Department Of Computer Science
B.Sc (Computer Science)

F. Y. B. Sc. (Computer Science)

Course (CS-101): Problem solving using Computer and C-Programming

After successfully completing this course, students will be able to: CO1: List the flow chart and algorithm for given problem;
CO2: Discuss the programming language tools and history of C programming;
CO3: Define C Tokens like keywords, identifiers and operators;
CO4: Explain input, output, conditional and iterative statements in C programming;
CO5: Interpret C programs using array and functions;
CO6: Explain string and pointer concepts of C programming;
CO7: Illustrate user defined data types including structures and unions to solve the problems;
CO8: Discuss command line arguments and files handling in C programming.

Course (CS-102): File Organization and Fundamental of Databases

After successfully completing this course, students will be able to:
CO1: Define the suitable Heap, Sorted, Indexed, Hashed File Organization technique;
CO2: Express Relational, Hierarchical and Network Data Model and structure of Database Management System;
CO3: Discuss the conceptual modeling tools like E-R diagram and Relational Data Model;
CO4: Explain the Integrity Constraints on a database schema;
CO5: Describe Relational Algebraic operations and construct the queries to write Relational Algebra expression;
CO6: Illustrate the basics of Structured Query Language and construct queries using SQL;
CO7: Explain the basics of query evaluation techniques and query optimization; CO8: Explain the concepts of Functional Dependency and design the database;
CO9: Interpret the concepts of Normalization and Normal Forms used to improve database design;

Course (CS-103): Computer Science Practical Paper- I

After successfully completing this course, students will be able to:
CO1: List the basic UNIX general purpose commands, data types and Operators in C-Language;
CO2: Use the decision making statements like if, if-else, nested if and switch case in C program;
CO3: Demonstrate while, do-while, for, nested loops of C-Program;
CO4: Apply standard library functions in menu driven program in C- Language;
CO5: Solve C Program using array, pointer, string and functions;
CO6: Illustrate C-program using structure and Union;
CO7: Discuss the concepts of file handling command line arguments in C-Programming.

Course (CS-104): Computer Science Practical Paper- II

CO1: Explain the HTML pages using lists, table and hyperlinks; CO2: Apply advanced features like CSS and its types on web pages;
CO3: Demonstrate simple forms layout with HTML;
CO4: Solve a small case study to create simple application;
CO5: Define a database schema for a given problem domain;
CO6: Interpret the integrity constraints on a database;
CO7: Use of SQL DDL/DML commands to perform query on a database.

S. Y. B. Sc. (Computer Science)

Course (CS-211): Data Structures Using 'C'

CO1: Discuss fundamental concepts of Data Structure, abstract data type, and algorithm analysis;
CO2: Summarize different searching and sorting techniques using array;
CO3: Describe linear data structure Stack and its application;
CO4: Explain linear data structure Queue and its types (Linear Queue, Circular Queue, and Priority Queue);
CO5: Summarize different types of Linked List (singly linked list, doubly linked list, linear and circular linked list);
CO6: Discuss non-linear data structure Tree using operations like searching, insertion, deletion, and traversing mechanism;
CO7: Explain non-linear data structure Graph using operations like traversing mechanism;

Course (CS-221): Object Oriented Concepts using C++

CO1: depict the applications and need of Object Oriented Programming language;
CO2: Discuss basic concepts of C++ programming language;
CO3: Describe the concepts of classes, objects, member function, constructors and destructor;
CO4: Explain the need of operator overloading, inheritance, polymorphism, and virtual functions;
CO5: Explain managing input- output, and file in C++; CO6: Explain exceptions handling and templates in C++.

Course (CS-223): Data structures Practical and C++ Practical (Lab Course- I)

CO1: Use different searching and sorting methods for basic data structures programs;
CO2: Solve simple mathematical problems using data structure;
CO3: Implement various data structures viz. Stack, Queues and Linked Lists;
CO4: Implement complex data structures like trees and graphs;
CO5: Demonstrate programs by using basic object oriented concepts in C++;
CO6: Apply to overload functions and Operators in C++;
CO7: Illustrate programs by applying the object oriented concepts such as (Inheritance, Virtual Function.)
CO8: Apply of file handling in C++ programs.

Course CS-212: Relational Database Management System

CO1: Recall the integrity constraints on a database using RDBMS;
CO2: Explain the concepts of stored procedures, stored functions, and cursors triggers in PL/PGSQL programming language;
CO3: Explain the concepts of transactions processing, concurrency control and recovery;
CO4: Interpret the concurrency control techniques;
CO5: Describe the concepts of crash recovery;
CO6: Discuss the data security methods for database protection;
CO7: Summarize the knowledge about client server architecture.

Course CS-222: Software Engineering

CO1: Explain the characteristics of system, elements of system, and types of system;
CO2: Discuss software, its application domain and, software engineering principles;
CO3: Describe the activities of system development life cycle;
CO4: Illustrate different software process models used in practice;
CO5: Summarize the requirement engineering tasks;
CO6: Discuss the methods used to build structure analysis model.

Course CS-224: Database Practical's and Mini Project using Software Engineering Techniques (Lab Course- II)

CO1: Solve the simple and nested queries using PL/PGSQL;
CO2: Demonstrate stored functions, cursors, triggers and views;
CO3: Illustrate queries using loops and conditional statements; CO4: Use error and exception handling methods;
CO5: Describe the software engineering processes such as gathering data and functional requirements in the software project;
CO6: Apply feasibility study techniques for the software project; CO7: Discuss the existing system, and explain the proposed system;
CO8: Determine the entities, attributes and draw E-R diagram.

T. Y. B. Sc. (Computer Science)

Course (CS-331): System Programming and Operating Systems-I

After successfully completing this course, students will be able to:

CO1: Describe the different types of Programming Environment, purpose of editors and types of editors;
CO2: Discuss the data structures of Assembler;
CO3: Explain Data Structures of Macro pre-processor;
CO4: Illustrate the concepts of Interpreter, Compiler Linker and Loader CO5: Explain types of Debugger and demonstrate how to debug the program;
CO6: Describe the Operating system as system software and types of system calls.

Course (CS-341): System Programming and Operating Systems-II

After successfully completing this course, students will be able to:

CO1: Discuss the operating system structure and issues related to process management;
CO2: contrast the different CPU scheduling algorithms;
CO3: Explain the multithreading models and synchronization techniques;
CO4: Interpret the different strategies of deadlocks;
CO5: Describe the different issues related to memory management;
CO6: Discuss file access methods, directory structure and file allocation methods.

Course (CS-347): System Programming and Operating Systems Practical

CO1: Perform the different Line editor commands;
CO2: Illustrate the SMACO program;
CO3: Demonstrate the concepts of Assembler and Macro;
CO4: Use concept DFA to check particular Language accepts or not;
CO5: Illustrate different the shell commands;
CO6: Perform the different CPU scheduling algorithms;
CO7: Demonstrate deadlock avoidance algorithm to find the Safe Sequence;
CO8: Use the different page replacement algorithms to find page fault.

Course (CS-331): Theoretical Computer Science And Compiler Construction – I

CO1: Explain how to generate formal language & regular expressions;
CO2: Express concepts of finite automata;
CO3: Describe knowledge of regular languages;
CO4: Discuss context free languages & different types of grammar;
CO5: Explain concepts of pushdown automata;
CO6: Summarize concepts of Turing machine.

Course (CS-342): Theoretical Computer Science and Compiler Construction – II

CO1: Explain phases of compiler & Lexical analyzer;
CO2: Illustrate types of parsers;
CO3: Express use of YACC tool;
CO4: Describe Syntax Directed Definitions & its applications;
CO5: Discuss memory allocation in block structure languages, code optimization & code generation;

Course (CS-333): Computer networks –I

CO1: Define goals and importance of computer networks;
CO2: Demonstrate network infrastructure according to various topologies and network type (LAN. WAN and MAN;
CO3: Describe OSI reference model and TCP/IP model;
CO4: Explain various hardware and software used in network design; CO5: Discuss various terminologies and protocols used in physical layer;
CO6: Discuss various design issues and various protocols used in data link layer.

Course (CS-343): Computer networks –II

: CO1: Define Wired LAN (Standard Ethernet MAC Layer) ;
CO2: Discuss standards of IEEE 802.11 architecture and Bluetooth architecture used in Wireless LAN;
CO3: Explain IPV4 protocol used in the network layer;
CO4: Explain protocols- ARP, UDP and TCP ;
CO5: Discuss WWW architecture, E-mail and HTTP
CO6: Illustrate Cryptography and firewall used in network security.

Course (CS-334): Internet Programming- I

CO1: Interpret fundamental concept of web techniques;
CO2: Discuss concept of user define function & predefine functions of strings;
CO3: Explain types of array & predefine function of array;
CO4: Illustrate object oriented concepts in PHP script;
CO5: Describe file & directory handling operation & predefine function of file & directory;
CO6: Explain the database enable web pages.

Course (CS-344): Internet Programming-II

CO1: Explain content used in web technology;
CO2: Discuss PHP framework & email handling using PHP;
CO3: Explain XML programs, its advantages & different XML parser;
CO4: Interpret the concept of JavaScript for web designing;
CO5: Describe functioning of Ajax model.

Course (CS-348): Internet Programming, Networking Practical and Project

CO1: Illustrate a form to implement functions and predefine functions;
CO2: Demonstrate the array concepts and its predefine functions; CO3: Apply the predefine functions of files and directories;
CO4: Solve problems using object oriented concept;
CO5: Demonstrate database enabled web pages using PostgreSQL;
CO6: Apply JavaScript in web pages;
CO7: Demonstrate dynamic web pages by using Ajax;
CO8: Illustrate various concepts of web development in project;
CO9: Demonstrate various networking commands in Unix.

Course (CS-335): Programming in Java-I

CO1: Define simple java programs using data types, final variable and arrays;
CO2: Explain classes using constructor and array of objects;
CO3: perform java programs using classes and objects; CO4: Illustrate the concept of inheritance and interfaces;
CO5: implements exception handling techniques in java programs;
CO6: Demonstrate GUI using Swing and AWT (Abstract Window Toolkit) methods;
CO7: Interpret basic applet using java.

Course (CS-345): Programming in Java-II

CO1: Explain programs using java collection API as well as java Standard Library;
CO2: Discuss GUI Applications with JDBC (Java Database Connectivity);
CO3: Define concept of Servlet;
CO4: Interpret simple Java Server Pages (JSP) Application;
CO5: Describe multithreading using java;
CO6: Demonstrate simple application for client and server communication;
CO7: Illustrate java concept for solving simple business problem.

Course (CS-348): Programming in Java Practical

CO1: Define simple classes using IDE – Eclipse;
CO2: Explain examples of classes using array of objects and packages;
CO3: implement inheritance and interfaces in java;
CO4: Solve problems using exception handling mechanism in java;
CO5: perform Input/output operations using console and files; CO6: Apply AWT and Swing to create GUI in java;
CO7: Execute queries on tables using JDBC (Java Database Connectivity);
CO8: Define and execute simple servlet program;
CO9: Illustrate the JSP (Java Server Pages) programs;
CO10: Demonstrate multithreading using Java.

Course (CS-336): Object oriented software engineering

CO1: Recall fundamental principles underlying Object-Oriented software design like class, Object, Instance Polymorphism and inheritance;
CO2: Give the original examples of basic and advance structural modelling things like class, objects;
CO3: Explain basic behavioural things like use case diagram, interaction diagram and state chart diagram;
CO4: Explain methods of object oriented analysis and object oriented designing;
CO5: Use architectural modelling like component and deployment diagram; CO6: Define object oriented testing strategies.

Course (CS-346): Computer Graphics

CO1: Define computer graphics, components of computer graphics, and Open GL,
CO2: List input and output devices, graphical user interfaces in Open GL, graphics presentation,
CO3: Explain raster scan graphics methods of line drawing algorithms, polygon filling algorithms, scan conversion,
CO4: Describe basic transformation and window to viewport co-ordinate transformation. Setting window and viewport in OpenGL,
CO5: Use line clipping and polygon clipping algorithms,
CO6: Describe 3-D transformations hidden surface elimination methods.

M.Sc. Part I (Semester I)

CS-101(New): Principles of Programming
CO1: Students will prepare themselves to think about programming languages analytically. They will be able to separate syntax from semantics. .
CO2: Students will be able to understand how language features work like Data types, control flow, Subroutines, Data abstraction etc. students will Learn new languages more quickly and Use standard vocabulary when discussing languages.
CO3: Students will develop a greater understanding of the issues involved in programming language design and implementation. Students will familiar with design issues of object – oriented and functional languages
CO4: Students will learn Functional, Logic Languages like Prolog, Lisp.
CO5) Students will know how to analyze semantic issues associated with function implementations, including variable binding, scoping rules, parameter passing.

Course CS102 (New) - Advanced Networking

CO1: Students will understand the basic components of Networking
CO2: Students will understand how these components are used in different project.
CO3: Students will understand how to write research paper for innovative idea.
CO4: Cryptography technique knowledge for understanding various Algorithm for security.
CO5: Internet Security protocol used for e-business and e-Banking security.

Course CS-103(New): Distributed Database Concepts
CO1: Students will understand the basic concepts of Distributed Database
. CO2: Students will understand how these concepts are used in different project where the data is concern.
CO3: Students will understand how to store, manipulate and maintain the data if it is Distributed over multiple sites at time.
CO4: Student will understand which is the best as well feasible technique to store data into database.
CO5: Student will understand how to recover from the failure by using algorithms, if any occurs.

Course CS-104(New): Design and Analysis of Algorithms
CO1: Students will learn fundamental concepts of asymptotic notations of an algorithm, Space & Time Complexity, Searching & Sorting Algorithms, Divide and Conquer techniques.
CO2: Students will know various design and analysis techniques such as greedy algorithms, dynamic programming.
CO3: Student will understand the techniques used for designing of different graph algorithms.
CO4: Students will learn how to apply backtracking, branch and bound techniques for real time problems.
CO5: Students will know the concepts of P, NP and NP-Complete problems.

Course CS-105 (New): Network Programming
CO1: Students will understand the basic components of Network Programming
CO2: Students will understand how these components are used in different project on networks using client-server Technology.
CO3: Students will understand how to Transmit data over network.
CO4: Student will understand which is the best protocol for the Transmission of data which cause less failure on network.
CO5: Student will understand how to recover from the failure if any occurs on network
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M.Sc. Part I (Semester II)

Course CS-301 Software Metrics & Project Management

CO1: Students will understand Software Engineering and basic testing Concepts.

CO2: Students will know skills that are required to ensure successful medium and large scale software projects.

CO3: :Learn to select and apply project management techniques for process modeling,planning, estimation, risk management.

CO4: Student will learn software verification.

CO5: Understand design and execution of system test cases.

Course CS-302 Mobile Computing

CO1: Explain the basic concepts of wireless network and wireless generations.

CO2: Demonstrate the different wireless technologies such as CDMA, GSM, GPRS ,etc. CO3: Describe and judge the emerging wireless technologies standards such as WLAN, WMAN.

CO4: Explain the design considerations for deploying the wireless network infrastructure.

CO5: Differentiate and support the security measures standards.

Course CS-303 Soft Computing

CO1: Analyze and integrate various soft computing techniques in order to solve problems effectively and efficiently.

CO2: Apply fuzzy logic and reasoning to handle uncertainty and solve engineering problems.

CO3: Apply neural networks to pattern classification and regression problems.

CO4: Apply genetic algorithms to combinatorial optimization problems.

CO5: Apply these techniques in applications which involve perception, reasoning and learning.

CO6: Students will understand the fundamental theory and concepts of neural networks, neuro n modeling, several neural network paradigms and its applications.

Course CS-304 Project

CO1: Acquire skills to develope the software project.

CO2: Understand the software development life cycle.

Course Elective CS-305 Web Services

CO1. Define Cloud Computing and memorize the different Cloud service and deployment models.

CO2. Describe importance of virtualization along with their technologies.

CO3. Use and Examine different cloud computing services.

CO4. Describe the key components of Amazon Web Service.

CO5. Design & develope backup strategies for cloud data based on features.

Subject Code	Subject Name	Subject Outcome
101	Business Organization and System	1) Students learn the basics of Organizational Structure 2) Students understand different concepts e.g. Leadership Styles, Motivation etc. 3) It interprets organizational environment. 4) It develops the spirit of entrepreneurship among students.
102	Business Communication Skills	1) It improves various skills of students such as linguistic, non-linguistic etc. 2) Students learn the basic concepts of business communication such as formal communication, informal communication etc. 3) It enhances the students' ability to read, write, listen and speak effectively. 4) Students observe and apply different communication skills in day to day life.
103	Business Accounting	1) Students learn the basic concepts of accounting e.g. transactions, cost, entity etc. 2) It is possible for students to understand the statements and formats of different books of accounts. 3) Students interpret different statements and books of accounts such as journal, ledger, trial balance, final accounts 4) Students can learn more about accounting standards and why it is applied in industries. 5) Business Accounting helps to learn different accounting software e.g. tally which helps students to apply in industries in future period of time.
104	Business Economics (Micro)	1) Students learn the importance of Business Economics. 2) It helps to understand the different concepts of economics such as demand, supply, utility etc. 3) It applies economic analysis in the formulation of business policies. 4) It uses the economic reasoning to problems of business.
105	Business Mathematics	Students learn the basic concepts of mathematics. Students understand the concepts of transportation, LPP, shares, share market etc. Students understand how different mathematics concepts can be applied in different industries differently. It helps students to interpret graphs, charts and equations which are going to be applied in businesses.
106	Business Demography and Environmental Studies	1)Students learn the basics of business demography and environment. 2 Students increases their knowledge based on demographic and environmental factors which affects the business. 3 Students get aware of environmental problems related to business and commerce. 4 It inculcates the values of environmental ethics amongst students.

F.Y.B.B.A. (SEM II)		
Subject Code	**Subject Name**	**Subject Outcome**
201	Principles of Management	**1) Students learn the conceptual knowledge about nature, complexity, functions of management etc. 2) Students understand the different aspects of principles of management given by different authors. 3) Students learn the importance of management of change, crisis, TQM, Stress Management etc. 4) It helps to apply Henry Fayol's principles in day to day working life.**
202	Principles of Marketing	**1) Student learns the nature, scope and importance of marketing. 2) It helps to understand basic concepts of marketing. 3) It develops the basic and essential skills of students related to marketing. 4) It improves the ability of the students and creates marketing employability opportunities which are essential for industries.**
203	Principles of Finance	**1) Student learns the basic concepts of principles of finance. 2) To understand different sources of finance. 3) To make the analysis of books of accounts and statements. 4) It helps students to prepare financial plan for the future.**
204	Basics of Cost Accounting	**1) Students learn the basic concepts of cost accounting. 2) It is possible for students to understand the statements and formats of different books of accounts. 3) Students interpret different statements and books of accounts such as cost sheets, statement of cost, statement of profit etc. 4) Students can learn more about cost accounting standards and why it is applied in industries.**
205	Business Statistics	**1) Students learn the basic concepts of statistics. 2) Students understand to calculate various types of averages and variation. 3) Students understand how the different statistical concepts can be applied in different industries differently. 4) It inculcates the research culture among students.**

206	Business Informatics	**1) Students learn the basic concepts of business informatics.** **2) Students understand the basics of networking.** **3) It enhances the knowledge of the students related to internet, websites etc.** **4) It helps to apply business informatics tactics in day to day business life for the students.**

S.Y.B.B.A.III/I V		
Subject Code	**Subject Name**	**Subject Outcome**
301	**Principles of Human Resource Management**	**1.** Students understand the basic concept of HRM and develop knowledge about the various functions of HRM. **2.** Students understand the different roles the HR performs in an organization **3.** Students understand how Job Analysis & Human Resource Planning play an important role in the Organization. **4.** Students aware about Changing Environment of HRM and understand the different HRM trends.
302	Supply Chain Management	1.Students understand the functions of Supply Chain Management 2 Students understand the concept of Green Supply Chain Management. 3 Student know the process of Work Flow Automation. And learn the methods of Logistics Planning. 4 Student know the role of Inventory Management in Customer Service. 5 Students learn the Supply Chain Network Design. & know the Role of Distributors in SCM. 6 Students understand Relationship Management with Customers and Employee.
303	Global Competencies and Personality Development	**1)** Students understand the concept of Global Competence. **2)** Students improve personality through developing self-confidence, self-esteem. **3)** Students set their personal goal. **4)** Students learn various techniques of communication, leadership styles, impressive self introduction. **5)** Students understand the importance of positive social image of the individual,& learn basics of grooming and effective use of body language. To explain the importance of the time management. **6)** Students develop ability of effective public speaking & students train in writing e-mails and telephone etiquettes, various social and international etiquettes and table manners.
304	Fundamentals of Rural Development	1.Students understand the development issues related to rural society 2. Students find the employment opportunities for rural youth. 3. 3.Create interest among the rural youth to participate in rural development programmes and schemes for sustainable development. .

305MM	Consumer Behavior& Sales Management	1. Student develops significant understanding of Consumer behavior in Marketing. 2. Students understand the relationship between consumer behavior& Sales Management. 3. Students develop conceptual based approach towards decision making aspects & its implementation considering consumer behavior in Sales Management.
306MM	Retail Management	1. Students' understanding of retail strategy, retail operations management, innovation in retail. 2. Students understand the innovative channels to reacout the target customers to sustain in new markets. 3. Students understand opportunities and challenges in retail industry.
305 FM	Management Accounting	1. Student understands the concept and meaning of management accounting, and understands difference between financial accounting, cost accounting and management. 2. Student understands the implications of various financial ratios in decision making. 3 .Students understand application and use of various tools of management accounting in the business.
306FM	Banking & Finance	1. Students understand various functions and activities of banks. 2.Students understand functioning and powers various Regulatory Authorities in India. 3.Students understand use of technology in banking and study of security measures while using E- banking.
305 HRM	Organizational Behavior (OB)	1. Students understand how and why Organizational Behaviour study is important to students. 2.Students make use of the Theories of Personality by adding new perspective for overall development of the Organisation. 3 .Students understand how Values and Attitudes play a vital role in the Organisation. 4. Students understand the Group Behaviour by learning Theories of Group Formation.

306 (HRM)	Legal Aspects in Human Resources	1. Students understand rights of employees at work place. 2. Students understand the legal issues related to HR in an organisation. 3. Students understand the basic concepts of Wage & Salary Administration 4. Students aware towards different Acts and its application. 5.Students learn general HR practices in the organisation.
401	Entrepreneurship and Small Business Management	1. Student understand the concept and process of Entrepreneurship. 2. Students Acquire Entrepreneurial spirit and resourcefulness. 3. Students learn concept of Small Business Management. 4. Student understands the role and contribution of Entrepreneurs and Small Businesses in the growth and development of individual and the nation.
402	Production & Operations Management	**1)** Students know the Production concepts and Operations. **2)** Students understand the production methods and importance of production planning. **3)** Students identify the production problems. **4)** Students apply to identify ergonomically designs of product and its features. **5)** Students use to develop creative ideas about new products**.**
403	Decision Making and Risk Management	1.Students learn the key topics in decision making and risk management so that they can improve decision making and reduce risk in their management activities and organizations. 2. Student Find the best alternative in a decision with multiple objectives and uncertainty 3 Student understand the role of leadership and its allied aspects while making decisions. 4.Student understand the role and importance of organizational values in Decision making and Risk Management.
404	International Business	**1)** Students know the International Business policies and its importance in balanced development. **2)** Students understand the importance of Imports and exports. **3)** Students read and tell Foreign exchange rates. Students know the roles of International agencies to overcome regional development
405 A-MM	Advertising and Promotion Management	1. Students develop knowledge and understanding of importance of advertising. 2. Student understand different sales promotion techniques. 3. Student know about promotion management. 4. Student understand the process of online advertising.

406 A-MM	Digital Marketing	1.Students understand the role & Importance of Digital Marketing and its importance for business success. 2. Students understand the importance of Digital Platforms & its impact upon the performance of the organizations in complex & varied environment. 3.Students develop the conceptual insights for Digital Marketing.
405 B-FM	Business Taxation-	1. Students understand different concepts & definitions under Income Tax Act 1961. & importance of Taxation 2. Students acquire knowledge about the submission of Income tax returns. 3. Students competent enough to take up to employment in tax planner. 4 Develop students ability to calculate taxable income of the person as per Income Tax Act 1961.
406 B- FM	Financial Services	1 .Student understand the basic concepts of Indian Financial system. 2. Students understand the functioning of primary & secondary market and study the role of stock exchanges in India. 3.Students examine various financial services provided by various financial institutions in India. 4.Students learn Basic knowledge of derivatives & Commodity market.
405 C-HRM	Human Resource Management Functions& Practices	1.Students acquire comprehensive Knowledge of Human Resource Management Functions & Practices. 2.Students acquire knowledge about various HR practices adopted by the organization. 3. Students understand and explain the Concepts of Employee Compensation and other functions of HRM.
406 C-HRM	Employee Recruitment & Record Management	1.Student understand the Techniques of Manpower Forecasting. 2. Student understand detailed Process of Selection in the Organisation. 3. .Students gain knowledge & Applications of Employee Record Management in Organisation. 4. Students understand various concepts and steps relating to designing of computer technologies and its applications in various field.

T.Y.B.B.A. SEM V		
Subject Code	**Subject Name**	**Subject Outcome**
501	**Supply Chain and Logistics Management**	**1. Students get to know about the fundamentals of Supply Chain and Logistics 2. Students understood the Concepts of materials and logistics management 3. Students got familiarized with issues of inventory and trends of supply chain and logistics in contemporary issues as physical distribution, procurement, warehousing and dispatch management 4. Students understand about application of all concepts in industry.**
502	**Entrepreneurship Development**	**1) Students go to know about the insights of Entrepreneur and Entrepreneurship 2) Students got awareness about the Business opportunity Identification and Preliminary Project Report (PPR) 3) Students showed interest and practiced Business plan from the point view of entrepreneur 4) Students used their skills in learning Institutional Support to New Venture**
503	**Business Law**	**1) Students got to know the legal terms and concepts 2)Students understood the India Contract Act 1872, the Sales of Goods Act 1930, Companies Act, 1956, Information Technology Act, 2000 and Right to Information Act, 2005 3) Students try to comprehend applicability of legal principles to situations in Business world by referring to few decided leading cases**
504	**Research Methodology**	**1) Students are provided with basic understanding of research process and tools for the same 2) Students are made well versed with sources of data collection as primary and secondary. 3) Students practiced and understood the knowledge and skills about data analysis and interpretation 4) Students developed the capability in writing skills for Business research by using the necessary tools and techniques necessary of research**
505 – A	**Analysis of Financial Statement (Finance Specialization)**	**1) Students got knowledge about the interpretation and analysis of financial statements effectively 2) Students made acquainted with current financial practices 3) Students interpreted Ratio Analysis, Cash Flows, and Fund Flows. 4) Students were made aware about financial statements as part of their professional responsibilities as**
505 – B	**Sales**	**1) Students get to know the basic understanding of the**

	Management (Marketing Specialization)	**Processes and skills necessary to be successful in personal selling and insights about recent trends in sales management concepts.** **2) Students learn the tools and techniques necessary to effectively manage the sales function - organization - sales individual.** **3) Students learn concepts of advanced skills in the areas of interpersonal communications, Motivational techniques IT Tools to prepare, analyze and design management reports**
505 – C	**Human Resource Management Principles and Functions (Human Resource Management Specialization)**	**1) Students get to understand concept, principles and practices of H.R.M.** **2) Students learn HR Planning** **3) Students are exposed to Recruitment and Selection Process though Practice work.** **4) Students practice cases with applicability of training and development, personnel record reports and audit**
505 - D	**Management of Services(Service Sector Management)**	**1) Students have in depth knowledge of services as an essential economic activity.** **2) Students get overall understanding about special features of services, various concepts and issues related with management of services.** **3) Students got to know about Services Operations**
505 - E	**Agricultural and Rural Development (Agri Business Management)**	**1) Students knew the importance of rural economy of India** **2) Students understand the role of agribusiness management in development of** **3) Students identify the taxable and non-taxable entities.** **4) Students are made well versed with Role of Corporate Sector and Agri. Export**
506 – A	**Long Term Finance (Finance Specialization)**	**1) Students knew the study of long-term financing** **2) Students got well-acquainted regarding current financial structure** **3) Students read and studied about dividend policies**
506 – B	**Retail Management (Marketing Specialization)**	**1) Students get insights into all functional areas of retailing.** **2) Students understand the perspective of the Indian retail scenario.** **3) Students identify the paradigm shifts in retailing business with increasing scope of technology and e- business.**
506 – C	**Human Resource Practices**	**1) Students get familiarized with concepts & practices** **2) Students practiced a HR Plan with Recruitment and Selection** **3) Students study Welfare issues concerned with Labor**

	(Human Resource Management Specialization)	

T.Y.B.B.A. SEM VI		
Subject Code	**Subject Name**	**Subject Outcome**
601	**Business Planning and Project Management**	**1. Students get acquainted with the planning process in business and familiarized with the function and techniques of project management** **2. Students learn the Concepts of Network Techniques** **3. Students get familiarized with Project Audit and Life Cycle of Project**
602	**Event Management**	**1) Students get to know about the concepts, issues and various aspects of event management.** **2) Students get idea about various Facets of Event Management** **3) Students are able to practice marketing of an Event in Reality** **4) Students can use their skills in evaluating the event**
603	**Management Control System**	**1) Students get to know the function of management control, its nature, functional areas, and techniques.** **2) Students understand the Computers in MCS** **3) Students comprehend applicability of MCS for real time projects**
604	**E-Commerce**	**1) Students are provided with basic understanding of the concept of electronic commerce.** **2) Students are made well verse with concept of electronic commerce.** **3) Students practice and understand the knowledge and skills about concept of Cyber Law & Cyber Jurisprudence**
605 – A	**Financial Services (Finance Specialization)**	**1) Students get knowledge about financial services in India as Indian Financial System, Financial Markets, Banking and Insurance Sector in India and Recent Trends in Accounting and Finance** **2) Students are acquainted with current financial practices** **3) Students are well acquainted with Financial Markets**
605 – B	**Advertising and Sales Promotion (Marketing Specialization)**	**1) Students study the measurements of Effective Advertising** **2) Students learn Advertising Copy Decisions** **3) Students get aware of concepts of Media Decisions** **4) Students learn Sales Promotion And Brand Equity**
605 – C	**Labor Laws (Human Resource Management Specialization)**	**1) Students get to understand important legal provisions governing the industrial** **2) Students learn Labor Laws in India** **3) Students are exposed to Employees Provident Fund with different cases** **4) Students practice cases with applicability of The Employees State Insurance Act,1948, The Child Labor**

		(Prohibition and Regulation) Act,1986 and Maternity Benefits Act,1961
606 – A	**Cases in Finance (Finance Specialization)**	**1) Students understand how projected financial statements to be submitted to the bank for loan proposal.** **2) Students get well-acquainted regarding Analysis & interpretations of financial statement with the help of Techniques like Ratio analysis, Fund flow Analysis, Cash flow Analysis** **3) Students read and study dividend policies and identify the scope of project in related Insurance sector and working Capital Management**
606 – B	**Cases in Marketing (Marketing Specialization)**	**1) Students get familiarized with application of theory into practice in Marketing Specialization** **2) Students prepare a project report on the topics selected under the guidance of a faculty and submit one hard binding copy and one soft copy of the same to the Principal of college** **3) Students study Case Studies:- Case – Meaning – Objectives of Case Studies – Characteristics & Importance of Case Studies – Guidelines for Case Studies & Cases Discussion** **4) Facts of the case** **• Analysis** **• Solution** **• Action points** **• Conclusion**
606 – C	**Cases in Human Resource (Human Resource Management Specialization)**	**1) Students get familiarized with application of theory into practice** in HR Specialization **2) Students prepare a project report on the topics selected under the guidance of a faculty and submit one hard binding copy and one soft copy of the same to the Principal of the college** **3) Students study about Case Studies:- Case – Meaning – Objectives of Case Studies – Characteristics & Importance of Case Studies – Guidelines for Case Studies & Cases Discussion** **4) Facts of the case** **• Analysis** **• Solution** **• Action points** **• Conclusion**

Course Outcome: F.Y.B.B.A.(CA) Semester-I

1) **Business Communication (CA-101):**
   - Students will be able to acquire communication skills
   - Realized importance of communication and soft skills in IT.
   - Students will acquire proficiency in business letter writing and overall business ethics
2) **Principle and Practices of Management (CA-102):**
   - Student will acquire organizational business administration skills.
   - Students will acquire knowledge on various management principles
   - Students will acquired proficiency in team work and team building
3) **C Language (CA-103):**
   - Students will acquire basic programming skills using C Programming Language
   - Students will Improve logical thinking through practical knowledge of C Programming
4) **Database Management System (CA-104):**
   - Students will acquire basic knowledge of Database Management
   - Students will acquire knowledge of creations, manipulation and querying of data in databases
5) **Statistics (CA-105):**
   - Students will acquire knowledge of role and importance of statistics in various business situations
   - Students will Improve in skill sets related with basic statistical techniques
6) **Computer Laboratory based on CA-103 and CA-104: (CA-106):**
   - Will acquire knowledge on writing computer programs using C Language
   - Able to create and manage Database using SQL
7) **Principles of Programming and Algorithm-1 (CA-107):**
   - Students will Improve ability of students in analytical and logical thinking
   - Students will learn systematic way of solving a specific problem using tools such as algorithm and flowchart.

Course outcome: F. Y.B. B. A (CA) Semester- II

1) **Organization Behavior and Human Resource Management (CA-201):**
   - Students will be able to develop strategies about organizational change and development.
   - The course enable the students to develop individual and team working techniques
2) **Financial Accounting (CA-202):**
   - **Students will acquire basic accounting skills**
   - The course will impart knowledge on transaction management and record keeping
3) **Business Mathematics (CA-203):**
   - The course will helps students to analyze and interpret mathematical results
   - The course will prepare students to apply business mathematical skills in real life situations like computing payroll, taxes, invoice preparation and trading
4) **Relational Database (CA-204):**
   - Students will acquire a good formal foundation on the relational model of data and usage of Relational Databases
   - Students will acquire knowledge to advanced SQL topics like Functions, triggers and cursors
5) **Web Technology HTML-JS-CSS (CA-205):**
   - Students will be able to develop website building skills
   - Students will design better web pages with the perspective of business and clients
6) **Computer Laboratory Based on 204 and 205 (CA-206):**
   - Students will be able to manage relational databases using SQL
   - Students will be able to design web pages using HTML and CSS

Course outcome: S .Y. B.B.A.(CA) Sem III

1) RDBMS (301):

- Enables students to understand relational database concepts and transaction management concepts in database system.
- Enables student to write PL/SQL programs that use: procedure, function, package, cursor and trigger.

2) Data Structure using c (302):

- Will Understand different methods of organizing large amounts of data
- Will Efficiently implement different data structure
- Will Efficiently implement solution for different problems
- Will acquire more knowledge on C programming language

3) Introduction to Operating System (303):

- Acquire knowledge services provided by operating system
- Understood the Scheduling concepts of operating system

4) Business Mathematics(304) :

- Will help to Improves the logics of the students
- Will able to understand different computations

5) Software Engineering (305) :

- Will enable students to understand system concepts and its application in Software development.
- Will understand the SDLC phases

6) Laboratory Course – III [Based on Paper No. 301 & 302]:

- Acquire knowledge about the basic concept of writing a program and develop the logics
- Able to solve different assignments.
- Acquire knowledge on manipulating databases using cursors, functions, triggers.

Course outcome: S .Y. B.B.A.(CA) Sem III

1) **Object Oriented Programming Using C++ (401):**
   - Will acquire an understanding of basic object-oriented concepts and the issues involved in effective class design.
   - Enables student to write C++ programs that use: object-oriented concepts such as information hiding, constructors, destructors, inheritance
2) **Programming in Visual Basic (402):**
   - Able to Learn properties and events, methods of controls and how to handle events of different controls.
   - Understand the use of active controls and how to design VB application ,learn connectivity between VB and databases.
3) **Computer Networking(403) :**
   - Will able to Understand different topologies used in networking
   - Will able to learn different types of network.
   - Will able to Understand the use of connecting device used in network
4) **Enterprise Resource Planning and Management(404)**
   - Will able to Understand ERP and its Management practices
   - Able Learn different ERP technologies.
5) **Human Resource Management(405)**
   - Will able to understand the process of human resource management
   - Will able to understand the different phases of HRM.
   - Will able to study policies of HRM.
6) **Laboratory Course – IV [Based on Paper No. 401 & 402]**
   - Acquire knowledge about the basic concept Object Oriented Programming.
   - Undertake problem identification, formulation and solution.
   - Demonstrate the knowledge, skills and attitudes of a professional engineer

Course Outcome: T.Y.B.B.A.(CA) Semester V

1) **Java Programming(501):**
   - Able to understand various Java programming constructs.
   - Will able to implement Object Oriented programming concept.
   - Able to design the applications of Java & Java applet.

2) **Web Technologies(502):**
   - Able to understand the basics of the Internet Programming.
   - Analyze a web page and identify its elements and attributes.
   - Able to create web pages using HTML and Cascading Styles sheets.
   - Able to build dynamc web pages using JavaScript.

3)Dot Net Programming(503):
   - Understand .NET Framework and use main features of the integrated development environment (IDE).
   - Describe the basic structure of .NET Architecture.
   - Able to create applications using Microsoft Windows Forms and use ADO. NET.
   - Able to create Crystal Report.

4) Object Oriented Software Engineering(504):
   - Will able to show the importance of modeling concept for object oriented development in system.
   - Will able to differentiate advance object-oriented approach from the traditional approach for design and development of System.
   - Will able to construct various UML models For Various development stages of System using the appropriate UML notation.

5)Software Project – I [Based on C++ / VB Technology](505):
   - Able to demonstrate a sound technical knowledge of their selected project topic.
   - Able to undertake problem identification, formulation and solution.
   - Able to demonstrate the knowledge, skills and attitudes of a professional engineer

6)Laboratory Course – V [Based on Paper No. 501 & 502](506):
   - Acquire knowledge about the basic concept of writing a program.
   - able to solve different assignments of HTML,CSS, JSP and PHP.

   -

Course Outcome: T.Y.B.B.A.(CA) Semester V I

1) **Advanced Web Technologies(601):**
   - Will acquire knowledge of Internet Application Technologies.
   - Will build web applications using PHP.
   - Students will be able to write a well formed / valid XML document.
   - Will able to understand Web Service Essentials.
2) **Advanced Java(602):**
   - Will able to understand and design complex database applications.
   - Develop client/server applications and TCP/IP socket programming.
   - Create dynamic web pages, using Servlets and JSP.
   - Make a reusable software component, using Java Bean.
3) **Recent Trends in IT(603):**
   - Able to learn various concepts of Software Project Management.
   - Acquire knowledge of concepts of Distributed databases, transaction processing, concurrency control and recovery system.
   - Able to understand the functionality of the various data mining and data warehousing component.
   - Able to understand security concepts, security threats, security services and mechanisms to counter them.
4) **Software Testing(604):**
   - Can find the reason for bugs and analyze the principles in software testing to prevent and remove bugs.
   - Will able to implement various test processes for quality improvement.
   - Will able to design test planning.
   - Will understand how to manage test process.

5) **Software Project – II [Java / Dot net Technology](605):**
   - Demonstrate a sound technical knowledge of their selected project topic.
   - Undertake problem identification, formulation and solution.
   - Demonstrate the knowledge, skills and attitudes of a professional engineer.
6) **Laboratory Course – VI [Based on Paper No. 601 & 602](606):**
   - Will acquire knowledge about the basic concept of writing a program.
   - Will able to solve different assignments of servelet, JSP, RMI, Java beans and advanced web technology concepts

M.Sc. (Computer Science) Part-I
Choice Based Credit System (CBCS) Syllabus
Under National Education Policy (NEP)
To be implemented from Academic Year 2023-2024

CS-501-MJ : Advanced Operating System
Course Outcomes

On Completion of this course, student will be able to –

CO1: Understand the Operating Systems Structure with example of Unix/Linux.
CO2: Learn the structure of files and directory in UNIX/LINUX OS. CO3: Use various system calls related to file subsystem.
CO4: Learn the process control subsystem structure in UNIX/LINUX OS
CO5: Use various system calls related to process control subsystem. CO6: Learn the concept of signal handling with practical implementation
CO7: Understand the memory management policies of UNIX/LINUX OS

CS-502-MJ : Artificial Intelligence
Course Outcomes

On Completion of this course, student will be able to –

CO1: Understand the fundamental concepts of Artificial Intelligence.
CO2: Identify and apply appropriate search strategies for AI problem.
CO3: Identify knowledge and represent AI algorithms using various techniques.
CO4: Implement ideas to design and develop AI solutions for complex challenges.
CO5: Analyze the performance of AI models and interpret their results.
CO6: Implement ideas underlying modern logical inference systems.
CO7: Understand recent trends and future scope of AI.

CS-503-MJ : Principles of Programming Language
Course Outcomes

On Completion of this course, student will be able to –
think about programming languages analytically:
CO1: Separate syntax from semantics
CO2: Compare programming language designs
CO3: Understand their strengths and weaknesses
CO4: Learn new languages more quickly
CO5: Understand basic language implementation techniques
CO6: Learn small programs in different programming Languages

CS-504-MJP : Lab Course on CS-501-MJ (Advanced Operating System)

Course Outcomes

On Completion of this course, student will be able to –
CO1: Understand the Operating Systems Structure with example of Unix/Linux.
CO2: Learn the structure of files and directory in UNIX/LINUX OS.
CO3: Use various system calls related to file subsystem.
CO4: Learn the process control subsystem structure in UNIX/LINUX OS
CO5: Use various system calls related to process control subsystem.
CO6: Learn the concept of signal handling with practical implementation

CS-505-MJP : Lab Course on CS-502-MJ (Artificial Intelligence)

Course Outcomes

On Completion of this course, student will be able to –
CO1: Understand the fundamental concepts of Artificial Intelligence.
CO2: Identify and apply appropriate search strategies for AI problem.
CO3: Identify knowledge and represent AI algorithms using various techniques.
CO4: Implement ideas to design and develop AI solutions for complex challenges.
CO5: Analyze the performance of AI models and interpret their results.
CO6: Implement ideas underlying modern logical inference systems.
CO7: Understand recent trends and future scope of AI.

CS-510-MJ : Advance Databases and Web Technologies

Course Outcomes

On Completion of this course, student will be able to –
CO1: Students will get knowledge of advance database technology
CO2: Students will be able to choose appropriate database technology as per application
CO3: Students will learn to design responsive web application
CO4: Students could design and implement scalable web application

CS-511-MJP : Lab Course on CS-510-MJ (Advance Databases and Web Technologies)

Course Outcomes

On Completion of this course, student will be able to –
CO1: Students will get knowledge of advance database technology
CO2: Students will be able to choose appropriate database technology as per application
CO3: Students will learn to design responsive web application
CO4: Students could design and implement scalable web application

CS-512-MJ : Cloud Computing

Course Outcomes

On Completion of this course, student will be able to –

CO1: To understand the principles of cloud computing

CO2: To understand the importance of virtualization and how it has helped the development of cloud computing.

CO3: To understand the concept of cloud security.

CO4: To design and deploy cloud infrastructure.

CO5: To understand the concept of edge computing

CS-513-MJP: Lab Course on CS-512-MJ (Cloud Computing)

Course Outcomes

On Completion of this course, student will be able to –

CO1: To understand the principles of cloud computing

CO2: To understand the importance of virtualization and how it has helped the development of cloud computing.

CO3: To understand the concept of cloud security.

CO4: To design and deploy cloud infrastructure.

CS-514-MJ : C# .NET Programming

Course Outcomes

On Completion of this course, student will be able to –

CO1:Understand the features of Dot Net Framework along with the features of C#

CO2: Interpret and Develop Interfaces for real-time applications.

CO3: Design & implement Object Oriented Programming concepts like Inheritance and Polymorphism in C# programming language.

CO4: Design & Implement the application using multithreading & File handling

CO5: Design and Implement Windows Application using Windows Forms & tools application using Database in C#

CO6: Design and Implement Custom Application Using Windows Form & ADO.NET in C#

CS-515-MJP : Lab Course on CS-514-MJ (C# .NET Programming)

Course Outcomes

On Completion of this course, student will be able to –

CO1:Understand the features of Dot Net Framework along with the features of C#

CO2: Interpret and Develop Interfaces for real-time applications.

CO3: Design & implement Object Oriented Programming concepts like Inheritance and Polymorphism in C# programming language.

CO4: Design & Implement the application using multithreading & File handling CO5: Design and Implement Windows Application using Windows Forms & tools application using Database in C# CO6: Design and Implement Custom Application Using Windows Form & ADO.NET in C#

CS-531-RM : Research Methodology

Course Outcomes

On Completion of this course, student will be able to –
CO 1. Understand of the fundamental concepts of research, including the research process, research questions, hypotheses, and variables.
CO 2. Conduct a comprehensive literature review to identify relevant studies, synthesize existing knowledge, and identify research gaps.
CO 3. Identify research problems, formulate research questions, and design appropriate methodologies to address these problems
CO 4. Identify and select appropriate research designs, such as experimental, observational, survey, qualitative, or mixed-methods, based on the research objectives.
CO 5. Apply appropriate data analysis methods, including statistical techniques or qualitative analysis, to draw meaningful conclusions from research data.
CO 6. Develop a well-structured research proposal, outlining research questions, methodology, expected outcomes, and a rationale for the study.
CO 7. Communicate research findings effectively through written reports, presentations, and academic papers.
CO 8. Gain an appreciation for the importance of research in contributing to the advancement of knowledge in their field of study and broader society.
CO 9. Understand the principles of research ethics and integrity and apply them in their research.

CS-551-MJ : Design and Analysis of Algorithms

Course Outcomes

On Completion of this course, student will be able to –
CO1:Analyze worst-case running times of algorithms using asymptotic analysis.
CO2:Compare between different data structures. Pick an appropriate data structure for a design situation.
CO3:Ability to design algorithms using standard paradigms like: Greedy, Divide and Conquer, Dynamic Programming and Backtracking.
CO4:Able to Explain the major graph algorithms and Employ graphs to model engineering problems, when appropriate.
CO5:Able to Compare between different data structures and pick an appropriate data structure for a design situation.

CS-552-MJ : Mobile App Development Technologies

Course Outcomes:

On Completion of this course, student will be able –

CO 1. To provide students with a solid understanding of the mobile app development, Android operating system, its architecture, components, and the software development kit (SDK).

CO 2. To teach students how to build Android applications from scratch, including UI design, handling user interactions, and integrating various features.

CO 3. To learn about Android's UI components, layouts, and design principles to create visually appealing and user-friendly interfaces.

CO 4. To know various methods of data storage in Android applications, such as using SQLite databases, shared preferences, and cloud-based solutions.

CO 5. To empower students to independently design, develop, and deploy their Android applications using advanced android tools.

CO 6. To understand how to utilize built-in sensors and hardware components on Android devices, such as GPS, accelerometer, Bluetooth, WiFi, Media Player and Camera, in their applications.

CO 7. To Get knowledge of Phone Gap Programming

CS-553-MJ: Software Project Management

Course Outcomes

On Completion of this course, student will be able to –

CO1: Learn the skills that are required to ensure successful medium and large scale software projects.

CO2: Examine Requirements Elicitation, Project Management, Verification &Validation and Management of Large Software Engineering Projects.

CO3: Get knowledge to select and apply project management techniques for process modeling, planning, estimation, process metrics and risk management.

CO4: Understand the concepts, skills, tools, and techniques of software project management.

CS-554-MJP : Lab Course on CS-551-MJ (Design and Analysis of Algorithms)

Course Outcomes

On Completion of this course, student will be able to –

CO1: Analyze worst-case running times of algorithms using asymptotic analysis.

CO2: Compare between different data structures. Pick an appropriate data structure for a design situation.

CO3: Ability to design algorithms using standard paradigms like: Greedy, Divide and Conquer, Dynamic Programming and Backtracking.

CO4: Able to Explain the major graph algorithms and Employ graphs to model engineering problems, when appropriate.

CO5: Able to Compare between different data structures and pick an appropriate data structure for a design situation.

CS-555-MJP : Lab Course on CS-552-MJ (Mobile App Development Technologies)

Course Outcomes

On Completion of this course, student will be able to –

CO 8. To teach students how to build Android applications from scratch, including UI design, handling user interactions, and integrating various features.

CO 9. To learn about Android's UI components, layouts, and design principles to create visually appealing and user-friendly interfaces.

CO 10. To empower students to independently design, develop, and deploy their Android applications using advanced android tools.

CS-560-MJ : Full Stack Development-I

Course Outcomes

On Completion of this course, student will be able to –

CO1: Learn about the benefits of using MEAN stack and how to install and configure it

CO2: Learn advanced ES6 features in JavaScript and Typescript

CO3: Learn about Angular architecture, components, directives, pipes, forms, routing, and services.

CO4: Learn about the event loop, asynchronous programming, modules, packages, and streams.

CO5: Learn about the MVC pattern, routing, HTTP requests and responses, middleware, and error handling.

CO6: Create a full-stack MEAN stack application and deploy it to a production/local server.

CS-561-MJP : Lab Course on CS-560-MJ (Full Stack Development-I)

Course Outcomes

On Completion of this course, student will be able to –

- CO1: Describe appropriate uses for JavaScript and PHP
- CO2: Discuss, create, and debug semantically correct basic examples of dynamic web pages
- CO3: Construct individual components and entire applications using ReactJS
- CO4: Build an interactive web page using ReactJS

CS-562-MJ : Web Services

Course Outcomes

On Completion of this course, student will be able to –

CO1: Understand the web services and SOA

CO2: Understand Web Services Architecture.

CO3: Understand the working of SOAP and developing SOAP Web Services using Java.

CO4: To get acquainted with the details of web services technologies like WSDL, UDDI.

CO5: To understand the concept of RESTful services.

CS-563-MJP : Lab Course on CS-562-MJ (Web Services)

Course Outcomes

On Completion of this course, student will be able to –

CO1: Understand the web services and SOA

CO2: Understand Web Services Architecture.

CO3: Understand the working of SOAP and developing SOAP Web Services using Java.

CO4: To get acquainted with the details of web services technologies like WSDL, UDDI.

CO5: To understand the concept of RESTful services.

CS-564-MJ : ASP .NET Programming

Course Outcomes

On Completion of this course, student will be able to –

CO1:Understand the features of Dot Net Framework along with the features of ASP

CO2: Interpret and Develop Interfaces for real-time applications.

CO3: Design & implement Object Oriented Programming concepts like Inheritance and Polymorphism in ASP programming language.

CO4: Design & Implement the application using multithreading & File handling

CO5: Design and Implement Windows Application using Windows Forms & tools application using Database in ASP

CO6: Design and Implement Custom Application Using Windows Form & ADO.NET in ASP

CS-565-MJP : Lab Course on CS-564-MJ (ASP .NET Programming)

Course Outcomes

On Completion of this course, student will be able to –

CO1:Understand the features of Dot Net Framework along with the features of ASP

CO2: Interpret and Develop Interfaces for real-time applications.

CO3: Design & implement Object Oriented Programming concepts like Inheritance and Polymorphism in ASP programming language.

CO4: Design & Implement the application using multithreading & File handling

CO5: Design and Implement Windows Application using Windows Forms & tools application using Database in ASP

CO6: Design and Implement Custom Application Using Windows Form & ADO.NET in ASP

CS-581-OJT : On Job Training (Internship)

Course Outcomes

On Completion of this course, student will be able to –

CO1: Enhance the knowledge related to various tools and technologies used in industry CO2: Improve the ability to solve complex problems independently and creatively CO3: Effectively utilize critical thinking and analytical skills in tackling real world challenges

CO4: Effectively communicate and collaborate skills through interaction with team members and mentors.

CO5: Get an experience in working on projects or related working within industry CO6: Develop the ability to document process, design, implementation and testing CO7: Familiar with specific industry domain relevant to internship

CO8: Complete projects and tasks as per the predetermined objectives