course	Outcomes
FY B.Com Sem-II	Accountancy & Financial Management-II	To familiarize learner about how to prepare Final accounts from incomplete records by preparing necessary Students will be able to understand the concept and practical aspect of Consignment Accounts. Students will be able to solve practical problems by Debtors System and Stock and Debtors System of Dependent Branch. Students will be able to solve practical problems on fire insurance claim.
	Business Economics-II	Students are able to understand different market situations and assess the working of firms under these, in order to fashion their responses to maximize their advantage, both as a consumer and a prospective entrepreneur. To understand the Evaluating Capital projects.
	Commerce-II	To understand service sector, marketing mix of service sector through its strategies Learn the scope of business and impact of internal and external environment on business Gain knowledge of Business planning process and aspects of feasibility and project report
	Foundation Course-II	Students are able to understand the meaning of basic concepts related to globalisation and its impact on the Indian economy. Students are able to explain the causes of stress, conflict, aggression and violence.
	Mathematics & Statistical Techniques-II	To develop the students ability to deal with numerical and quantitative issues in business. Students will be able to use derivatives for solving various commercial problems Students will be able to calculate annuity, EMI and interest for their personal as well as real life investments.
	Business Communication-II	Understand the group discussions and interviews After successful completion of the course the learner should be able to enhance his Listening, Speaking, Reading and Writing skills to meet the challenges of the world.
	Environmental Studies-II	Appreciate concepts and methods from ecological and physical sciences and their application Students will know how SW is affecting the environment and its resources with the help of few case studies. Students will understand that how industries and agriculture too is affecting the natural environment.



Class	Course	Outcome (student will be able to)
SY B Com SEM-III	Accountancy & Financial Management-II	To covers all relevant level of knowledge expected for undergraduate students and at the same time meeting the Students will get the insight of Frital Accounts of a partnership firm in which admission/retirement/death took place during the financial year Students will get the insight of precessional distribution of cash on dissolution of cash
	Financial Accounting & Auditing-V (management acc.)	To Present a/c in for to management for financial analysis Identify problems associated with relying on financial accounting information for various managerial decision making. To help management to perform all its functions including organising, staffing, directing & controlling. Learns the application of management accounting tools for pricing, budgetary control, cost allocation and performance evaluation
	Commerce-III	Understand basic fundamentals of management concepts Get an insight into principles practices and techniques of company management Learn the basics of management functions applicable for effective management of accompany
	Business Economics III	To understand meaning, scope and importance of macro economics, measurement of national income, trade cycle. Students are able to explain use of Keynesian theory to provide a solution to the macroeconomic problems After studying this unit, students are able to understand development of Post-Keynesian economics. To understand money, prices and inflation.
	Applied Component:	
	Advertising-I	To understand structure and working of advertising agency Get an understanding of advertising as a tool of Integrated Marketing Communication. Obtain knowledge about economic and social impact of advertising and thereby ethical aspects in advertising
	Foundation Course-III	Students are introduced to basic reasons of Human Right Violations and their resistance, legally and constitutionally. Students are able to analyse situations which bring forth disasters and how to effectively manage them
	Business Law-I	Understand the different business related laws and application thereof. Students are introduced to basic tools for understanding law and basic concepts of Contract Law. Students are able to analyse detailed provisions of how to make and terminate a contract legally in India.



Class	Course	Outcome (student will be able to)
S.Y.B.Com SEM-IV	Accountancy & Financial Management IV	To covers all relevant level of knowledge expected for undergraduate students and at the same time meeting the Students will get the insight of types of companies, issue and forfeiture of shares and debentures. Students will get the insight of Redemption Preference shares and Debentures
	Financial Accounting & Auditing- VI	To understand procedure & practices of auditing Discuss the need for an independent or external auditor. Understands the financial audit process beginning with accepting client's till communication of result to the clients.
	Commerce-IV	Understand concept of production management & quality management Get an insight into principles practices and techniques of company management. Learn the basics of management functions applicable for effective management of company.
	Business Economic- IV	To understand scope of public finance, major fiscal functions, principle of maximum social advantage. To Students are expected to gain insight in understanding basic concepts of public finance. Students are expected to understand basic concepts about the taxation, tax burden and its effects.
	Applied Component: Advertising-II	To understand old and new age advertising media and media research Get an understanding of advertising as a tool of Integrated Marketing Communication. Obtain knowledge about economic and social impact of advertising and thereby ethical aspects in advertising
	Foundation Course-IV	Students are introduced to basic Human Rights Protection available to a new-age citizens. Students are expected to develop a sophisticated approach towards environment and concern for nature.
	Business Law-II	Understand the different laws pertaining to company, difference between company act 1956 and Students are able to understand the significance and basic concept of company form of organizations. Students are capable of evaluating their relative merits and demerits
Class T.Y.B.Com SEM-V	Commerce-V	Outcome (student will be able to) Understand basic concepts related to marketing Students will get the insight of overheads, cost sheet and reconciliation of Profits as per financial accounts and cost accounts. Learn about the psyche of consumer behavior so as to handle them effectively
	Business Economics- V	To understand New Economic Policy, Sustainable Development Goals & Policy. Students are expected to be familiar with the process of reforms and the improvements in social and economic infrastructure, to enable them to understand and appreciate the ongoing policy changes. Students are expected to become effective and productive participants of the financial sector and the various employment opportunities offered by it. Know recent trend service sector.



Class	Course	Outcome (student will be able to)
T.Y.B.Com SEM-VI	Commerce-VI	Understand importance and functions of HRM Learn about the invaluable role of HR in the effective management of business organization Get an idea about contemporary practices in the field of HRM
	Business Economics-VI	Tom understand international trade, Term of trade, gain from international trade Students are expected to gain insight in to the various theories on trade Students are expected to be aware of the latest developments in international trade as well as gain knowledge on developments on Britain's relationship with the rest of Europe.
	Financial Accounting & Auditing-IX	Students will be able to solve practical problems based on liquidation of company To cover all relevant level of knowledge expected for undergraduate students and at the same time meeting the Students will be able to prepare statement of underwriter's liability
	Financial Accounting & Auditing-X	To Cover/provide ample opportunity for the students to practice and at the same time meeting the needs for Students will get the insight of cost recording systems Students will get the insight of cost recording systems Students will get the insight of contract costing and process costing
	Applied Component: Export Marketing Paper II	The basic concepts of E-Commerce, Features, E-Commerce models, Security aspects related to E-Commerce, The advanced features of Excel such as creating templates, linking multiple spreadsheets, database functions, Visual Basic and Graphical User Interface, Use of Visual Basic controls, Simple calculations, Calculations using
	Applied Component: Direct & Indirect Taxation Paper II	To make the students understand the basic concepts, definitions and terms related to Goods and Service tax Students should be able to analyze indirect taxes Students should be able to calculate GST on various goods & services

	Financial Accounting & Auditing-VII	To covers all relevant level of knowledge expected for undergraduate students and at the same time meeting the Students will be able to solve practical problems on Final Accounts of Companies Students will be able to understand the provisions and to solve practical problems related to internal reconstruction
	Financial Accounting & Auditing-VIII	To understand the concepts of cost accounting Students will get the insight of the concepts of cost accountancy, material cost and labour cost Students will be able to understand the provisions and to solve practical problems related to internal reconstruction Get an insight into the field of global and Indian export marketing practices
	Applied Component: Export Marketing Paper I	Learn about the procedural formalities required for undertaking export activity in the country
	Applied Component: Direct & Indirect Taxation Paper I	To make the students understand the basic concepts, definitions and terms related to direct taxation. Define the procedure of direct tax assessment. Able to file IT return on individual basis.



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Class	Course	Outcomes
F.Y. B.Sc		
	Chemistry-I	<p>The chemical thermodynamics related to temperature and systems involved in it.</p> <p>To understand the concept of chemical calculations to prepare the chemical solutions.</p> <p>Understand the periodic table to know about the properties and uses of elements.</p> <p>To understand the concept of IUPAC nomenclature of organic compounds and hybridisation.</p>
	Chemistry -II	<p>Any order and molecularity of reaction and methods to determine order of chemical reaction</p> <p>To understand viscosity, surface tension and refractive index and liquid crystals</p> <p>The properties of main group elements and study acid rain, global warming</p>
	Chemistry Practical	<p>To understand paper chromatography for separation of mixtures</p> <p>The concept of calculation of normality of solutions by different titration method.</p> <p>To understand the calculation of chemical kinetics and its effects</p>
	Physics-I	<p>Understand Newton's laws and apply them in calculations of the motion of simple</p> <p>Understand Newton's laws and apply them in calculations of the motion of simple systems.</p> <p>Use the free body diagrams to analyze the forces on the object.</p> <p>Understand the concepts of friction and the concepts of elasticity, fluid mechanics and be able to perform calculations using them.</p> <p>Understand the concepts of lens system and interference.</p>
	Physics-II	<p>Apply the laws of thermodynamics to formulate the relations necessary to analyze a thermodynamic process.</p> <p>To demonstrate quantitative problem solving skills in all the topics covered</p> <p>To demonstrate the type isotopes and their applications</p> <p>Demonstrate and understand the quantum mechanical concepts</p> <p>Will be able to know different types of nuclear reactions with examples.</p>
	Physics Practical	<p>To demonstrate their practical skills and understanding the formula</p> <p>To understand the use of apparatus and their use without fear</p> <p>Understanding the concept of correlate their physics theory concepts through practical.</p> <p>Understand the concepts of errors and their estimation.</p>
	Mathematics-I	<p>Understanding of mathematical concept like function, limit, continuity and sequences.</p> <p>Students demonstrate knowledge of both the formal definition and the graphical interpretation of continuity of a function.</p> <p>Ability to appreciate real world applications which uses these concepts</p> <p>To perform and formulate a problem through mathematical modeling and simulation</p>





Mathematics-II	Describe fundamental properties of integers and understand the divisibility property of integers. To construct rigorous mathematical proofs of basic results and theorems based on divisibility of integers To construct Pascal's triangle and find the binomial coefficients.
Foundation Course-I	The programme provides the student with the capacity to identify issues and problems relating to the realization of Indian society

Class	Course	Outcomes
F.Y. B.Sc Sem-II	Chemistry-I	The concept of organic reactions of alkenes, alkenes, alkynes To understand the concept of chemical kinetics, related reactions and temperature which effect on it Understand the gaseous state and liquid state with its examples.
	Chemistry -II	To understand electrolytes, ionisation constant of acid bases and ionic product of water, types of buffers, buffer action and buffer capacity Understand the concept of absorption, emission, scattering, fluorescence, electronic, vibrational and rotational transitions Understand the types of cycloalkanes and their relative stability, aromaticity, anti-aromaticity and electrophilic substitution reactions
	Chemistry Practical	To understand characterisation of organic compounds and features To understand the characterisation of elements from given mixture by semi micro analysis. To understand the Ph of the given solution, understand the absorption of the given solution at particular wavelength by colorimetric method. Demonstrate the titration of commercial sample, understand the chemical kinetics of the given solution.
	Physics-I	To develop analytical abilities towards real world problems Understanding familiarize with current and recent scientific and technological developments To enrich knowledge through problem solving, hands on activities, study visits, projects etc
	Physics-II	To study the AC circuit containing pure L, C, R and series LR, CR and LCR. Students problem solving using network theorems like Thevenin, Norton To study the parameters of Electric field and work and energy in electrostatics.
	Physics Practical	To understand and practice the skills while doing physics practical To understand the use of apparatus and their use without fear. To correlate their physics theory concepts through practical. Understand the concepts of errors and their estimation.
	Foundation Course-II	The programme provides the student with the capacity to identify issues and problems relating to the realization of Indian society
	Mathematics-I	Understanding of mathematical concept like series, limit, derivative To appreciate real world applications which uses these concepts Understanding skill to formulate a problem through Mathematical modeling and simulation
	Mathematics-II	Interpret existence and uniqueness of solutions geometrically. Understand a matrix and a matrix representation of a given system of linear equations. Understand a vector space and construct proofs for the basic properties of a vector space.



Class	Course	Outcomes
SY.B.Sc sem-III	Foundation Course-III	<p>Understanding the constitutional rights/legal rights of the vulnerable people</p> <p>To understand the different types of disaster and their mitigation, efforts of the government in that respect</p> <p>To understand the history of science and technology also to understand the communication skills, soft skills required for in an organization</p>
	Physics-I	<p>Understand the concepts of mechanics & properties of matter & to apply them to problems.</p> <p>To learn about situations in low temperature.</p> <p>To demonstrate tentative problem solving skills in all above areas.</p>
	Physics-II	<p>Understand the basic concepts of oscillators and be able to perform</p> <p>To understand the basic concepts of mathematical physics and their</p> <p>To understand the concept of basic laws of electrostatics and be able to perform calculations using them.</p> <p>Demonstrate quantitative problem solving skill in all the topics covered</p>
	Physics-III	<p>Awareness of a brief history of physics, giving emphasis on the birth of quantum theory using black body radiation, photoelectric, X rays and De</p> <p>Students will be exposed to contextual real life situations.</p> <p>Students play the role of Physics in interdisciplinary areas related to materials and Acoustics etc.</p>
	Physics Practical	<p>To understand & practice the skills while performing experiments.</p> <p>To understand the use of apparatus and their use without fear & hesitation.</p> <p>Demonstrate Correlate the physics theory concepts to practical application.</p>
	Chemistry-I	<p>To describe terms involved in the study of conductivity and chemical bonding.</p> <p>To able to explain the concepts of Free energy, Covalent bonding and reactivity in organic compounds.</p> <p>Shall be able to demonstrate the formation of hybrid orbitals and interconversion of organic functional groups.</p>
	Chemistry-II	<p>To understand concept of colligative properties</p> <p>To understand kinetic mechanism through derivation, sums solving and experimental methods</p> <p>To learn basic concepts of periodic table and vast study of p-block elements</p> <p>To learn nomenclature of various carbonyl compounds and mechanisms involved in various reactions</p>
	Chemistry-III	<p>Students understand the purpose of analysis and classical non-classical methods of analysis</p> <p>Understand the types and techniques of sampling of solids, liquids and gases</p> <p>Understand the errors in analysis and their types</p>



		<p>To Practice the skills of Organic preparation</p> <p>To understand the concept of recrystallization and study physical constants</p> <p>To demonstrate the learner capable of analysing and interpreting results of the experiments he conducted or performed</p> <p>To transfer the skill of drawing graph and interpreting result using graph.</p>
Chemistry Practical		
Maths-I Calculus-III		<p>Understanding of the concepts of several variables like inner product, norm function, scalar fields, vector fields</p> <p>Concept of geometrical interpretation of directional derivatives and total derivative of functions of several variable</p> <p>Ability to compute directional derivatives and partial derivatives of scalar fields</p>
Maths-II Algebra-III		<p>To understanding of the concepts of linear transformations and matrices and relation between the two</p> <p>Ability of the dimension of solution spaces of system of equations through rank of matrices and row spaces, column spaces</p> <p>Understanding of the applications of determinant as area and volume</p> <p>To understanding of the concepts of inner product and orthogonalization of vectors and orthogonal complements of subspaces</p>
Maths-III Discrete Mathematics		<p>Understanding of the permutations as bijections and related concepts</p> <p>To understanding of the recurrence relation and the ability to solve a recurrence relation</p> <p>To understanding the concepts of counting and applications of recurrence relation to stirling numbers, pigeonhole principle to geometry</p>



Class	Course	Outcomes
SY.B.Sc Sem-IV	Foundation Course	Understanding the constitutional rights/legal rights of the vulnerable people, the different types of disaster and their mitigation, efforts
	Physics-I	Understand the diffraction and polarization processes and applications of them in physical situations. Students understand the working of digital circuits. Use IC 555 time for various timing applications. Demonstrate quantitative problem solving skills in all the topics covered.
	Physics-II	Understand the postulates of quantum mechanics and to understand its Demonstrate quantitative problem solving skills in all the topics covered.
	Physics-III	Understand the concepts of mechanics and properties of matter and to apply them to problems Comprehend the basic concepts of Thermodynamics and its application in physical situations Learn about situations in low temperature in physics
	Physics Practical	To understand and practice the skills while performing experiments To understand the use of apparatus and their use without fear and hesitations Correlate their physics theory concepts to practical applications
	Chemistry-I	Learning the Electrochemical conventions. Types of electrodes and Electrochemical series. Numericals on EMF of cell and its thermodynamic parameters. Understanding the Phase diagrams of one component and two component system. Studying the reactivity and reactions of Carboxylic acids and their derivatives, Sulphonic acids.
	Chemistry-II	To learn the concept of crystallography, study laws involved and different crystal studies. To understand the concept of catalytic processes To learn the concept of Latimer equation and predominance diagrams for various ions at different range of acidity and basicity and To study nomenclature and reaction mechanisms of nitrogen containing compounds
	Chemistry-III	To Understand different types of separation methods Understand the basic instrumentation, working and applications of electrophoresis. Students understand the principle of potentiometry, the role of reference and indicator electrode Understand the principle of pH metry, conductivity, working of combined glass electrode Ability to the Statistical Treatment of analytical data
	Chemistry Practical	To make the learner capable of analysing and interpreting results of the experiments he conducts or performs To make students get hands on experience on various instruments like potentiometer, pH meter, spectrophotometer etc. To transfer the skill of drawing graph and interpreting result using graph



		To be able to analyse, implications and interpret errors and deviations volumetrically and instrumentally
		To understand the concepts of integration as approximation of area
		Understanding of the applications of integration in Beta, Gamma functions and area, volume, curve length problems
		Ability to compute area, volume and length of geometrical figures.
	Maths-I Calculus-IV	
		Understanding of the abstract structure groups and subgroups and its concepts with examples
		Understanding of the cyclic groups and abelian groups
		Understanding of the group homomorphism and group isomorphism and the concepts of cosets
	Maths-II Algebra-IV	
		Understanding of the differential equations and its solutions
		Ability to solve first order differential equations through various methods
		Ability to solve system of linear differential equations and integration derivatives
		Understanding of the applications of first order differential equations to orthogonal trajectories, population and current problem
	Maths-III Ordinary Differential Equations	
		Outcomes
		To understand the concepts of different types of molecular spectroscopy and terms involved in it
		To conceptualize various colligative properties and able to relate it with thermodynamic derivation
		To understand collision theory involved in chemical kinetics
		To be able to understand basic concepts of nuclear chemical reactions and its fission and fusion process
		To make them relate their theoretical part with numericals solving
	Chemistry-I	
		To understand the symmetry of molecules and their structure to property relation
		To be able to understand the structure of solids and their properties
		To Study properties, separation and uses of Lanthanides
		To understand the application of VSI-PR to selective p block elements
	Chemistry-II	
		To understand the electrocyclic transition state, cycloaddition, and Norrish I and Norrish II cleavages
		Understand the proper nomenclature, understand the different types of organometallics
		To understand the concept of different types heterocyclic reactions.
	Chemistry-III	
		Understand the concept of Quality, Quality Control, Quality Assurance
		Learning the interconversion of Chemical units, Techniques and types of Chemical sampling
		Understanding types and theory of Redox and complexometric titration and indicators used in such titration
		Understanding instrument used for Atomic spectroscopy, Molecular Spectroscopy and Study of turbid solutions
		Learning of Factors affecting Solvent extraction, Instrumentation and Principle of HPLC and HPTLC
	Chemistry-IV	
		Understand the economic aspects of chemical manufacturing processes
		To understand Perfumes, sweeteners, Flavours and synthesis of Vanillin, coumarin, Saccharin
		To Perform industrial solvents, concept of drugs and synthesis of various dyes
		Understand the concept of homo aromatics, understand the pumps and structures and uses
	Heavy & Fine Chemicals as Applied Component	
		To make the learner capable of analysing and interpreting results of the experiments he conducted or performed
		To make students get hands on experience on various Device/Instruments like Viscometer, potentiometer, pH meter, Flame Photometer
		To able Separate the organic binary Solid mixture
		To transfer the skill of drawing graph and interpreting result using graph
	Chemistry Practical	



Class	Course	Outcomes
TY.B.Sc sem-VI	Chemistry-I	Students should be able to write cell set and their respective cell reactions To understand concepts of polymer and various terms involved in it To know the concepts of various renewable energy resources To make them relate their theoretical part with numericals solving
	Chemistry-II	To understand the theories of coordination compounds and interpret the spectra To understand the fact of inorganic species in biological system To be able to elaborate the reactions and structures of organometallic and coordination compounds Understand the metallurgical operations for metal extractions
	Chemistry-III	To Study the classification of polymer, and its preparation and uses Understand catalyst and reagents used in reduction and oxidation reactions Understand the DNA and RNA structures : classification of nucleic acids.
	Chemistry-IV	Understanding the principle, instrumentation and application of polarography and Amperometric titration. Learning the separation techniques using Gas chromatography and Ion exchange chromatography. Study of Food products and adulterants in Milk, Honey, Tea and Coffee. Study of Cosmetic products Face powder, lipstick, Deodorants and Studying the Types, Instrumentation and application of various thermal methods. Introduction and need of Analytical method Validation.
	Heavy & Fine chemicals: Applied component	Understand the need and scope of small scale industry, SSI roles and regulations, role of and D technology, research strategies and patents Students understand manufacture of soaps, concept of this and fats and detergents Ability to understand the separation of volatile liquid and non-volatile liquid by condensation method. understand the separation of volatile liquid and solid by condensation method
	Chemistry practical	To make the learner capable of analysing and interpreting results of the experiments he conducted or performed To make students get hands on experience on various instruments like potentiometer, pH meter, spectrophotometer etc. To able Separate the liquid Organic binary mixture. To transfer the skill of drawing graph and interpreting result using graph. To able to analyse qualitatively and quantitatively chemicals based on volumetric and semimicro analysis



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Class		Course	Outcomes
FY B.Sc (IT) Sem-I			
Imperative Programming			Understanding Algorithms and basic programming logic
			Understands the basic structure, operators and statements of C language
Digital Electronics			Define decision making statements and solve problems based on it
			Learns that it serves as a basic language of all advanced computer languages
Operating system			Learn about pointers that deals directly with memory
			Gain knowledge between different types of number systems, and their conversions
DBMS			Design various logic gates and simplify Boolean equations
			Design various flip flops, shift registers and determining outputs
Discrete Mathematics			Design different types of counters
			To provide a understanding of operating system, its structures and functioning
Communication Skills			Develop and master understanding of algorithms used by operating systems for various purposes
			Understand Virtualization concept in depth
			Understand and analyse theory and implementation of processes, resource control (concurrency etc.), physical and virtual
			Students will be able to comprehend and evaluate the role of database management systems in information technology
			Design and implement properly structured databases that match the standards based under realistic constraints and conditions
			To comprehend how to use Structured Query Language (SQL) to define and manipulate database information
			Explain the principle of transaction management design
			Able to work in a group on the design, and implementation of a database system project
			Understanding the basics of set theory and ability to convert logical statements as mathematical statements
			Understanding different methods of proofs and ability to prove logical statements
			Understanding the basics of relations and functions and solving recurrence relation
			Knowledge of theory of graphs and trees
			Understanding the counting and probability theory and ability to use different counting principles to solve a practical problem
			To work effectively as a part of a team to achieve a common stated goal
			To adhere to the highest standards of ethics, including relevant industry and organizational codes of conduct
			To communicate effectively with a range of audiences both technical and non-technical
			To develop an aptitude to engage in continuing professional development



Class FY B.S.C (IT) Sem-II	Course	Outcomes
	Object Oriented Programming	<p>Understand the features of C++ supporting object oriented programming</p> <p>Understand the relative merits of C++ as an object oriented programming language</p> <p>Understand how to produce object-oriented software using C++</p> <p>Understand how to apply the major object-oriented concepts to implement object oriented programs in C++, encapsulation.</p> <p>Understand advanced features of C++ specifically stream I/O, templates and operator overloading</p> <p>Be able to explain the difference between object oriented programming and procedural programming</p> <p>Be able to program using more advanced C++ features such as composition of objects, operator overloads, dynamic memory allocation, inheritance and polymorphism, file I/O, exception handling, etc</p> <p>Be able to build C++ classes using appropriate encapsulation and design principles</p> <p>Be able to apply object oriented or non-object oriented techniques to solve bigger computing problems</p>
	Microprocessor Architecture	<p>Construction of a maintainable assembly language program for an algorithm.</p> <p>To introduce students with the architecture and operation of typical microprocessors</p> <p>To familiarize the students with the programming and interfacing of microprocessors</p> <p>To provide strong foundation for designing real world applications using microprocessors</p> <p>To understand the basic concept of Micro Computer Systems</p> <p>To develop background knowledge in 8085 Microprocessor</p> <p>To write Assembly language Programs of 8085</p> <p>To understand the peripheral devices and interfacing to 8051 Micro Controller and design aspects of Micro Controller</p>
	Web Programming	<p>Acquire knowledge about functionalities of World Wide Web and E-Mail</p> <p>Apply a structured approach to identifying needs, interests, and functionality of a website</p> <p>Write well-structured, easily maintained, standards-compliant, accessible HTML code, CSS code to present html pages in different ways.</p> <p>Explore Markup languages features and create interactive web pages using them</p> <p>Design dynamic websites that meet specified needs and interests</p> <p>Learn and design Client side validation using scripting languages</p> <p>Acquire knowledge about Scripting libraries</p> <p>Analyze working of Internet</p> <p>Gain an insight into designing web pages</p> <p>Use different ways of styling web pages using CSS</p> <p>Implement basic and complex functionalities of JavaScript in a web page</p> <p>Employ PHP Scripts to execute dynamic tasks in a web page</p> <p>Perform various database tasks using PHP</p>
	Numerical & Statistical Methods	<p>Ability to flowchart and pseudocode logic for problem solving</p> <p>Solve root finding problems using several methods</p> <p>Solve systems of linear algebraic equations using Gauss elimination</p> <p>Apply various interpolation methods and finite difference concepts.</p> <p>Understand numerical techniques to find the roots of non-linear equations and solution of system of linear equations</p> <p>Understand the difference operators and the use of interpolation</p> <p>Understand numerical differentiation and integration and numerical solutions of ordinary and partial differential equations</p>



	Green Computing	Describe green IT in relation to technology is cost-effective due to less energy usage & cooling requirements. Sustainable IT helps in the preservation and effective utilization of natural resources. Understand the concept of Green IT and problems related to it. Know different standards for Green IT. Understand the how power usage can be minimized in Technology. Learn about how the way of work is changing. Understand the concept of recycling. Know how information system can save Green Information system
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Class	Course	Outcomes
SY B.Sc (IT) Sem-III	Python Programming	Interpret the fundamental Python syntax and semantics and be fluent in the use of Python control flow statements. Identify the commonly used operations involving file systems and regular expressions. Determine the methods to create and manipulate Python programs by utilizing the data structures like lists, dictionaries, tuples Articulate the Object-Oriented Programming concepts such as encapsulation, inheritance and polymorphism as used in Express proficiency in the handling of strings and functions. Aware of the variables, expressions, looping and conditions used in Python programming Implement functions, strings, lists, tuples and directories Create GUI forms and add widgets. Use MySQL to store data Apply the programming skillset learnt here into various domains by having advance programming skillset of Python and usage of libraries
	Data Structures	To impart the basic concepts of data structures and algorithms To understand concepts about searching and sorting techniques To Understand basic concepts about stacks, queues, lists, trees and graphs To understand about writing algorithms and step by step approach in solving problems with the help of fundamental data Identify and distinguish data structure classification, data types, their complexities Implement array, linked list, stack and queue Implement tree, various hashing techniques and graph for various applications. Compare various sorting and searching techniques
	Computer Network	Understand about data communication and networking Understand about how data exactly flows from source to the destination. Understand about protocols which help to flow data globally Gain knowledge about Digital and analog transmission Gain knowledge about connecting devices virtually. Identify various data communication standards, topologies and terminologies Describe how signals are used to transfer data and communication aspects between nodes Configure IP addresses using TCP/IP protocol suit Use different application layer protocols
	Database Management Systems	Students will be able to comprehend and evaluate the role of database management systems in information technology. Design and implement projects structured databases that satisfy the standards based under various constraints and conditions. To comprehend how to use Structured Query Language (SQL) to define and manipulate database information. To understand the principles of data normalization about database. Apply the skill set learnt here in the form of projects or assignments.



		Develop and make understanding of algorithms used by operating systems for various purposes. Understand Virtualization concept in depth Understand and analyse theory and implementation of processes, resource control (concurrency etc.), physical and virtual
	Applied Mathematics	Understanding the different operations on matrices and their application in linear algebra Understanding the basic concepts of complex numbers and standard complex functions Understanding differential equations and different methods to solve the same and ability to solve differential equations Understanding Laplace transform and ability to compute Laplace transforms Understanding the concept of multiple integrals and ability to solve area and volume problems Familiar with the various forms and operations of a complex number Find the Laplace transform of a function and inverse Laplace transform of a function using definition also solve ordinary differential equations using Laplace transform Evaluate the multiple integrals in Cartesian, Polar coordinates, change the order of the integral. Apply integration methods to calculate the areas and volumes of solid Evaluate the Beta, Gamma, Differentiation Under integral sign and error functions

Class	Course	Outcomes
SY.B.Sc (IT) Sem-IV	Core Java	Object oriented programming concepts using Java Knowledge of input, its processing and getting suitable output Understand, design, implement and evaluate classes and applets. Knowledge and implementation of AWT package
	Introduction to Embedded Systems	Knowledge about hardware and software requirements. Understand about the real time working of products like washing machine, oven etc Real time simulation, design and development of embedded products Differentiate between general purpose and embedded systems Discuss the characteristics and quality attributes of embedded systems Use different types of sensors for appropriately Design and develop embedded systems
	Computer Oriented Statistical Techniques	Understanding the basic computational concepts of statistics Understanding the theory of probability and ability to solve practical problems by rigorous application of theory Understanding of sampling and estimation and various way to test a hypothesis Understanding the concept of curve fitting and deriving a relation between two variables To calculate and apply measures of central tendencies and measures of dispersion -- grouped and ungrouped data cases To calculate the moments, skewness and kurtosis by various methods. How to apply discrete and continuous probability distributions to various business problems Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for simple sample and two sample cases. Understand the concept of p-values Apply simple linear regression and correlation model to real life examples.
	Software Engineering	Understand the different phases in software development. Understand project management and risk management process Able to understand software testing methods Understand software engineering techniques Apply software engineering techniques Discuss various approaches to verification and validation of software including



		Create software using different software development models
	Computer Graphics & Animation	<p>Understand the basic concepts (Input Devices and Output Devices) of Computer Graphics.</p> <p>Understand various algorithms to draw line, Circle and Ellipse and Clipping algorithms.</p> <p>Understand 2 dimensional Transformation and 3 dimensional transformations.</p> <p>Understand basic concepts of Viewing in 3D, Light, Color</p> <p>Understand Various Techniques for efficient Visible-Surface Algorithms.</p> <p>To train the students to acquire skills in generating marketable computer graphics and animated pictures, especially in the area of advertisements.</p> <p>To train the students to acquire skills and mastery in the use of different software producing graphics and animation.</p> <p>The course introduces the basic concepts of computer graphics.</p> <p>It provides the necessary theoretical background and demonstrates the application of computer science to graphics.</p> <p>The course further allows students to develop programming skills in computer graphics through programming assignments.</p>

Class	Course	Outcomes
TY/B.Sc (IT) Sem-V	Internet of Things	<p>Discovering the interconnection and integration of the physical world</p> <p>Learner should get knowledge of the architecture of IoT</p> <p>Learners are able to design & develop IoT Devices.</p>
	Linux Administration	<p>Upon completion of this course, students should have a good working knowledge of Linux, from both a graphical and Student shall be able to progress as a Developer or Linux System Administrator using the acquired skill set.</p>
	Advanced Web Programming	<p>Proficiently develop ASP.NET web applications using C#</p> <p>Use ADO.NET for data persistence in a web application.</p> <p>Understanding .NET framework and components.</p> <p>Understand client-server architecture and able to use the skills for web project development.</p>
	Enterprise Java	<p>Explore advanced topic of Java programming for solving problems.</p> <p>Understand the concepts related to Java Enterprise Edition, Servers and Containers.</p> <p>Understand basic concepts of state management techniques and sending requests using methods of Request dispatcher</p>
	Software project management	<p>Identify the different project contexts and suggest an appropriate management strategy.</p> <p>Practice the role of professional ethics in successful software development.</p> <p>Identify and describe the key phases of project management.</p> <p>Determine an appropriate project management approach through an evaluation of the business context and scope of the</p>



Class	Course	Outcomes
TY B.Sc (IT) Sem-VI	Geographic Information System	Learner will understand fundamental of GIS. Learner will be able to create Vector and Raster data. Learner will learn how to manage and process data in GIS and capacity to integrate information from different sources. Learner will be able to understand complex analysis queries involving geographical reference data to generate new information. Learner will Compute an image visually and digitally with digital image processing techniques.
	Software Quality Assurance	Critically evaluate alternative standards, models and techniques aimed at achieving quality assurance in a variety of software Propose and defend innovative solutions to software quality assurance and measurement Problems in the context of various software development environments Critically evaluate leading edge approaches in software development and attendant quality assurance methodologies.
	Business Intelligence	Introduction to Business intelligence and learn the concepts of Big Data Understood the process of implementing the Big data Learn BI concepts, methodologies & BI framework Knows about Hadoop and Core of Hadoop with Hadoop lower levels Learns the Components of Hadoop and Develops Application in Hadoop
	Security in Computing	1. Analyze and resolve security issues in networks and computer systems to secure an IT infrastructure. 2. Design, develop, test and evaluate secure software. 3. Develop policies and procedures to manage enterprise security risks. 4. Evaluate and communicate the human role in security systems with an emphasis on ethics, social engineering. 5. Interpret and forensically investigate security incidents.
	Cyber Laws	Understand Sections of IT ACT 2000. Understand the Cyber Crime and Criminal Justice: Penalties, Adjudication and Appeals Under the IT Act, 2000. Understand Contracts in the Infotech World and Jurisdiction in the Cyber World. Understand the meaning of Barring Cyber Squatters and Copyright Protection in the Cyber World. Explore and understand E-Commerce: Taxation, Real Problems in the Virtual World and Digital Signature, Certifying Authorities and E-Governance. Understand the sections of The Indian Evidence Act of 1872 vs. Information Technology Act, 2000 and Protection of Cyber Consumers in India.
	Project Report	To give a practical exposure to the process of software development life cycle. To develop a quality software solution by following the software engineering principles and practices. Students are also encouraged to take up a application oriented work and produce results based on its

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Arts, Science & Commerce

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Class FY B.S.C (C.S) Sem-I	Course Computer Organization & Design	Outcomes
		<ul style="list-style-type: none"> To learn about how computer systems work and underlying principles To understand the basics of digital electronics needed for computers To understand the basics of instruction set architecture for reduced and complex instruction sets To understand the basics of processor structure and operation To understand how data is transferred between the processor and I/O devices
	Programming with Python-I	<ul style="list-style-type: none"> Students should be able to understand the concepts of programming before actually starting to write programs. Students should be able to develop logic for Problem Solving Students should be made familiar about the basic constructs of programming such as data, operations, conditions, loops. Students should be able to apply the problem solving skills using systematically simple language(Python 3.x or higher) To learn how to design and program Python applications To explore the innards of Python Programming and understand components of Python Program To define the structure and components of a Python program. To learn how to write loops and decision statements in Python To learn about inbuilt input/output operations and compound data types in Python
	Free & Open Source Software	<ul style="list-style-type: none"> Students should have a good working knowledge of Open Source ecosystem, its use, impact and importance. This course shall help student to learn Open Source methodologies, case studies with real life examples. Be familiar with open source software products and development tools currently available on the market Be able to utilize open source software for developing a variety of software applications, particularly Web applications. Understand the difference between open-source software and commercial software Understand the policies, licensing procedures and ethics of FOSS. Understand open-source philosophy, methodology and ecosystem. Awareness with Open-Source Technologies.
	Linux	<ul style="list-style-type: none"> Upon completion of this course, students should have a good working knowledge of Linux, from both a graphical and command line perspective, allowing them to easily use any Linux distribution This course shall help student to learn advanced subjects in computer science practically. Student shall be able to progress as a Developer or Linux System Administrator using the acquired skill set. To learn basic concepts of Linux in terms of operating system To learn use of various shell commands with regular expressions. To set Linux Environment variables and learn setting file permissions to maintain Linux security implementation To learn various editors available in Linux OS To learn shell scripting To learn installation of compilers and programming using C and Python languages on Linux platform
	Database Systems	<ul style="list-style-type: none"> Students should be able to evaluate business information problem and find the requirements of a problem in terms of data Students should be able to design the database schema with the use of appropriate data types for storage of data in database Students should be able to create, manipulate, query and backup the databases To make students aware fundamentals of database system To give idea how ERD complements helped in database design and implementation



		<p>To experience the students working with database using MySQL</p> <p>To familiarize the student with normalization, database protection and different DCL Statements.</p> <p>To make students aware about importance of protecting data from unauthorized users</p> <p>To make students aware of granting and revoking rights of data manipulation</p>
	Discrete Mathematics	<p>To provide overview of theory of discrete objects, starting with relations and partially ordered sets.</p> <p>Study about recurrence relations, generating function and operations on them.</p> <p>Give an understanding of graphs and trees, which are widely used in software.</p> <p>Provide basic knowledge about models of automata theory and the corresponding formal languages.</p> <p>The purpose of the course is to familiarize the prospective learners with mathematical structures that are fundamentally discrete</p> <p>This course will enhance prospective learners to reason and ability to articulate undecidable problems</p> <p>This course will introduce functions, forming and solving recurrence relations and different counting principles. These concepts will be useful to study or describe objects or problems in computer algorithms and programming languages and these concepts can be used effectively in other courses.</p>
	Descriptive Statistics & Introduction to Probability	<p>Enable learners to know descriptive statistical concepts</p> <p>Enable study of probability concept required for Computer learners</p> <p>To develop the learners ability to deal with different types of data</p> <p>To enable the use of different measures of central tendency and dispersion wherever relevant</p> <p>To make learner aware about the techniques to check the Skewness and Kurtosis of data</p> <p>To make learner capable to find the correlation between different variables and further apply the regression analysis to find the exact relation between them</p> <p>To develop ability to analyze statistical data through R software</p>
	Soft Skills Development	<p>To know about various aspects of soft skills and learn ways to develop personality</p> <p>Understand the importance and type of communication in personal and professional environment</p> <p>To provide insight into much needed technical and non-technical qualities in career planning.</p> <p>Learn about Leadership, team building, decision making and stress management</p> <p>Understand the significance and essence of a wide range of soft skills</p> <p>Learn how to apply soft skills in a wide range of routine social and professional settings</p> <p>Learn how to employ soft skills to improve interpersonal relationships</p> <p>Learn how to employ soft skills to enhance employability and ensure workplace and career success</p>

Class	Course	Outcomes
FY, B.S.c (C.S) Sem-II	Programming with C	<p>Students should be able to write, compile and debug programs in C language.</p> <p>Students should be able to use different data types in a computer program.</p> <p>Students should be able to design programs involving decision structures, loops and functions.</p> <p>Students should be able to explain the difference between call by value and call by reference</p> <p>Students should be able to understand the dynamics of memory by the use of pointers.</p> <p>Students should be able to use different data structures and create/update basic data files</p>
	Programming with Python-II	<p>Students should be able to understand how to read/write to files using python</p> <p>Students should be able to catch their own errors that happen during execution of programs.</p> <p>Students should get an introduction to the concepts of pattern matching</p> <p>Students should be made familiar with the concepts of GUI controls and designing GUI applications</p> <p>Students should be able to connect to the database to move the data from the application</p> <p>Students should know how to connect to connect, read from/HR and send email</p> <p>To learn how to design object-oriented programs with Python classes</p>



		<p>To learn about reading, writing and implementing other operation on files in Python.</p> <p>To implement threading concept and multiprocessing on Python</p> <p>To design GUI programs and implement database interaction using Python</p> <p>To know about use of regular expression and handling exceptions for writing robust python programs</p>
	Linux	<p>(Upon completion of this course, students should have a good working knowledge of Linux, from both a graphical and command line perspective, allowing them to easily use any Linux distribution</p> <p>This course shall help student to learn advanced subjects in computer science practically</p> <p>Student shall be able to progress as a Developer or Linux System Administrator using the acquired skill set</p> <p>To learn basic concepts of Linux in terms of operating system</p> <p>To learn use of various shell commands with regular expressions</p> <p>To set Linux Environment variables and learn setting file permissions to maintain Linux security implementation</p> <p>To learn various editors available in Linux OS</p> <p>To learn shell scripting</p> <p>To learn installation of compilers and programming using C and Python languages on Linux platform</p>
	Data Structures	<p>Learn about Data structures, its types and significance in computing</p> <p>Explore about Abstract Data types and its implementation</p> <p>Able to program various applications using different data structure in Python</p>
	Calculus	<p>Understanding of Mathematical concepts like limit, continuity, derivative, integration of functions.</p> <p>Ability to appreciate real world applications which use these concepts.</p> <p>Skill to formulate a problem through Mathematical modeling and simulation</p> <p>The primary objective of this course is to introduce the basic tools of Calculus which are helpful in understanding their applications to the real world problems</p> <p>The course is designed to have a grasp of important concepts of Calculus in a scientific way</p> <p>It covers topics from as basic as definition of functions to partial derivatives of functions in a gradual and logical way.</p> <p>The learner is expected to solve as many examples as possible to get complete clarity and understanding of the topics covered.</p>
	Stat. Methods & Testing of Hypothesis	<p>Enable learners to know descriptive statistical concepts</p> <p>Enable study of probability concept required for Computer learners</p>
Class	Course	Outcomes
SY B.S.c (C.S)	Theory of Computation	<p>Understand Grammar and Languages</p> <p>Learn about Automata theory and its application in Language Design</p> <p>Learn about Turing Machines and Pushdown Automata</p> <p>Understand Linear Bounded Automata and its applications</p>
Sec-III	Core Java	<p>Object oriented programming concepts using Java</p> <p>Knowledge of input, its processing and getting suitable output</p> <p>Understand, design, implement and evaluate classes and applies</p> <p>Knowledge and implementation of AWT package</p>



Operating System	To provide a understanding of operating system, its structures and functioning Develop and master understanding of algorithms used by operating systems for various purposes. Understand and analyse theory and implementation of processes, resource control (concurrency etc.), physical and virtual memory, scheduling, I/O and files Understand concept of Concurrent execution, problems and solutions
Database Management Systems	Master concepts of stored procedure and triggers and its use. Learn about using PL/SQL for data management Understand concepts and implementations of transaction management and crash recovery
Combinatorics & Graph Theory	Appreciate theory of combinatorics and how combinatorial problem naturally arise in many settings Understand the combinatorial features in real world situations and computer science applications. Apply combinatorial and graph theoretical concepts to understand Computer Science concept and apply them to solve the
Physical Computing & IoT Programming	Enable learners to understand System On Chip Architectures. Introduction and preparing Raspberry Pi with hardware and installation. Learn physical interfaces and electronics of Raspberry Pi and program them using practical's Learn how to make consumer grade IoT safe and secure with proper use of protocols.
SKILL Enhancement: Web Programming	To design valid, well-formed, scalable, and meaningful pages using emerging technologies. Understand the various platforms, devices, display resolutions, viewports, and browsers that render websites To develop and implement client-side and server-side scripting language programs To develop and implement Database Driven Websites. Design and apply XML to create a markup language for data and document centric applications.

Class	Course	Outcomes
SY.B.S.c.(C.S) Sem-IV	Fundamentals of Algorithms	Students will be able to choose appropriate advanced data structure for given problem. Students will be able to calculate complexity. Students will be able to select appropriate design techniques to solve real world problems.
	Advanced Java	Students will be able to apply the dynamic programming technique to solve the problems. Students will be able to apply the greedy programming technique to solve the problems.
	Computer Networks	Understand the concepts of Spring application and JDBC Understand the concepts related to Java Technology Explore and understand use of Java Services Explore and understand use of Java Server Programming Explore and understand use of Java Beans, struts and JSON
	Software Engineering	Learner will be able to understand the concepts of networking, which are important for them to be known as a networker. Useful to proceed with industrial requirements and International vendor certifications
	Learn About Using	Basic knowledge and understanding of the analysis and design of complex systems. Ability to apply software engineering principles and techniques. Ability to develop, maintain and evaluate large-scale software systems. To produce efficient, reliable, robust and cost-effective software solutions
		Appreciate the relevance of their subjects in the field of computer Understand the concepts through program implementation



	Python	Install a computational thinking while learning linear algebra
		Understand the NET framework
	NET Technologies	Develop a proficiency in the C# programming language Proficiently develop ASP.NET web applications using C# Use ADO.NET for data persistence in a web application
	Skill Enhancement Android Developer Fundamentals(OJD)	Understand the requirements of Mobile programming environment Learn about basic methods, tools and techniques for developing Apps Explore and practice App development on Android Platform Develop working prototypes of working systems for various uses in daily lives
	Advanced App Development	To Understand new AngularJS and ReactJS and Flutter Technology To Understand current Software Development Market Trends: Technology Advanced MongoDB Concepts and Database transactions
	Advanced Android Development	Understanding Advanced Android App Development Understanding Advanced Application Understanding Kotlin language To Get Career opportunity in software development company
Class TY.B.Sc (C.S) Sem-V	Course	Outcomes
	Effective Artificial intelligence	After completion of this course, learner should get a clear understanding of AI and different search algorithms used for The learner should also get acquainted with different learning algorithms and models used in machine learning Analyze the structures and algorithms of a selection of techniques related to searching, reasoning, Apply the basic principles, models, and algorithms of AI to recognize, model, and solve problems in the analysis and design of information systems Compare AI with human intelligence and traditional information processing and discuss its strengths Understand the foundations, history, and state of the art of AI Learn about intelligent agents, their environments, and the structure of agents Gain knowledge of knowledge representation and reasoning methods, and apply them to solve complex problems Develop an understanding of machine learning techniques, including classification, regression, and ensemble learning
	Project Management	Apply project management principles, processes, and best practices to plan, execute, and control projects effectively Develop project charters, define project scopes, and create work breakdown structures (WBS) to establish project objectives and deliverables Create project schedules, estimate resource requirements, and monitor project progress using appropriate project management techniques Employ quality assurance and control measures to ensure project deliverables meet stakeholder expectations and industry standards Demonstrate effective leadership and teamwork skills, as well as the ability to manage stakeholders, resolve conflicts, and make ethical decisions in project management settings
	Linux Server Administration(OJD)	Demonstrate proficiency in managing software packages and repositories in Linux Configure and administer user accounts, groups, and permissions in a Linux system Implement network services such as DNS, FTP and web servers, ensuring proper security measures



		<p>Design and manage advanced network services including NFS, Samba, and LDAP for efficient file sharing and user authentication.</p> <p>Apply troubleshooting techniques to identify and resolve common issues in Linux server administration.</p>
Software Testing & Quality Assurance		<p>Understand various software testing methods and strategies.</p> <p>Understand a variety of software metrics, and identify defects and managing.</p> <p>Those defects for improvement in quality for given software.</p> <p>Design SQA activities, SQA strategy, formal technical review report for software quality control and assurance.</p> <p>Understand the significance of software testing in ensuring software quality and reliability.</p> <p>Familiarize with the fundamental concepts and principles of software quality assurance.</p> <p>Learn different software testing techniques and methodologies for effective test case design.</p> <p>Explore the role of verification and validation in software development and testing processes.</p> <p>Gain practical experience in using software testing tools and frameworks for automated testing.</p>
Cyber Forensics		<p>The student will be able to plan and prepare for all stages of an investigation detection, initial response and management.</p> <p>Define the concept of ethical hacking and its associated applications in Information Communication Technology (ICT) world.</p> <p>Explain the methodology of incident response and various security issues in ICT world, and identify digital forensic tools for data collection.</p> <p>Understand the principles and concepts of computer forensics.</p> <p>Develop skills in conducting computer investigations using a systematic approach.</p> <p>Gain proficiency in acquiring and preserving digital evidence from different storage formats.</p> <p>Explore the use of specialized tools and software for computer forensics analysis.</p> <p>Learn the techniques for investigating network-related incidents and conducting live acquisitions.</p>
Effective-IT Information & Network Security		<p>Understand the principles and practices of cryptographic techniques.</p> <p>Understand a variety of generic security threats and vulnerabilities, and identify & analyze particular security problems for a network.</p> <p>Understand various protocols for network security to protect against the threats.</p> <p>Familiarize students with the fundamental principles, models, and mechanisms of computer and network security.</p> <p>Explore various encryption techniques, including symmetric and public-key cryptography, and understand their strengths, weaknesses, and real-world applications.</p> <p>Examine different authentication and key management methods to ensure secure communication and protect against unauthorized access.</p> <p>Understand the concepts and techniques of message authentication, digital signatures, and authentication protocols used in secure communication systems.</p> <p>Investigate network security measures, including IP security, web security, intrusion detection, malicious software detection, and firewall design principles.</p>
Web Services(OLD)		<p>Emphasis on SOAP based web services and associated standards such as WSDL.</p> <p>Design SOAP based / RESTful / MCFE services Deal with Security and QoS issues of Web Services.</p> <p>Efficiently use market leading environment tools to create and consume web services.</p> <p>Identify and select the appropriate framework components in creation of web service solution.</p> <p>Understand the basics of cloud computing, including types of cloud, deployment models, and essential characteristics of cloud platforms.</p> <p>Explore web services technologies such as SOAP and REST and understand their role in distributed computing and parallel computing.</p> <p>Gain proficiency in utilizing virtualization technologies, including creating virtual machines and managing virtualized environments using tools like KVM and oVirt.</p> <p>Explore and utilize popular cloud computing platforms such as OpenStack and AWS to architect, deploy, and manage cloud-based applications and services.</p> <p>Learn about cloud security fundamentals, including confidentiality, integrity, availability, and secure development practices.</p>



	Game Programming(OLD)	<p>Learner should study Graphics and gaining concepts with present working style of developers where everything remains on understand the fundamentals of vectors, transformations, and 3D graphics</p> <p>Develop proficiency in using industry-standard tools and technologies for 3D game development</p> <p>Implement advanced graphics techniques, including lighting, shading, and texturing, to create visually appealing game environments</p> <p>Apply principles of game design and create engaging and immersive gaming experiences</p> <p>Give the opportunity to the student to prove his/her ability in the subject practically through the Project Implementation</p> <p>To boost his/her confidence and also can encourage the student to perform innovations in the subject as the choice of the</p> <p>To create a pool of technologically savvy, theoretically strong, innovatively skilled and ethically responsible</p>
	Project Implementation	<p>Outcomes</p> <p>After successfully completion of this course, learner should be able to articulate the main concepts, key technologies,</p> <p>Learner should be able to identify the architecture and infrastructure of cloud computing, including SaaS, PaaS, IaaS, public</p> <p>They should explain the core issues of cloud computing such as security, privacy, and interoperability.</p> <p>Understand the basics of cloud computing, including types of clouds, deployment models, and essential characteristics of cloud platforms.</p> <p>Explore web services technologies such as SOAP and REST and understand their role in distributed computing and parallel computing</p> <p>Gain proficiency in utilizing virtualization technologies, including creating virtual machines and managing virtualized environments using tools like KVM and oVirt.</p> <p>Explore and utilize popular cloud computing platforms such as OpenStack and AWS to architect, deploy, and manage cloud-based applications and services</p> <p>Earn about cloud security fundamentals, including confidentiality, integrity, availability, and secure development practices.</p>
Class TY B.Sc.(C.S) Sem. VI	Course Cloud Computing and Web Services	
	Information Retrieval	<p>After completion of this course, learner should get an understanding of the field of information retrieval and its relationship</p> <p>It will give the learner an understanding to apply information retrieval models</p> <p>Explains how inverted indexes are augmented in various ways for functionality and speed</p> <p>Explains why documents are preprocessed before indexing</p> <p>Knows how to process queries that have spelling errors and other imprecise matches to the vocabulary in the document/collection being searched</p> <p>To understand the fundamental principles and components of information retrieval systems</p> <p>To explore various techniques for document indexing, storage, and retrieval.</p> <p>To analyze and compare different retrieval models and understand their strengths and limitations</p> <p>To gain practical experience in implementing and evaluating information retrieval systems</p> <p>To explore advanced topics in information retrieval, such as web information retrieval and machine learning techniques</p> <p>Understand the fundamental concepts, architectural elements, and optimization goals of Wireless Sensor Networks (WSNs) and apply this knowledge to analyze and design WSN solutions</p> <p>Evaluate and compare different medium access control protocols and routing strategies in WSNs, and make informed decisions to ensure efficient and reliable communication</p> <p>Demonstrate knowledge of wireless transmission technologies, such as frequency, signals, antennas, and propagation, and analyze their impact on WSN performance</p>



		<p>Assess the role of telecommunication systems, satellite, broadcast systems in WSNs, and understand their applications and implications for WSN deployments.</p>
Customer Relationship Management		<p>Students will be able to define and explain the various forms of CRM and their relevance to business contexts Students will acquire the skills to manage the customer journey effectively, including implementing customer acquisition and retention programs. Students will understand the importance of customer-perceived value and its impact on customer satisfaction, loyalty, and business performance. Students will be able to apply strategic and operational CRM approaches, such as customer portfolio management and marketing automation, to enhance organizational effectiveness. Students will develop proficiency in analytical CRM techniques, including data management, analytics for strategy and tactics, and the successful implementation of CRM systems. They will also be able to analyze and draw insights from real-life case studies and success stories related to CRM.</p>
Data Science		<p>Analyze and interpret data using an EDA techniques. Use appropriate models of analysis, assess the quality of input, derive insight from results, and investigate potential issues. Apply Supervised and Unsupervised algorithms, as well as mathematical and statistical models, and the principles of optimization to appropriately formulate and use data analyses. Understand the Foundations and scope of Data Science, including its applications and comparison to related fields like Business Intelligence and Artificial Intelligence. Develop skills in data preprocessing, including cleaning, transforming, selecting, and merging data, to ensure data quality and suitability for analysis. Gain knowledge of machine learning algorithms and techniques, such as regression, classification, clustering, and ensemble learning, to build predictive models and make data-driven decisions. Learn how to evaluate and select models using appropriate evaluation metrics and cross-validation techniques to ensure reliable and robust model performance. Develop proficiency in data visualization techniques and tools to effectively communicate insights and tell compelling stories using data.</p>
Ethical Hacking		<p> Learner will know to identify security vulnerabilities and weaknesses in the target applications. They will also know to test and exploit systems using various tools and understand the impact of hacking in real time. Students will learn about various types of attacks, attackers and security threats and vulnerabilities present in the computer system. To gain knowledge about Ethical hacking and penetration testing. Understand the terminology and concepts related to ethical hacking and penetration testing. Explore various hacking technologies and the skills required to become an ethical hacker. Learn the different phases involved in ethical hacking and the methodologies used in penetration testing. Gain knowledge of common hacking techniques, such as foot printing, scanning, enumeration, and session hijacking. Develop proficiency in identifying and exploiting vulnerabilities in web servers, web applications, and wireless networks.</p>
Project Implementation		<p>Give the opportunity to the student to prove his/her ability in the subject practically through the Project Implementation. To boost his/her confidence and also can encourage the student to perform innovations in the subject as the choice of the To create a pool of technologically savvy, theoretically strong, innovatively skilled and ethically responsible generation of</p>



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