

## **COURSE OBJECTIVES AND COURSE OUTCOMES**

### **B.COM- I SEM**

#### **SUBJECT: FINANCIAL ACCOUNTING**

##### **COURSE OBJECTIVES:**

1. To make them aware about hire purchase system and its importance
2. For making the students to learn and preparation of accounts in financial terms and aspects.
3. To enable the students to learn converting single entry into double entry system of accounting, preparation of financial statements.

##### **COURSE OUTCOMES:**

At the end of the course the student will able to-

1. Calculate number of installment and amount with interest through hire purchase & installment system.
2. Solve the trial balance by preparation of final accounts of co-operative society.
3. Prepare final accounts, hire purchase accounts & Joint Venture

#### **SUBJECT-BUSINESS ORGANIZATION**

##### **COURSE OBJECTIVES:**

The objective is to familiarize the students with aspects of Business Organization

1. To study the basic concepts of business and its classifications
2. To study about types of business organization
3. To study about joint stock company and its features.

##### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Know about the classification of Business in detail.
2. Differentiate types of business organizations such as sole trading concern, Partnership, HUF, limited liability partnership etc.3.
3. Understand how joint stock is formed, its capital requirement, about members, about government rules and regulations related to formation of joint stock company.

## **SUBJECT- COMPANY LAW**

### **COURSE OBJECTIVES:**

1. To familiarize the fundamental concepts of Companies Act 2013
2. To provide an insight into the different types of Companies and their provisions
3. To familiarize with various documents involved in a Joint Stock Company.

### **COURSE OUTCOMES:**

At the end of the course student will be able to-

1. Understand the formation of the company and its incorporation
2. Learn about different kinds of companies.
3. Acquire knowledge on basic documents in a company and various methods of rising of capital.

## **SUBJECT- BUSINESS ECONOMICS**

### **COURSE OBJECTIVES:**

1. To realize the concept of Business Economics in the firm in concern to Decision Making & Forward Planning –Role and Responsibilities of Business Economist.
2. To realize the Demand Analysis –Meaning and Law of Demand –Exception to Law –Determinants of Demand.
3. To realize the meaning of supply – Objectives, Types of supply, Method of supply –Survey method and Statistical method. Importance of law of supply & analysis of cost.

### **COURSE OUTCOMES:-**

At the end of the course student will be able to--

1. Understand Decision Making and Forward Planning –Role and Responsibilities of Business Economist.
2. Explain Demand Analysis –Meaning and Law of Demand –Exception to Law –Determinants of Demand –Extension & Contraction of Demand, Increase and Decrease in Demand –Elasticity of Demand.
3. Understand Supply & Cost Analysis –Meaning –Law of Supply, Elasticity of Supply.

## **B.COM II SEM**

### **SUBJECT- STATISTICS AND BUSINESS MATHEMATICS**

#### **COURSE OBJECTIVES:**

1. To make students to understand the statistical concepts such as mean, median and mode.
2. To know the concept of standard deviation, mean deviation and quartile deviation
3. To impart knowledge about dispersion and skewness.

#### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Know the concept of mean, median and mode.
2. Understand the concept of deviation.
3. Confident in solving practical problems on dispersion and skewness.

### **SUBJECT-BUSINESS MANAGEMENT**

#### **COURSE OBJECTIVES:**

The objective is to familiarize the students with concepts and principles of Management

1. To familiarize the students with motivation concepts
2. Understand leadership styles and know about communication in management process.
3. To make them understand about the control and its methods of controlling.

#### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Recognize the problems and find solutions of the management with motivation and leadership concepts
2. Apply the qualities of good communication in the organization
3. Apply different types of controls in the organization

## **SUBJECT- SECRETERIAL PRACTICE**

### **COURSE OBJECTIVES:**

The objective is to enable the students to get familiarized with the existing Company Law and Secretarial Procedure.

1. To study the process of establishing new company
2. To study about share and its types
3. To know the different types of meetings in the organization

### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Know about rules, regulations, policies, procedure which is to be known during establishment of new company
2. Aware basic concepts of shares, share capital and its types such as equity and preference which company is dealing in
3. Understand different type of meetings held in the organization such as statutory, annual , extraordinary, board and emergency meetings

## **SUBJECT-FINANCIAL ACCOUNTING II**

### **COURSE OBJECTIVES:**

1. Enabling the students to understand the features of Shares and Debentures
2. Develop an understanding about forfeiture of Shares
3. To give an exposure to the company final accounts
4. To provide knowledge on consignment accounting
5. Students can get an idea about branch accounting

### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Determine the features of issue of share & Debenture
2. Aware of concepts of forfeiture of share.
3. Understand the process of preparing final account of company.
4. Get knowledge on consignment and its types.
5. Aware about branch accounting and its uses.

## **SUBJECT-BUSINESS LAW**

### **COURSE OBJECTIVES:**

1. To study the important aspects of business law
2. To understand the concept of agreement, Coercion, offer & Acceptance
3. To identify the essential element of contract

### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Understand the importance of business law
2. Understand importance of agreement, offer and acceptance
3. Aware elements of valid contract.

## **SUBJECT-MONETARY ECONOMICS-I**

### **COURSE OBJECTIVES:**

1. To realize the working pattern of Indian Monetary system
2. To analyze the working pattern of commercial banks In Indian Economics
3. To analyze the dimensional role of RBI in Digital India.

### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Recognize the different money market
2. Ready to explain the role & functions of commercial Bank in Indian economy
3. Know the role of RBI and there guidelines

## **SUBJECT-BUSINESS COMMUNICATION & MANAGEMENT**

### **COURSE OBJECTIVES:**

1. To develop knowledge about evolution of management thoughts
2. To better understanding of planning and decision making
3. To give an idea about organization structure and different types of organization
4. To make them familiarize with recruitment process and stages in selection
5. To provide idea about motivation, importance of communication and Principles of coordination.

### **COURSE OUTCOMES**

At the end of the course student will be able to--

1. Develop knowledge about evolution of management thought.
2. Understand the concept of planning and decision making.
3. Give an idea about organization structure and different types of organization.
4. Familiarize with recruitment process and stages in selection.
5. Understand about motivation, and importance of communication.

## **B.COM SEM-IV**

### **SUBJECT-FINANCIAL ACCOUNTING III**

#### **COURSE OBJECTIVES:**

1. To make students to do Banking Final Accounting according to the schedules.
2. To give knowledge about various accounting schedules related Insurance company.
3. Keep them aware about valuation of goodwill.
4. Enable the students to gain an idea of liquidation of companies.

#### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Understood various schedule of Banking Companies.
2. Know the schedules related Insurance companies and the procedure of claim
3. Find out the value of goodwill of any business.
4. Get an idea for the reason of liquidation and its scope.

### **SUBJECT-SKILL DEVELOPMENT**

#### **COURSE OBJECTIVES:**

1. To understand the concept of communication skill and personality development
2. To identify the qualities of successful entrepreneur.
3. To know the techniques of personality development.

#### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Understand how communication is important
2. Identify the qualities of entrepreneur and how to become a successful businessman
3. Know how to develop personality.

## **SUBJECT-INCOME TAX**

### **COURSE OBJECTIVES:**

1. To create awareness about tax structure and tax system in India
2. To teach them how to determine residential status and incidence of tax
3. To create awareness about salary, allowances, perquisites and its taxability.
4. To teach taxability of house property its basis of charge exempted incomes from house property and deduction

### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Learn about Indian tax structure, slab rate, calculation of tax liability, exemptions etc.....
2. Determine residential status and incidence of tax
3. Learn about salary and its contents They are able to calculate taxable income from salary
4. Understood the basis of charge of income from house property and they are able to calculate taxable income form house property.

## **SUBJECT-MONETARY ECONOMICS-II**

### **COURSE OBJECTIVES:**

1. To study the basic term of commercial banking & its role in developing economy
2. To understand the concept of E-banking and core Banking
3. To teach them how central bank is the bankers bank.

### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Understand the term of commercial banking and its role.
2. Differentiate the concept of E-banking and core-banking.
3. Know the concept of central Bank.



## **B.COM-SEM V**

### **SUBJECT-FINANCIAL ACCOUNTING- IV**

#### **COURSE OBJECTIVES:**

1. To make students get basic knowledge about amalgamation & Absorption of companies
2. To provide students the practical knowledge of re-construction of companies.
3. To create awareness about valuation of share.

#### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Secure basic knowledge about amalgamation & Absorption of companies
2. Learned the practical knowledge of re-construction of companies.
3. Aware of the Accounting for valuation of share.

### **SUBJECT-COST ACCOUNTING**

#### **COURSE OBJECTIVES:**

The objective of this subject is to familiarize students with the various concepts and elements of cost.

:

1. To understand the basic concept and process of costing.
2. To enable the students to analyze & understand the concept of inventory management.
3. To understand about costing methods, material management, inventory management ; overhead.
4. To gain the knowledge about reconciliation statement.
5. To develop practical skills of costing in an organization.

#### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Get practical knowledge about costing methods.
2. Get extreme knowledge about inventory methods.
3. Get confident about calculation of different methods of time rate system.
4. Demonstrate how to calculate reconciliation statement.
5. Confident in solving practical problems on costing.

## **SUBJECT-MANAGEMENT PROCESS**

### **COURSE OBJECTIVES:**

The objective is to familiarize the students with concepts and principles of Management

1. Attempt to provide the students with through understanding of management concepts.
2. To impart knowledge about managerial skill, & formation of group
3. To familiarize the students with managerial styles, traditional and modern concept of conflict
4. Understand leadership styles and know about motivation & its theory
5. To make them understand about the control and its methods of controlling.

### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Understand management and its principles
2. Know about importance of group and types of group
3. Recognize the problems and find solutions of the conflict
4. Apply the technique of motivation in the organisation
5. Apply different types of controls in the organisation

## **SUBJECT-INDIAN ECONOMY**

### **COURSE OBJECTIVES:**

1. This course realize the over view of Indian economy since independence and sectorial composition of Indian economy.
2. To understand the objectives of Indian planning and various models in planning in India during globalization.
3. To analyze the various population growth trends and various issues in India in emerging in India –poverty unemployment causes and consequences.
4. To characterize the various features of economic reforms and its policies in Indian economy.

### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Understand the significant features of Indian economy and various sectorial compositions in India.
2. Widely analysis the features of Indian planning and its various models.

3. Acquired knowledge of population various growth and various trends in issues in Indian economy.
4. To enable to react the different economic concepts and economic reforms in India.

## **SUBJECT-MARKETING MANAGEMENT**

### **COURSE OBJECTIVES:**

The objective is to enable students to understand the concept of marketing and its applications and the recent trends in Marketing.

1. To study basic concepts of market, marketing and marketing management
2. To study the marketing environment and its influence on business
3. To study in detail 4P's of marketing
4. To study the consumer behavior towards product

### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Aware of market, marketing, marketing management and its functions.
2. Know about micro and macro environment which is also called internal and external environment ( political, economic, technological, natural and its effects)
3. Know in detail about the 4P's (Product, Price, Promotion, Place) entire business depends on the 4P's.
4. Aware of the consumer behavior towards different products.

## **SUBJECT-COMPUTERISED ACCOUNTING**

### **COURSE OBJECTIVES:**

Through this "Computerized Accounting" course, the student will be able to

1. Describe the basic concepts of Manual and computerized accounting.
2. Acquire competency to enter accounting transactions in the accounting software and have the capability of generating different accounting reports/documents.
3. Make cost analysis reports, profit & loss accounts, balance sheets, and cash flow statements etc.
4. Enter all the business transactions in computerized accounting system efficiently.

### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Understand accounting equations and rules of debit & credit in computerized accounting.
2. Understand the accounting software such as tally and learn how to use it
3. Explain the accounting cycle/ financial statements / bank reconciliation statements
4. Learn how computer accounting system is efficiently in development of business.

## **SUBJECT-BUSINESS FINANCE**

### **COURSE OBJECTIVES:**

1. To make students get basic knowledge about finance and importance of finance
2. To provide students the information about the working capital management.
3. To create awareness about inventory management and leverages
4. To provide knowledge about the venture capital finance and its procedure

### **COURSE OUTCOMES**

At the end of the course student will be able to--

1. Secure basic knowledge about importance of finance & economic environment for business.
2. Learned the information about the working capital management.
3. Aware of the about inventory management and different types of leverage
4. Understand venture capital & capital structure theories and practical considerations.

## **SUBJECT-AUDITING**

### **COURSE OBJECTIVES:**

1. To impart knowledge about the principles methods of auditing and their applications
2. To understand the concept of audit of limited companies and others.
3. To identify the internal control and vouching process of the company.
4. To make students to identify the internal audit and external audit of company.
5. To study about the qualification of auditor, powers, duties, educational institutions and insurance companies, also cooperatives societies.

## **COURSE OUTCOMES**

At the end of the course student will be able to--

1. Get practical knowledge about types of audit conducted In organization.
2. Learn about audit firm, and how audit procedures are done in the organization.
3. Aware of the vouching and it importance.
4. Gain knowledge about internal audit and external audit.
5. Learn about power and position of auditors in organization.

## **B.COM VI SEM**

### **SUBJECT-MANAGEMENT ACCOUNTING**

#### **COURSE OBJECTIVES:**

The objective of this subject is to

1. Understand the concept of management accounting
2. To make students understand the analysis and interpretation of BEP
3. To familiarize about fund flow concept.
4. To understand various Ratio analysis concepts.
5. To prepare management reports for decision-making.

#### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Conversant with need, scope and important concept of management accounting.
2. Analyze financial decision with the help of BEP.
3. Interpret fund flow and its importance and manage funds most efficiently in the business.
4. Gain knowledge about ratio analysis.
5. Demonstrate in preparation of management of reports.

### **SUBJECT-ADVANCED STATISTICS**

#### **COURSE OBJECTIVES:**

1. To make students to understand the advanced statistical concepts such as correlation and its types.
2. To know the concept of regression and its co-efficient
3. To impart knowledge about Index number & time reversal test
4. To provide the knowledge of time series and its graphical equation.

### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Know the concept of advanced statistics and how to apply them in business analysis.
2. Understand the concept of regression and its co-efficient
3. Confident in solving practical problems on index number.
4. Learn graphical equation.

## **SUBJECT-HUMAN RESOURCE MANAGEMENT**

### **COURSE OBJECTIVES:**

1. To understand the meaning and importance of HRM .
2. To learn the process of HRM planning. in detail .
3. To make them understand the selection and recruitment process.
4. To teach about training methods, induction its benefits and objectives.
5. To have knowledge on human resource development and knowledge management.

### **COURSE OUTCOMES**

At the end of the course student will be able to--

1. Answer about the concept of HRM .
2. Analyze HR planning.
3. Learn about different recruitment and selection process of HRM
4. Learn about training and its types
5. Answer HRD, knowledge management.

## **SUBJECT-INDIRECT TAX**

### **COURSE OBJECTIVES:**

1. To acquaint the students with basic principles underlying the provisions of indirect tax laws and to develop a broad understanding of the tax laws and accepted tax practices.
2. To give an understanding of the relevant provisions of Indirect Tax Code.
3. To introduce practical aspects of tax planning as an important managerial decision-making process.
4. Expose the participants to real life situations involving taxation and to equip them with techniques for taking tax-sensitive decisions.

### **COURSE OUTCOMES**

At the end of the course student will be able to-

1. Describe how the provisions in the corporate tax laws can be used for tax planning.
2. Explain different types of indirect tax and their taxability and expenses and their deductibility.
3. Learn various indirect taxes and their implication in practical situations.
4. State the use of various deductions to reduce the taxable income.

### **SUBJECT-INDUSTRIAL LAW**

#### **COURSE OBJECTIVES:**

1. To know the development and the judicial setup of Labor Laws.
2. To learn the salient features of welfare and wage Legislations.
3. To learn the laws relating to Industrial Relations, Social Security and Working conditions.
4. To understand the laws related to working conditions in different settings.

#### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Know the development and the judicial setup of Labor Laws.
2. Learn the salient features of welfare and wage Legislations also to integrate the knowledge of Labor Law in General HRD Practice.
3. Understand the laws relating to Industrial Relations, Social Security and Working conditions and also learn the enquiry procedural and industrial discipline.
4. Learn working condition of different area in industry.

## **SUBJECT-ENTREPRENEURIAL DEVELOPMENT-I**

### **COURSE OBJECTIVES:**

1. Understanding basic concepts in the area of entrepreneurship,
2. Understanding the role and importance of entrepreneurship for economic development, developing personal creativity and entrepreneurial initiative,
3. Adopting the key steps in the elaboration of business idea,
4. Understanding the stages of the entrepreneurial process and the resources needed for the successful development of entrepreneurial ventures.

### **COURSE OUTCOMES:**

At the end of the course student will be able to--

1. Understand the basic concepts & define basic terms of entrepreneurship,
2. Analyze the business environment in order to identify business opportunities,
3. Identify the elements of success of entrepreneurial ventures,
4. consider the legal and financial conditions for starting a business venture,

## **M.COM-I SEM**

### **SUBJECT: INDIAN FINANCIAL SYSTEM**

### **COURSE OBJECTIVES:**

1. To give overview of financial system concepts in different domains of Indian Financial System.
2. To familiarize the students with various Regulatory Bodies & services such as SEBI, RBI and Pension fund authority, CRISIL, SHCIL.
3. To introduce various concepts related with Insurance in business world



**COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand the basic concepts of Indian Financial System.
2. Get insight of banking system.
3. Get the overview of Capital Market.

**SUBJECT: MANAGERIAL ECONOMICS****COURSE OBJECTIVES:**

1. To give overview on various concepts of managerial economics
2. To understand the basic functions of market operations
3. To understand the dimensions of micro and macro economics
4. To understand the dynamics of national economic environment

**COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Relate and implement economic theories in practice
2. Gain insight into various micro and macroeconomic policies for effective implementation in business
3. Introduced to various dimensions of national economics
4. Interpret the calculations of national income

**SUBJECT: ADVANCED FINANCIAL ACCOUNTING****COURSE OBJECTIVES:**

1. To give overview of various accounting standard.
2. To familiarize the students with computer software accounting

3. To introduce new trend in accounting

**COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand and implement basic concepts of financial accounting
2. Interpret the calculations of valuation of share & Goodwill
3. Get the overview of fire insurance claim

**SUBJECT: MARKETING MANAGEMENT**

**COURSE OBJECTIVES:**

1. To give overview of various management concepts and theories in different domains of marketing management
2. To familiarize the students with Marketing Information System and Marketing Research
3. To introduce Vertical Marketing Implementation and Systems

**COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand and implement basic concepts of marketing management
2. Get insight of various marketing management functions.
3. Get the overview of Product Decisions, Promotion Decisions

## **SUBJECT: RESEARCH METHODOLOGY**

### **COURSE OBJECTIVES:**

1. To introduce the basic concepts of research and research techniques
2. To understand research methodology adopted for research activities
3. To introduce the various statistical tools used business operations and research
4. To understand the basic concept of report writing

### **COURSE OUTCOMES:**

At the end of the course the student will be able to

1. Understand importance and uses of research in business
2. Apply statistical techniques for business operations
3. Carry out research work in various fields.

## **SUBJECT:ADVANCED COST ACCOUNTING**

### **COURSE OBJECTIVES:**

1. To introduce the various elements of costs and their concepts
2. To introduce the concept of Cost Control, Cost Reduction, Control System and Reporting
3. To introduce variance analysis and standard costing techniques
4. To introduce the concept of cost Audit

### **COURSE OUTCOMES:**

At the end of the course the student will be able to

1. Use the concepts of cost Methods of Cost
2. Understand operating costing
3. Do variance analysis
4. Understand Cost Control, Cost Reduction, Control System and Reporting.

## **SUBJECT: CO-OPERATION**

### **COURSE OBJECTIVES:**

1. To give overview of various cooperation system concepts in different domains of Cooperation System.
2. To familiarize the students with various Cooperative Credit Institution in India
3. To introduce various Cooperatives & Rural Economy

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand Maharashtra Co-operative Societies Act, 1960
2. Get insight of Cooperative Agricultural Production & Marketing in India
3. Get the overview of Globalization & Cooperation

## **SUBJECT:HUMAN RESOURCE MANAGEMENT**

### **COURSE OBJECTIVES:**

1. To introduce the concept of Human Resource Management
2. To introduce the concept of recruitment, selection, training and compensation management
3. To introduce the concepts of organizational behavior with focus on individual and group behavior
4. To introduce the concept of organizational change and conflict management

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand the concepts of HRM
2. Do recruitment, design training calendar and appraisal systems
3. Understands the concepts of organizational behavior and its effects on organizational development.
4. Understand conflict management and the impact of organizational change

## **M.COM. SEMESTER-III**

### **SUBJECT: ADVANCED MANAGEMENT ACCOUNTING**

#### **COURSE OBJECTIVES:**

1. To introduce the concept of basic principles of management accounting.
2. To discuss and elaborate key issues in Financial Accounting of a business concern including Book Keeping, Journal Entries, Trial Balance and Preparation of Financial.
3. To introduce the meaning and importance of management is accounting and its applicability in managerial decision making.
4. To correlate management accounting from point of view of business evaluation through tools like Budget, Financial Analysis and Fund Flow.

#### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand basics of management accounting and applicability in daily life.
2. Get insight to Fund Flow Analysis, Cash Flow Analysis, Budgetary Control, Ratio Analysis

**SERVICE SECTOR MANAGEMENT**

**INTERNATIONAL BUSINESS ENVIRONMENT**

## **INDIRECT TAXES**



**E-COMMERCE**

**OPERATIONS RESEARCH**

**COURSE: B COM**

**SUB: COMPULSORY ENGLISH**

**COURSE OBJECTIVES:**

1. To introduce students basic grammar and vocabulary.
2. To help students to use business correspondence.
3. To understand the stories/ Poems (Prose & Poetry).
4. To polish the standard of grammar.
5. To understand of business correspondence.
6. To able them to communicate in professional as well as day to day life.

**COURSE OUTCOMES:**

**At the end of the course student will be able to--**

- 1) Use basic grammar and vocabulary.

- 2) Understand and use business correspondence.
- 3) Understand stories and poems and answer the questions.
- 4) The language and grammar of the student would have improved.
- 5) Understand and write different types of business correspondence like letters, applications, emails, resume, orders etc.
- 6) Express through oral as well as written communication, acquire techniques for effective writing.

**COURSE: BCA/ B Sc (IT)**

**SUB: ENGLISH**

**COURSE OBJECTIVES:**

1. To polish the standard of grammar.
2. To understand of business correspondence.
3. To lead students a greater understanding of human communicative action.
4. To understand the stories/ Poems (Prose & Poetry).
5. To able them to communicate in professional as well as day to day life.

**COURSE OUTCOMES:**

**At the end of the course student will be able to--**

- 1) The language and grammar of the student would have improved.
- 2) Understand and write different types of business correspondence like letters, applications, emails, resume, orders etc.
- 3) Understand human communicative action.
- 4) Understand stories and poems and answer the questions.
- 5) Express through oral as well as written communication, acquire techniques for effective writing and develop written communication for professional and business purpose.

**COURSE: BCCA**

**SUB: ENGLISH (COMMUNICATION SKILLS)**

**COURSE OBJECTIVES:**

1. To help students to develop their knowledge of English grammar.
2. To provide detail knowledge about types and functions of communication.
3. To give a strong foundation in communicative skills.
4. To help students to use business correspondence
5. To understand the stories/ Poems (Prose & Poetry).

## **COURSE OUTCOMES:**

**At the end of the course student will be able to--**

- 1) Develop the knowledge of English grammar.
- 2) Develop their writing and communicating skills and various types.
- 3) Strengthen their foundation in communication skills.
- 4) Understand and use business correspondence.
- 5) Understand stories and poems and answer the questions.

**COURSE: BBA**

**SUB: ENGLISH**

## **COURSE OBJECTIVES:**

1. To help students to develop their knowledge of English grammar.
2. To teach the students the four major important skills of reading, writing, speaking and listening.
3. To introduce the basic concepts of grammar.
4. To make students understand the communication process.
5. To help students to use business correspondence.
6. To give a strong foundation in communicative skills.

## **COURSE OUTCOMES:**

**At the end of the course student will be able to--**

- 1) Develop the knowledge of English grammar.
- 2) Know the importance of the skills of reading, writing, speaking and listening.
- 3) Use correct grammar.
- 4) Understand of communication process.
- 5) Understand and use business correspondence.
- 6) strengthen their foundation in communication skills.

**Course: BCA**

**Computer Fundamentals**

## **COURSE OBJECTIVES:**

- 1) Introduce the fundamentals of computing devices and reinforce computer vocabulary, particularly with respect to personal use of computer hardware and software, the Internet, networking and mobile computing.

- 2) The C programming language is used but the course will stress on fundamental parts of programming language, so that the students will have a basic concept for understanding and using other programming language.
- 3) Provide hands-on use of Microsoft Office applications Word, Excel, Access and PowerPoint.
- 4) Provide foundational or “computer literacy” curriculum that prepares students for life-long learning of computer concepts and skills.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

- 1) Describe the usage of computers and why computers are essential components in business and society.
- 2) Understanding the concept of input and output devices of Computers and how it works and recognize the basic terminology used in computer programming.
- 3) Identify categories of programs, system software and applications. Organize and work with files and folders.
- 4) Solve common business problems using appropriate Information Technology applications and systems.

### **C Programming**

### **COURSE OBJECTIVES:**

1. Develop a greater understanding of the issues involved in programming language design and implementation
2. Develop an in-depth understanding of functional, logic, and object-oriented programming paradigms.
3. Implement several programs in languages other than the one emphasized in the core curriculum.
4. Understand design/implementation issues involved with variable allocation and binding, control flow, types, subroutines, parameter passing

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Identify situations where computational methods and computers would be useful.
2. Understand and use the common data structures typically found in C programs — namely arrays, strings, lists, trees, and hash tables
3. Identify tasks in which the numerical techniques learned are applicable and apply them to write programs, and hence use computers effectively to solve the task
4. Use the comparisons and limitations of the various programming constructs and choose the right one for the task in hand.

## Statistical Method

### **COURSE OBJECTIVES:**

1. How to calculate and apply measures of location and measures of dispersion -- grouped and ungrouped data cases.
2. How to apply discrete and continuous probability distributions to various business problems.
3. Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases. Understand the concept of p-values.
4. Understand both the meaning and applicability of a dummy variable and the assumptions which underline a regression model. Be able to perform a multiple regression using computer software

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Familiar with a variety of examples where mathematics or statistics helps accurately explain abstract or physical phenomena, be mathematically, statistically and numerically literate.
2. Have the versatility to work effectively in a broad range of analytic, scientific, government, financial, health, technical and other positions.
3. Have a broad background in Mathematics and Statistics, an appreciation of how its various sub-disciplines are related, the ability to use techniques from different areas, and an in-depth knowledge about topics chosen from those offered through the department.
4. Independently read mathematical and statistical literature of various types, including survey articles, scholarly books, and online sources.

## Subject: DMS

### **COURSE OBJECTIVES:**

1. To introduce to student method of solving higher orders linear differential equations.
2. To introduce to student Laplace and inverse Laplace transforms.
3. To introduce to student various probability distributions.
4. To introduce to student Queuing theory and its model.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Solve higher order linear differential equation with constant coefficient
2. Apply Laplace and inverse Laplace transforms for solving linear differential equations.
3. Find the relation between two variables for the given data using regression
4. Solve problems based on queuing theory

## **Operating System**

### **COURSE OBJECTIVES:**

1. To expose the importance of the role and structure of operating system.
2. To learn basics of operating system such as Process Management, Memory Management and I/O device management.
3. To learn the mechanisms of OS to handle processes and threads and their communication & to learn the fundamentals of Operating Systems
4. To learn programmatically to implement simple OS mechanisms

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Recognize the role, structure of OS, applications and relationship between them.
2. Analyze the features and functions provided by Operating system modules (such as process control, CPU scheduling, mutual exclusion, deadlock, memory management, synchronization etc.).
3. Understand the basics of operating systems like kernel, shell, types and views of operating systems.
4. Explain the various features of distributed OS like Unix, Linux, windows etc.

## **Office Automation**

### **COURSE OBJECTIVES:**

1. Office tools course would enable the students in crafting professional word documents, excel spread sheets, power point presentations using the Microsoft suite of office tools.
2. To familiarize the students in preparation of documents and presentations with office automation tools.
3. To provide an in-depth training in use of office automation, internet and internet tools.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Perform documentation
2. Perform accounting operations
3. Make documents, spreadsheets, make small presentations and would be acquainted with internet.

## **Numerical Method**

### **COURSE OBJECTIVES:**

1. This course is an introduction to a broad range of numerical methods for solving mathematical problems that arise in Science and Engineering.
2. The goal is to provide a basic understanding of the derivation, analysis and use of these numerical methods along with a rudimentary understanding of finite precision arithmetic.
3. The objectives of studying this module are to make the students familiarize with the ways of solving complicated mathematical problems numerically.
4. Describing and understanding of the several errors and approximation in numerical methods.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand basics of finite precision arithmetic, conditioning of problems and stability of numerical algorithms.
2. Understand and apply appropriate techniques for numerical differentiation and integration
3. Numerically solve basic Eigen value problems and have a working knowledge of the singular value decomposition (SVD)
4. Use condition number and norms to assess accuracy of solutions to linear equations and least squares problems

## **Object Oriented Programming Using C++**

### **COURSE OBJECTIVES:**

1. To understand how C++ improves C with object-oriented features.
2. To learn the syntax and semantics of the C++ programming language.
3. To learn how inheritance and virtual functions implement dynamic binding with polymorphism.
4. To understand the concept of data abstraction and encapsulation overload functions and operators in C++..

### **COURSE OUTCOMES:**

At the end of this course the student will be able to



1. Understand the features of C++ supporting object oriented programming
2. Understand how to produce object-oriented software using C++
3. Understand how to apply the major object-oriented concepts to implement object oriented programs in C++, encapsulation, inheritance and polymorphism
4. Understand advanced features of C++ specifically stream I/O, templates and operator overloading

## **System Analysis and Development**

### **COURSE OBJECTIVES:**

1. Identify the problem given and design the algorithm using various algorithm design techniques.
2. Implement various algorithms in a high level language.
3. Analyze the performance of various algorithms.
4. Compare the performance of different algorithms for same problem.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Learn the terminology of systems analysis and design
2. Apply the object-oriented approach to systems development
3. Demonstrate and develop problem-solving skills in a team environment
4. Become functionally knowledgeable of UML modeling techniques and tools

## **Linux**

### **COURSE OBJECTIVES:**

1. To introduce Basic Linux general purpose Commands
2. To learn network Linux commands.
3. To learn C programming in Linux editor environment.
4. To learn shell script and sed concepts.
5. To learn file management and permission advance commands.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Identify the basic Linux general purpose commands.
2. Apply and change the ownership and file permissions using advance Linux commands.
3. Use the awk, grep, perl scripts.
4. Implement shell scripts and sed.
5. Apply networking Linux commands.

## **E- Commerce**

### **COURSE OBJECTIVES:**

1. This course is aimed at providing the student with an in-depth understanding of the still emerging field of E-Commerce.
2. The student will be able to understand the various elements that are fundamental for a successful E-Commerce enterprise and develop a business plan for developing one such E-Commerce site
3. Overview of the E-Commerce landscape in India and the world.
4. Component of a basic E-Commerce business.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Gain a comprehensive understanding of the E-Commerce landscape, current and emerging business models, and the technology and infrastructure underpinnings of the business.
2. Leverage the E-Commerce platforms to enhance current business or incubate new businesses.
3. Gain an understanding on how innovative use of the E-Commerce can help developing competitive advantage.
4. Develop an understanding on how internet can help business grow.

## **Visual basic Programming**

### **COURSE OBJECTIVES:**

1. To understand the concepts of windows Programming.
2. To develop applications using Visual Basic.
3. To develop applications using VC++.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Explain the concepts of windows programming.
2. Develop program using Visual Basic.
3. Develop real time applications using VB and VC++

## **DBMS**

### **COURSE OBJECTIVES:**

1. List and explain the fundamental concepts of a relational database system.
2. Analyze database requirements and determine the entities involved in the system and their relationship to one another.
3. Develop the logical design of the database using data modeling concepts such as entity-relationship diagrams.
4. Create a relational database using a relational database package.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Describe a sound introduction to the discipline of database management systems.
2. Explain the features of database management systems and Relational database.
3. Design conceptual models of a database using ER modeling model of data and usage of Relational Algebra.
4. Introduce the concepts of basic SQL as a universal Database language.

## **Data Structures**

### **COURSE OBJECTIVES:**

1. Understand and remember algorithms and its analysis procedure.
2. Introduce the concept of data structures through ADT including List, Stack, Queues.
3. To design and implement various data structure algorithms.
4. To introduce various techniques for representation of the data in the real world.
5. To develop application using data structure algorithms.
6. Compute the complexity of various algorithms.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Select appropriate data structures as applied to specified problem definition.
2. Implement operations like searching, insertion, and deletion, traversing mechanism etc. on various data structures.
3. Implement Linear and Non-Linear data structures.
4. Implement appropriate sorting/searching technique for given problem.
5. Design advance data structure using Non- Linear data structure.
6. Determine and analyze the complexity of given Algorithms.

## **Operation Research**

### **COURSE OBJECTIVES:**

1. This course is an introduction to a broad range of numerical methods for solving mathematical problems that arise in Science and Engineering.
2. The goal is to provide a basic understanding of the derivation, analysis and use of these numerical methods along with a rudimentary understanding of finite precision arithmetic.
3. The objectives of studying this module are to make the students familiarize with the ways of solving complicated mathematical problems numerically.
4. Describing and understanding of the several errors and approximation in numerical methods.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand basics of finite precision arithmetic, conditioning of problems and stability of numerical algorithms.

2. Understand and apply appropriate techniques for numerical differentiation and integration
3. Numerically solve basic Eigen value problems and have a working knowledge of the singular value decomposition (SVD)
4. Use condition number and norms to assess accuracy of solutions to linear equations and least squares problems

### **Web Technology**

#### **COURSE OBJECTIVES:**

1. Learn the language of the web: HTML and CSS.
2. Develop skills in analyzing the usability of a web site.
3. Learn techniques of responsive web design, including media queries.
4. Be able to embed social media content into web pages.

#### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Design a basic web site using HTML and CSS to demonstrate responsive web design.
2. Implement dynamic web pages with and web sites.
3. Develop responsive web pages.
4. Versed with XML and web services Technologies.

### **Digital Electronics**

#### **COURSE OBJECTIVES:**

1. To understand operation of semiconductor devices.
2. To understand DC analysis and AC models of semiconductor devices.
3. To apply concepts for the design of Regulators and Amplifiers
4. To verify the theoretical concepts through laboratory and simulation experiments.
5. To implement mini projects based on concept of electronics circuit concepts.

#### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand the current voltage characteristics of semiconductor devices,
2. Analyze dc circuits and relate ac models of semiconductor devices with their physical Operation.
3. Design and analyze of electronic circuits,
4. Evaluate frequency response to understand behavior of Electronics circuits.

## **Software Engineering**

### **COURSE OBJECTIVES:**

1. Be successful professionals in the field with solid fundamental knowledge of software engineering
2. Utilize and exhibit strong communication and interpersonal skills, as well as professional and ethical principles when functioning as members and leaders of multi-disciplinary teams
3. Apply their foundations in software engineering to adapt to readily changing environments using the appropriate theory, principles and processes

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Learn how to apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment
2. Work in one or more significant application domains. Work as an individual and as part of a multidisciplinary team to develop and deliver quality software.
3. Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for the software lifecycle.

## **SQL**

### **COURSE OBJECTIVES:**

1. To introduce the concepts of basic SQL as a universal Database language.
2. To give a good formal foundation on the relational model of data and usage of Relational Algebra.
3. To enhance knowledge to advanced SQL topics like embedded SQL, procedures connectivity through JDBC.
4. To enable the design of an efficient database using normalization concepts.

5. To enable students to be create indexes for databases for efficient

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Construct problem definition statements for real life applications and implement a database for the same.
2. Design conceptual models of a database using ER modeling for real life applications and also construct queries in Relational Algebra.
3. Write queries in SQL to retrieve any type of information from a data base Create and populate a RDBMS, using SQL.
4. Analyze and apply concepts of normalization to design an optimal retrieval database
5. Write queries in SQL to retrieve any type of information from a data base.

### **Theory of Computation**

#### **COURSE OBJECTIVES:**

1. Introduce concepts in automata theory and theory of computation.
2. Design grammars and recognizers for different formal languages
3. Design the Turning Machine for Languages.
4. Method of solving computational functions.
5. Determine the decidability and intractability of computational problems

#### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Acquire a fundamental understanding of the core concepts in automata theory and formal languages.
2. Design grammars and automata (recognizers) for different language classes.
3. Design the turning machine for given languages.
4. Solve computational functions using different methods.
5. Acquire a fundamental understanding of core concepts relating to the theory of computation and computational models including (but not limited to) decidability and intractability.

### **Computer Graphics**

#### **COURSE OBJECTIVES:**

1. To introduce the use of the components of a graphics system and become familiar with building approach of graphics system components and algorithms related with them.
2. To learn the basic principles of 3- dimensional computer graphics.
3. Provide an understanding of how to scan convert the basic geometrical primitives, how to transform the shapes to fit them as per the picture definition.
4. Provide an understanding of mapping from a world coordinates to device coordinates, clipping, and projections.

### **COURSE OUTCOMES:**

At the end of this course the student will be able

1. To list the basic concepts used in computer graphics.
2. To implement various algorithms to scan, convert the basic geometrical primitives, transformations, Area filling, clipping.
3. To describe the importance of viewing and projections.
4. To define the fundamentals of animation, virtual reality and its related technologies.

### **Compiler Construction**

### **COURSE OBJECTIVES:**

1. To introduce principal structure of compiler, basic theories and methods used for different parts of compiler.
2. To impart knowledge of fundamentals of language translator, structure of a typical compiler, parsing methods etc.
3. To design various phases of compiler such as Lexical analyzer, parser etc.
4. To distinguish different optimization techniques in the design of compiler.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Apply techniques for the structure of compiler.
2. Use simulation software to justify compiler design.
3. Implement various phases of compiler.
4. Apply different optimization techniques in the design of compiler.



## **COURSE OBJECTIVES:**

1. The aim of this course is to teach a full object oriented programming overviews and specially getting expertise in vb.net applications programming.
2. In this course students will learn about vb.net GUI Environment of the vb.net and built in ActiveX.net classes.
3. This course also covers the access SQL Server's Database with the help of Vb.net Environment.
4. After completion of this course students will be able to accomplish their final projects easily.

## **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand the Visual Basic language structure and language syntax.
2. Developed the ability to design and develop interactive applications using the object-oriented principals, encapsulation, inheritance and to some extents polymorphism.
3. Develop applications with full functionality and a graphical user interface using the language Visual Basic.
4. Analyzing and finding suitable and effective solutions to Windows based applications using classes and object.

## **PHP**

## **COURSE OBJECTIVES:**

1. To understand the general concepts of PHP scripting language for the development of Internet websites.
2. To understand the basic functions of MySQL database program.
3. To learn the relationship between the client side and the server side scripts.
4. To know how to develop a final project using the learned techniques.

## **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Use a PHP editing program and develop functional PHP script.
2. Develop a MySQL database.
3. Understand the use of PHP with HTML.
4. Understand the ability to post and publish a PHP website.
5. Develop a final project using the learned techniques and Database connectivity using MySQL

## **Data Communication Networks**

### **COURSE OBJECTIVES:**

1. Study the basic taxonomy and terminology of the computer networking and enumerate the layers of OSI model and TCP/IP model.
2. Acquire knowledge of Application layer and Presentation layer paradigms and protocols.
3. Study Session layer design issues, Transport layer services, and protocols
4. Gain core knowledge of Network layer routing protocols and IP addressing.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Describe the functions of each layer in OSI and TCP/IP model.
2. Explain the functions of Application layer and Presentation layer paradigms and Protocols.
3. Describe the Session layer design issues and Transport layer services.
4. Classify the routing protocols and analyze how to assign the IP addresses for the given network.

## **JAVA Programming**

### **COURSE OBJECTIVES:**

1. Introduce students about the Basis futures of Java.
2. Discussions about Java Virtual Machine.
3. To make students to understand Event Handling.
4. To study the Java Design Patters.
5. To study the working with Hibernate Framework.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Familiar with Basis futures of Java .
2. Understand about the JVM.
3. Study basics of Event Handling.
4. Understanding Java Design Patters.

5. Learn about Hibernate Framework

## **ASP.NET**

### **COURSE OBJECTIVES:**

1. Use AJAX to create partial-page updates that refresh only the parts of the Web page that have changed
2. Configure an asp.net application. Creating ASP.Net applications using standard .net controls.
3. Connecting to data sources and managing them.
4. Maintain session and controls related information for user used in multi-user web applications

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Design web applications using ASP.NET
2. Use ASP.NET controls in web applications.
3. Debug and deploy ASP.NET web applications
4. Create database driven ASP.NET web applications and web services

## **Software Testing**

### **COURSE OBJECTIVES:**

1. Basic software debugging methods.
2. White box testing methods and techniques.
3. Black Box testing methods and techniques.
4. Different testing tools (familiar with open source tools)

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Investigate the reason for bugs and analyze the principles in software testing to prevent and remove bugs.

2. Implement various test processes for quality improvement
3. Apply the software testing techniques in commercial environment
4. Use practical knowledge of a variety of ways to test software and an understanding of some of the tradeoffs between testing techniques.

**Course: B.Sc. (IT)**

**Computer Fundamentals**

**COURSE OBJECTIVES:**

1. Introduce the fundamentals of computing devices and reinforce computer vocabulary, particularly with respect to personal use of computer hardware and software, the Internet, networking and mobile computing.
2. The C programming language is used but the course will stress on fundamental parts of programming language, so that the students will have a basic concept for understanding and using other programming language.
3. Provide hands-on use of Microsoft Office applications Word, Excel, Access and PowerPoint.
4. Provide foundational or “computer literacy” curriculum that prepares students for life-long learning of computer concepts and skills.

**COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Describe the usage of computers and why computers are essential components in business and society.
2. Understanding the concept of input and output devices of Computers and how it works and recognize the basic terminology used in computer programming.
3. Identify categories of programs, system software and applications. Organize and work with files and folders.
4. Solve common business problems using appropriate Information Technology applications and systems.

**Subject: C Programming**

**COURSE OBJECTIVES:**

1. Develop a greater understanding of the issues involved in programming language design and implementation
2. Develop an in-depth understanding of functional, logic, and object-oriented programming paradigms.
3. Implement several programs in languages other than the one emphasized in the core curriculum.
4. Understand design/implementation issues involved with variable allocation and binding, control flow, types, subroutines, parameter passing

**COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Identify situations where computational methods and computers would be useful.
2. Understand and use the common data structures typically found in C programs — namely arrays, strings, lists, trees, and hash tables
3. Identify tasks in which the numerical techniques learned are applicable and apply them to write programs, and hence use computers effectively to solve the task
4. Use the comparisons and limitations of the various programming constructs and choose the right one for the task in hand.

**System Analysis and Development**

**COURSE OBJECTIVES:**

1. Identify the problem given and design the algorithm using various algorithm design techniques.
2. Implement various algorithms in a high level language.
3. Analyze the performance of various algorithms.
4. Compare the performance of different algorithms for same problem.

**COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Learn the terminology of systems analysis and design
2. Apply the object-oriented approach to systems development
3. Demonstrate and develop problem-solving skills in a team environment
4. Become functionally knowledgeable of UML modeling techniques and tools

**Subject: Statistical Method**

**COURSE OBJECTIVES:**

1. How to calculate and apply measures of location and measures of dispersion -- grouped and ungrouped data cases.
2. How to apply discrete and continuous probability distributions to various business problems.
3. Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases. Understand the concept of p-values.
4. understand both the meaning and applicability of a dummy variable and the assumptions which underline a regression model. Be able to perform a multiple regression using computer software

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Be familiar with a variety of examples where mathematics or statistics helps accurately explain abstract or physical phenomena, be mathematically, statistically and numerically literate.
2. Have the versatility to work effectively in a broad range of analytic, scientific, government, financial, health, technical and other positions.
3. Have a broad background in Mathematics and Statistics, an appreciation of how its various sub-disciplines are related, the ability to use techniques from different areas, and an in-depth knowledge about topics chosen from those offered through the department.
4. Be able to independently read mathematical and statistical literature of various types, including survey articles, scholarly books, and online sources.

### **Subject: DMS**

### **COURSE OBJECTIVES:**

1. To introduce to student method of solving higher orders linear differential equations.
2. To introduce to student Laplace and inverse Laplace transforms.
3. To introduce to student various probability distributions.
4. To introduce to student Queuing theory and its model.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Solve higher order linear differential equation with constant coefficient
2. Apply Laplace and inverse Laplace transforms for solving linear differential equations.
3. Find the relation between two variables for the given data using regression
4. Solve problems based on queuing theory

## **OPERATING SYSTEM**

### **COURSE OBJECTIVES:**

1. To expose the importance of the role and structure of operating system.
2. To learn basics of operating system such as Process Management, Memory Management and I/O device management.
3. To learn the mechanisms of OS to handle processes and threads and their communication & to learn the fundamentals of Operating Systems
4. To learn programmatically to implement simple OS mechanisms

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Recognize the role, structure of OS, applications and relationship between them.
2. Analyze the features and functions provided by Operating system modules (such as process control, CPU scheduling, mutual exclusion, deadlock, memory management, synchronization etc.).
3. Understand the basics of operating systems like kernel, shell, types and views of operating systems.
4. Explain the various features of distributed OS like Unix, Linux, windows etc.

## **Numerical Method**

### **COURSE OBJECTIVES:**

1. This course is an introduction to a broad range of numerical methods for solving mathematical problems that arise in Science and Engineering.
2. The goal is to provide a basic understanding of the derivation, analysis and use of these numerical methods along with a rudimentary understanding of finite precision arithmetic.
3. The objectives of studying this module are to make the students familiarize with the ways of solving complicated mathematical problems numerically.
4. Describing and understanding of the several errors and approximation in numerical methods.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand basics of finite precision arithmetic, conditioning of problems and stability of numerical algorithms.
2. Understand and apply appropriate techniques for numerical differentiation and integration
3. Numerically solve basic Eigen value problems and have a working knowledge of the singular value decomposition (SVD)
4. Use condition number and norms to assess accuracy of solutions to linear equations and least squares problems

### **Object Oriented Programming Using C++**

#### **COURSE OBJECTIVES:**

1. To understand how C++ improves C with object-oriented features.
2. To learn the syntax and semantics of the C++ programming language.
3. To learn how inheritance and virtual functions implement dynamic binding with polymorphism.
4. To understand the concept of data abstraction and encapsulation overload functions and operators in C++..

#### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand the features of C++ supporting object oriented programming
2. Understand how to produce object-oriented software using C++
3. Understand how to apply the major object-oriented concepts to implement object oriented programs in C++, encapsulation, inheritance and polymorphism
4. Understand advanced features of C++ specifically stream I/O, templates and operator overloading

### **Linux**

#### **COURSE OBJECTIVES:**

1. To introduce Basic Linux general purpose Commands
2. To learn network Linux commands.
3. To learn C programming in Linux editor environment.
4. To learn shell script and sed concepts.
5. To learn file management and permission advance commands.



## **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Identify the basic Linux general purpose commands.
2. Apply and change the ownership and file permissions using advance Linux commands.
3. Use the awk, grep, perl scripts.
4. Implement shell scripts and sed.
5. Apply networking Linux commands.

## **E- Commerce**

### **COURSE OBJECTIVES:**

1. This course is aimed at providing the student with an in-depth understanding of the still emerging field of E-Commerce.
2. The student will be able to understand the various elements that are fundamental for a successful E-Commerce enterprise and develop a business plan for developing one such E-Commerce site
3. Overview of the E-Commerce landscape in India and the world.
4. Component of a basic E-Commerce business.

## **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Gain a comprehensive understanding of the E-Commerce landscape, current and emerging business models, and the technology and infrastructure underpinnings of the business.
2. Leverage the E-Commerce platforms to enhance current business or incubate new businesses.
3. Gain an understanding on how innovative use of the E-Commerce can help developing competitive advantage.
4. Develop an understanding on how internet can help business grow.

## **Visual basic Programming**

### **COURSE OBJECTIVES:**

1. To understand the concepts of windows Programming.
2. To develop applications using Visual Basic.
3. To develop applications using VC++.

## **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Explain the concepts of windows programming.
2. Develop program using Visual Basic.
3. Develop real time applications using VB and VC++

## **DBMS**

## **COURSE OBJECTIVES:**

1. List and explain the fundamental concepts of a relational database system.
2. Analyze database requirements and determine the entities involved in the system and their relationship to one another.
3. Develop the logical design of the database using data modeling concepts such as entity-relationship diagrams.
4. Create a relational database using a relational database package.

## **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Describe a sound introduction to the discipline of database management systems.
2. Explain the features of database management systems and Relational database.
3. Design conceptual models of a database using ER modeling model of data and usage of Relational Algebra.
4. Introduce the concepts of basic SQL as a universal Database language.

## **Data Structures**

## **COURSE OBJECTIVES:**

1. Understand and remember algorithms and its analysis procedure.
2. Introduce the concept of data structures through ADT including List, Stack, Queues.
3. To design and implement various data structure algorithms.
4. To introduce various techniques for representation of the data in the real world.
5. To develop application using data structure algorithms.
6. Compute the complexity of various algorithms.

## **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Select appropriate data structures as applied to specified problem definition.
2. Implement operations like searching, insertion, and deletion, traversing mechanism etc. on various data structures.
3. Implement Linear and Non-Linear data structures.
4. Implement appropriate sorting/searching technique for given problem.
5. Design advance data structure using Non- Linear data structure.
6. Determine and analyze the complexity of given Algorithms.

## **Operation Research**

## **COURSE OBJECTIVES:**

1. This course is an introduction to a broad range of numerical methods for solving mathematical problems that arise in Science and Engineering.
2. The goal is to provide a basic understanding of the derivation, analysis and use of these numerical methods along with a rudimentary understanding of finite precision arithmetic.
3. The objectives of studying this module are to make the students familiarize with the ways of solving complicated mathematical problems numerically.
4. Describing and understanding of the several errors and approximation in numerical methods.

## **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand basics of finite precision arithmetic, conditioning of problems and stability of numerical algorithms.
2. Understand and apply appropriate techniques for numerical differentiation and integration
3. Numerically solve basic Eigen value problems and have a working knowledge of the singular value decomposition (SVD)

4. Use condition number and norms to assess accuracy of solutions to linear equations and least squares problems

### **Web Technology**

#### **COURSE OBJECTIVES:**

1. Learn the language of the web: HTML and CSS.
2. Develop skills in analyzing the usability of a web site.
3. Learn techniques of responsive web design, including media queries.
4. Be able to embed social media content into web pages.

#### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Design a basic web site using HTML and CSS to demonstrate responsive web design.
2. Implement dynamic web pages with and web sites.
3. Develop responsive web pages.
4. Versed with XML and web services Technologies.

### **Digital Electronics**

#### **COURSE OBJECTIVES:**

1. To understand operation of semiconductor devices.
2. To understand DC analysis and AC models of semiconductor devices.
3. To apply concepts for the design of Regulators and Amplifiers
4. To verify the theoretical concepts through laboratory and simulation experiments.
5. To implement mini projects based on concept of electronics circuit concepts.

#### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand the current voltage characteristics of semiconductor devices,
2. Analyze dc circuits and relate ac models of semiconductor devices with their physical Operation.
3. Design and analyze of electronic circuits,
4. Evaluate frequency response to understand behavior of Electronics circuits

## **Software Engineering**

### **COURSE OBJECTIVES:**

1. Be successful professionals in the field with solid fundamental knowledge of software engineering
2. Utilize and exhibit strong communication and interpersonal skills, as well as professional and ethical principles when functioning as members and leaders of multi-disciplinary teams
3. Apply their foundations in software engineering to adapt to readily changing environments using the appropriate theory, principles and processes

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Learn how to apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment
2. Work in one or more significant application domains. Work as an individual and as part of a multidisciplinary team to develop and deliver quality software
3. Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for the software lifecycle

## **Compiler Construction**

### **COURSE OBJECTIVES:**

1. To introduce principal structure of compiler, basic theories and methods used for different parts of compiler.
2. To impart knowledge of fundamentals of language translator, structure of a typical compiler, parsing methods etc.
3. To design various phases of compiler such as Lexical analyzer, parser etc.
4. To distinguish different optimization techniques in the design of compiler.

## **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Apply techniques for the structure of compiler.
2. Use simulation software to justify compiler design.
3. Implement various phases of compiler.
4. Apply different optimization techniques in the design of compiler.

## **Data Communication Networks**

### **COURSE OBJECTIVES:**

1. Study the basic taxonomy and terminology of the computer networking and enumerate the layers of OSI model and TCP/IP model.
2. Acquire knowledge of Application layer and Presentation layer paradigms and protocols.
3. Study Session layer design issues, Transport layer services, and protocols
4. Gain core knowledge of Network layer routing protocols and IP addressing.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Describe the functions of each layer in OSI and TCP/IP model.
2. Explain the functions of Application layer and Presentation layer paradigms and Protocols.
3. Describe the Session layer design issues and Transport layer services.
4. Classify the routing protocols and analyze how to assign the IP addresses for the given network.

## **JAVA Programming**

### **COURSE OBJECTIVES:**

1. Introduce students about the Basis futures of Java.
2. Discussions about Java Virtual Machine.
3. To make students to understand Event Handling.
4. To study the Java Design Patters.

5. To study the working with Hibernate Framework.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Familiar with Basis futures of Java .
2. Understand about the JVM.
3. Study basics of Event Handling.
4. Understanding Java Design Patters.
5. Learning about Hibernate Framework

## **Software Project Management**

### **COURSE OBJECTIVES:**

1. To understand the nature of software development and software life cycle process models, agile software development, SCRUM and other agile practices.
2. To Explain methods of capturing, specifying, visualizing and analyzing software requirements.
3. To understand concepts and principles of software design and user-centric approach and principles of effective user interfaces.
4. To know basics of testing and Understanding concept of software quality assurance and software configuration management process.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Define various software application domains and remember different process model used in software development.
2. Explain needs for software specifications also they can classify different types of software requirements and their gathering techniques.
3. Convert the requirements model into the design model and demonstrate use of software and user interface design principles.
4. Distinguish among SCM and SQA and can classify different testing strategies and tactics and compare them.

## **Cloud Computing & Services**

### **COURSE OBJECTIVES:**

1. Basics of cloud computing.
2. Key concepts of virtualization.
3. Different Cloud Computing services
4. Cloud Implementation, Programming and Mobile cloud computing

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Define Cloud Computing and memorize the different Cloud service and deployment models
2. Describe importance of virtualization along with their technologies.
3. Use and Examine different cloud computing services
4. Analyze the components of open stack & Google Cloud platform and understand Mobile Cloud Computing

## **Multimedia Systems**

### **COURSE OBJECTIVES:**

1. To learn and understand technical aspect of Multimedia Systems.
2. To understand the standards available for different audio.
3. Design interactive multimedia software.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Developed understanding of technical aspect of Multimedia Systems.
2. Understand various file formats for\ audio, video and text media. video and text applications.
3. To Design and develop various Multimedia Systems applicable in real time.

## **Enterprise Resource Planning**



### **COURSE OBJECTIVES:**

1. To learn the basic concepts of ERP.
2. To learn different technologies used in ERP.
3. To learn the concepts of ERP Manufacturing Perspective and ERP Modules.
4. To learn what are the benefits of ERP

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Understand the basic concepts of ERP.
2. Identify different technologies used in ERP.
3. Understand and apply the concepts of ERP Manufacturing Perspective and ERP Modules.
4. Discuss the benefits of ERP

## **Microprocessor**

### **COURSE OBJECTIVES:**

1. Learn assembling and disassembling of PC.
2. Get hands on experience with Assembly Language Programming.
3. Study interfacing of peripheral devices with 8086 microprocessor.
4. Understand techniques for faster execution of instructions and improve speed of operation and performance of microprocessors.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Apply the fundamentals of assembly level programming of microprocessors.
2. Build a program on a microprocessor using arithmetic & logical instruction set of 8086.
3. Develop the assembly level programming using 8086 loop instruction set.

4. Write programs based on string and procedure for 8086 microprocessor.

### **Lab. – Programming in C#.Net**

#### **COURSE OBJECTIVES:**

1. To introduce .NET Programming using the C# programming language.
2. To develop basic understanding of the syntactical features of C# programming language and effective use of .NET runtime library APIs to develop robust software applications.
3. To develop ability to design and build Object Oriented and GUI, Web applications on Windows platform.

#### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Use .NET Framework in building robust software applications using C# programming language.
2. Implement the syntactical features of C# programming language and effective use of .NET runtime library APIs to develop robust software applications.
3. Design and develop Object oriented and GUI, Web application on Windows platform.

### **WEB Programming**

#### **COURSE OBJECTIVES:**

1. Understand the principles of creating an effective web page, including an in-depth consideration of information architecture.
2. Become familiar with graphic design principles that relate to web design and learn how to implement these theories into practice.
3. Develop skills in analyzing the usability of a web site.
4. Understand how to plan and conduct user research related to web usability.

#### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Employ fundamental computer theory to basic programming techniques.
2. Use fundamental skills to maintain web server services required to host a website.
3. Select and apply markup languages for processing, identifying, and presenting of information in web pages.
4. Use scripting languages and web services to transfer data and add interactive components to web pages.

## **ORACLE**

### **COURSE OBJECTIVES:**

1. Design and implement advanced queries using Structured Query Language
2. To study the usage and applications of Object Oriented database
3. To acquire knowledge on variety of NoSQL databases
4. To attain inquisitive attitude towards research topics in NoSQL databases

### **COURSE OUTCOMES**

At the end of this course the student will be able to

1. Master the basics of SQL and construct queries using PL/SQL efficiently and apply object oriented features for developing database applications.
2. Compare and Contrast NoSQL databases with each other and Relational Database Systems
3. Critically analyze and evaluate variety of NoSQL databases.
4. Demonstrate the knowledge of Key-Value databases, Document based Databases, Column based Databases and Graph Databases.

## **SPM**

### **COURSE OBJECTIVES:**

1. To plan and manage projects at each stage of the software development life cycle (SDLC)

2. To train software project managers and other individuals involved in software project planning and tracking and oversight in the implementation of the software project management process.
3. To understand successful software projects that support organization's strategic goals

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. To match organizational needs to the most effective software development model
2. To understand the basic concepts and issues of software project management
3. To plan effectively the software projects

### **Data Warehousing**

### **COURSE OBJECTIVES:**

1. Data preprocessing and data quality and Modeling and design of data warehouses.
2. Data pre-processing and preparation, outlier detection, data warehouse design, On-line analytical processing are the major areas of coverage of this course.
3. This course also deals with the fundamentals of data mining and algorithms associated with the same.

### **COURSE OUTCOMES:**

At the end of this course the student will be able to

1. Describe the fundamental concepts, benefits and problem areas associated with data warehousing.
2. Describe the various architectures and main components of a data warehouse.
3. Design a data warehouse, and be able to address issues that arise when implementing a data warehouse
4. Compare and contrast OLAP and data mining as techniques for extracting knowledge from a data warehouse.

### **Graph Theory**

### **COURSE OBJECTIVES:**

1. To understand and apply the fundamental concepts in graph theory

2. To apply graph theory based tools in solving practical problems
3. To introduce topics and techniques of discrete methods and combinatorial analysis.
4. To introduce a large variety of applications and, through some of them, the algorithmic approach to the solution of problems.
5. To present a survey of essential topics for computer science students who will encounter some of them again in more advanced courses.

## **COURSE OUTCOMES**

1. State all of the technical definitions covered in the course (such as a graph, tree, planar graph, colouring, digraph, generating function, linear extension, and other terms).
2. State all of the relevant theorems covered in the course.
3. Use these definitions and theorems from memory to construct solutions to problems and/or proofs.
4. Formulate graph theoretic models to solve real world problems (e.g., scheduling problems).
5. Analyze combinatorial objects satisfying certain properties and answer questions related to existence (proving the existence or non-existence of such objects), construction (describing how to create such objects in the case they exist), enumeration (computing the number of such objects), and optimization (determining which objects satisfy a certain extremal property).

## **Animation Techniques**

### **COURSE OBJECTIVES:**

1. Use animation software in the production of animated works.
2. Study the history of animation.
3. Study the concepts of storyboarding, lip-synching, spacing and timing.
4. Approach assignments as problem-solving activities.

### **COURSE OUTCOMES**

1. Recognize and evaluate critical and aesthetic issues within computer graphics and the mixed media. (Issues)
2. Apply aesthetic judgments and critical thinking skills to art and graphics related issues. (Aesthetics)
3. Demonstrate mastery of specific technical, conceptual and critical abilities within computer graphics and the mixed media. (Abilities)
4. Demonstrate proficiency with industrial applications to visual communication related technologies. (Proficiency)

## **Advanced Java Programming**

### **COURSE OBJECTIVES:**

1. Introduce students about the Basis futures of Java.

2. Discussions about Java Virtual Machine.
3. To make students to understand Event Handling.
4. To study the Java Design Patters.
5. To study the working with Hibernate Framework.

#### **COURSE OUTCOMES:**

1. Familiar with Basis futures of Java .
2. Understand about the JVM.
3. Study basics of Event Handling.
4. Understanding Java Design Patters.
5. Learning about Hibernate Framework

#### **Data Mining**

##### **COURSE OBJECTIVES:**

1. Learn the concepts of database technology evolutionary path which has led to the need for data mining and its applications.
2. Examine the types of the data to be mined and present a general classification of tasks and primitives to integrate a data mining system.
3. Apply preprocessing statistical methods for any given raw data.
4. Explore DWH and OLAP , and devise efficient & cost effective methods for maintaining DWHs.
5. Discover interesting patterns from large amounts of data to analyze and extract patterns to solve problems , make predictions of OUTCOMES.

#### **COURSE OUTCOMES:**

1. Evaluate and implement a wide range of emerging and newly-adopted methodologies and technologies to facilitate the knowledge discovery
2. Assess raw input data, and process it to provide suitable input for a range of data mining algorithms
3. Discover and measure interesting patterns from different kinds of databases
4. Characterize and discriminate data summarization forms and determine data mining functionalities.
5. Evaluate and select appropriate data-mining algorithms and apply, and interpret and report the output appropriately

#### **Network Security**

##### **COURSE OBJECTIVES**

1. To understand the fundamentals of Cryptography
2. To acquire knowledge on standard algorithms used to provide confidentiality, integrity and authenticity.
3. To understand the various key distribution and management schemes.
4. To understand how to deploy encryption techniques to secure data in transit across data networks

## **COURSE OUTCOMES**

1. Analyze the vulnerabilities in any computing system and hence be able to design a security solution.
2. Identify the security issues in the network and resolve it.
3. Evaluate security mechanisms using rigorous approaches, including theoretical
4. Compare and Contrast different IEEE standards and electronic mail security

Prerna SevaMandal  
**Prerna College of Commerce**  
Reshimbagh, Nagpur

### **Course: BCCA** **Computer Fundamentals**

## **COURSE OBJECTIVES:**

- 5) Introduce the fundamentals of computing devices and reinforce computer vocabulary, particularly with respect to personal use of computer hardware and software, the Internet, networking and mobile computing.
- 6) The C programming language is used but the course will stress on fundamental parts of programming language, so that the students will have a basic concept for understanding and using other programming language.
- 7) Provide hands-on use of Microsoft Office applications Word, Excel, Access and PowerPoint.
- 8) Provide foundational or “computer literacy” curriculum that prepares students for life-long learning of computer concepts and skills.

## **COURSE OUTCOMES:**

- 5) Describe the usage of computers and why computers are essential components in business and society.
- 6) Understanding the concept of input and output devices of Computers and how it works and recognize the basic terminology used in computer programming.
- 7) Identify categories of programs, system software and applications. Organize and work with files and folders.
- 8) Solve common business problems using appropriate Information Technology applications and systems.

### **Subject: C Programming**

## **COURSE OBJECTIVES:**

5. Develop a greater understanding of the issues involved in programming language design and implementation
6. Develop an in-depth understanding of functional, logic, and object-oriented programming paradigms.
7. Implement several programs in languages other than the one emphasized in the core curriculum.
8. Understand design/implementation issues involved with variable allocation and binding, control flow, types, subroutines, parameter passing

#### **COURSE OUTCOMES:**

5. Identify situations where computational methods and computers would be useful.
6. Understand and use the common data structures typically found in C programs — namely arrays, strings, lists, trees, and hash tables
7. Identify tasks in which the numerical techniques learned are applicable and apply them to write programs, and hence use computers effectively to solve the task
8. Use the comparisons and limitations of the various programming constructs and choose the right one for the task in hand.

#### **Object Oriented Programming Using C++**

#### **COURSE OBJECTIVES:**

5. To understand how C++ improves C with object-oriented features.
6. To learn the syntax and semantics of the C++ programming language.
7. To learn how inheritance and virtual functions implement dynamic binding with polymorphism.
8. To understand the concept of data abstraction and encapsulation overload functions and operators in C++..

#### **COURSE OUTCOMES:**

5. Understand the features of C++ supporting object oriented programming
6. Understand how to produce object-oriented software using C++
7. Understand how to apply the major object-oriented concepts to implement object oriented programs in C++, encapsulation, inheritance and polymorphism
8. Understand advanced features of C++ specifically stream I/O, templates and operator overloading

#### **WD & E- Commerce**

#### **COURSE OBJECTIVES:**

5. This course is aimed at providing the student with an in-depth understanding of the still emerging field of E-Commerce.



6. The student will be able to understand the various elements that are fundamental for a successful E-Commerce enterprise and develop a business plan for developing one such E-Commerce site
7. Learn the language of the web: HTML and CSS.
8. Develop skills in analyzing the usability of a web site.
9. Learn techniques of responsive web design, including media queries

#### **COURSE OUTCOMES:**

5. Gain a comprehensive understanding of the E-Commerce landscape, current and emerging business models, and the technology and infrastructure underpinnings of the business.
6. Leverage the E-Commerce platforms to enhance current business or incubate new businesses.
7. Design a basic web site using HTML and CSS to demonstrate responsive web design.
8. Implement dynamic web pages with and web sites.
9. Develop responsive web pages.

#### **DBMS & Oracle**

#### **COURSE OBJECTIVES:**

5. List and explain the fundamental concepts of a relational database system.
6. Analyze database requirements and determine the entities involved in the system and their relationship to one another.
7. Design and implement advanced queries using Structured Query Language
8. To study the usage and applications of Object Oriented database

#### **COURSE OUTCOMES:**

5. To describe a sound introduction to the discipline of database management systems.
6. Explain the features of database management systems and Relational database.
7. Master the basics of SQL and construct queries using PL/SQL efficiently and apply object oriented features for developing database applications.
8. Compare and Contrast NoSQL databases with each other and Relational Database Systems

#### **Visual basic Programming**

#### **COURSE OBJECTIVES:**

4. To understand the concepts of windows Programming.
5. To develop applications using Visual Basic.
6. To develop applications using VC++.

## **COURSE OUTCOMES:**

4. Explain the concepts of windows programming.
5. Develop program using Visual Basic.
6. Develop real time applications using VB and VC++

## **SPPM**

### **COURSE OBJECTIVES:**

4. To plan and manage projects at each stage of the software development life cycle (SDLC)
5. To train software project managers and other individuals involved in software project planning and tracking and oversight in the implementation of the software project management process.
6. To understand successful software projects that support organization's strategic goals

## **COURSE OUTCOMES**

4. To match organizational needs to the most effective software development model
5. To understand the basic concepts and issues of software project management
6. To plan effectively the software projects

## **Statistical Method**

### **COURSE OBJECTIVES:**

5. How to calculate and apply measures of location and measures of dispersion -- grouped and ungrouped data cases.
6. How to apply discrete and continuous probability distributions to various business problems.
7. Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases. Understand the concept of p-values.
8. understand both the meaning and applicability of a dummy variable and the assumptions which underline a regression model. Be able to perform a multiple regression using computer software

### **COURSE OUTCOMES:**

5. Be familiar with a variety of examples where mathematics or statistics helps accurately explain abstract or physical phenomena, be mathematically, statistically and numerically **literate**.
6. Have the versatility to work effectively in a broad range of analytic, scientific, government, financial, health, technical and other positions.

7. Have a broad background in Mathematics and Statistics, an appreciation of how its various sub-disciplines are related, the ability to use techniques from different areas, and an in-depth knowledge about topics chosen from those offered through the department.
8. Be able to independently read mathematical and statistical literature of various types, including survey articles, scholarly books, and online sources.

## **PHP & MY SQL**

### **COURSE OBJECTIVES:**

6. To introduce the concepts of basic SQL as a universal Database language.
7. To give a good formal foundation on the relational model of data and usage of Relational Algebra.
8. To enhance knowledge to advanced SQL topics like embedded SQL, procedures connectivity through JDBC.
9. To understand the general concepts of PHP scripting language for the development of Internet websites.
10. To understand the basic functions of MySQL database program.
11. To learn the relationship between the client side and the server side scripts.

### **COURSE OUTCOMES:**

6. Use a PHP editing program and develop functional PHP script.
7. Develop a MySQL database.
8. Understand the use of PHP with HTML.
9. Understand the ability to post and publish a PHP website.
10. Analyze and apply concepts of normalization to design an optimal retrieval database
11. Write queries in SQL to retrieve any type of information from a data base.

## **JAVA Programming**

### **COURSE OBJECTIVES:**

6. Introduce students about the Basis futures of Java.
7. Discussions about Java Virtual Machine.
8. To make students to understand Event Handling.
9. To study the Java Design Patters.
10. To study the working with Hibernate Framework.

### **COURSE OUTCOMES:**

6. Familiar with Basis futures of Java .
7. Understand about the JVM.
8. Study basics of Event Handling.
9. Understanding Java Design Patters.

## 10. Learning about Hibernate Framework

### **VB.NET**

#### **COURSE OBJECTIVES**

1. Create a simple Visual Basic .NET-based application based on the Windows Application template. Use forms and controls to create a user interface.
2. Create a simple Visual Basic .NET-based Web Forms application that uses an XML Web Service.
3. Access and manipulate data in a Microsoft Access or Microsoft SQL Server database by using Microsoft ADO.NET.

#### **COURSE OUTCOMES:**

1. Understand .NET Framework and describe some of the major enhancements to the new version of Visual Basic.
2. Describe the basic structure of a Visual Basic.NET project and use main features of the integrated development environment (IDE)
3. Create applications using Microsoft Windows® Forms Create applications that use ADO.NET Working with XML Documents Using Crystal Reports

### **MCM**

#### **Fundamentals of Information Technology**

#### **COURSE OBJECTIVES:**

- 9) Introduce the fundamentals of computing devices and reinforce computer vocabulary, particularly with respect to personal use of computer hardware and software, the Internet, networking and mobile computing.
- 10) The C programming language is used but the course will stress on fundamental parts of programming language, so that the students will have a basic concept for understanding and using other programming language.
- 11) Provide hands-on use of Microsoft Office applications Word, Excel, Access and PowerPoint.
- 12) Provide foundational or “computer literacy” curriculum that prepares students for life-long learning of computer concepts and skills.

#### **COURSE OUTCOMES:**

- 9) Describe the usage of computers and why computers are essential components in business and society.
- 10) Understanding the concept of input and output devices of Computers and how it works and recognize the basic terminology used in computer programming.

- 11) Identify categories of programs, system software and applications. Organize and work with files and folders.
- 12) Solve common business problems using appropriate Information Technology applications and systems.

### **Programming in C & OOPS**

#### **COURSE OBJECTIVES:**

9. Develop a greater understanding of the issues involved in programming language design and implementation
10. Develop an in-depth understanding of functional, logic, and object-oriented programming paradigms.
11. Implement several programs in languages other than the one emphasized in the core curriculum.
12. Understand design/implementation issues involved with variable allocation and binding, control flow, types, subroutines, parameter passing

#### **COURSE OUTCOMES:**

9. Identify situations where computational methods and computers would be useful.
10. Understand and use the common data structures typically found in C programs — namely arrays, strings, lists, trees, and hash tables
11. Identify tasks in which the numerical techniques learned are applicable and apply them to write programs, and hence use computers effectively to solve the task
12. Use the comparisons and limitations of the various programming constructs and choose the right one for the task in hand.

### **Information of Operating System**

#### **COURSE OBJECTIVES:**

5. To expose the importance of the role and structure of operating system.
6. To learn basics of operating system such as Process Management, Memory Management and I/O device management.
7. To learn the mechanisms of OS to handle processes and threads and their communication & to learn the fundamentals of Operating Systems
8. To learn programmatically to implement simple OS mechanisms

#### **COURSE OUTCOMES:**

5. Recognize the role, structure of OS, applications and relationship between them.
6. Analyze the features and functions provided by Operating system modules (such as process control, CPU scheduling, mutual exclusion, deadlock, memory management, synchronization etc.).
7. Understand the basics of operating systems like kernel, shell, types and views of operating systems.
8. Explain the various features of distributed OS like Unix, Linux, windows etc.

## **Management Information System**

### **COURSE OBJECTIVES**

1. Students are able to understand the usage of Information Systems in management.
2. The students also would understand the activities that are undertaken in acquiring an Information System in an organization.
3. Further the student would be aware of various Information System solutions like ERP, CRM, Data warehouses and the issues in successful implementation of these technology solutions in any organization.

### **COURSE OUTCOMES**

1. Apply a framework and process for aligning an organization's IT objectives with business strategy.
2. Defend the strategic value of information resources for an organization.
3. Participate in an organization's information systems and technology decision making processes.
4. Identify ways information systems & technology may improve an organization's performance, including improving organizational processes, decision-making, collaboration, and personal productivity.

## **Quantitative Techniques & Operation Research**

### **COURSE OBJECTIVES:**

5. This course is an introduction to a broad range of numerical methods for solving mathematical problems that arise in Science and Engineering.
6. The goal is to provide a basic understanding of the derivation, analysis and use of these numerical methods along with a rudimentary understanding of finite precision arithmetic.
7. The objectives of studying this module are to make the students familiarize with the ways of solving complicated mathematical problems numerically.
8. Describing and understanding of the several errors and approximation in numerical methods.

### **COURSE OUTCOMES:**

5. Understand basics of finite precision arithmetic, conditioning of problems and stability of numerical algorithms.
6. Understand and apply appropriate techniques for numerical differentiation and integration
7. Numerically solve basic Eigen value problems and have a working knowledge of the singular value decomposition (SVD)
8. Use condition number and norms to assess accuracy of solutions to linear equations and least squares problems

## **Core JAVA Programming**

### **COURSE OBJECTIVES:**

1. Introduce students about the Basis futures of Java.
2. Discussions about Java Virtual Machine.
3. To make students to understand Event Handling.
4. To study the Java Design Patters.
5. To study the working with Hibernate Framework.

### **COURSE OUTCOMES:**

1. Familiar with Basis futures of Java .
2. Understand about the JVM.
3. Study basics of Event Handling.
4. Understanding Java Design Patters.
5. Learning about Hibernate Framework

## **WD & E- Commerce**

### **COURSE OBJECTIVES:**

1. This course is aimed at providing the student with an in-depth understanding of the still emerging field of E-Commerce.
2. The student will be able to understand the various elements that are fundamental for a successful E-Commerce enterprise and develop a business plan for developing one such E-Commerce site
3. Learn the language of the web: HTML and CSS.
4. Develop skills in analyzing the usability of a web site.
5. Learn techniques of responsive web design, including media queries

### **COURSE OUTCOMES:**

1. Gain a comprehensive understanding of the E-Commerce landscape, current and emerging business models, and the technology and infrastructure underpinnings of the business.
2. Leverage the E-Commerce platforms to enhance current business or incubate new businesses.
3. Design a basic web site using HTML and CSS to demonstrate responsive web design.
4. Implement dynamic web pages with and web sites.
5. Develop responsive web pages.

## **Advance DBMS**

### **COURSE OBJECTIVES:**

1. List and explain the fundamental concepts of a relational database system.
2. Analyze database requirements and determine the entities involved in the system and their relationship to one another.
3. Develop the logical design of the database using data modeling concepts such as entity-relationship diagrams.
4. Create a relational database using a relational database package.

#### **COURSE OUTCOMES:**

1. To describe a sound introduction to the discipline of database management systems.
2. Explain the features of database management systems and Relational database.
3. Design conceptual models of a database using ER modeling model of data and usage of Relational Algebra.
4. To introduce the concepts of basic SQL as a universal Database language.

### **PHP**

#### **COURSE OBJECTIVES:**

1. To understand the general concepts of PHP scripting language for the development of Internet websites.
2. To understand the basic functions of MySQL database program.
3. To learn the relationship between the client side and the server side scripts.
4. To know how to develop a final project using the learned techniques.

#### **COURSE OUTCOMES:**

1. Use a PHP editing program and develop functional PHP script.
2. Develop a MySQL database.
3. Understand the use of PHP with HTML.
4. Understand the ability to post and publish a PHP website.
5. Develop a final project using the learned techniques and Database connectivity using MySQL

### **Research Methodology**

#### **COURSE OBJECTIVES:**

1. Introduce students about the Research.
2. Discussions about Quantitative Methods for Problem Solving.
3. To make students to understand about Tabular and Graphical Description of Data.
4. To study about Introduction of Soft Computing.
5. To study the working with Structure and Components of Research Report.

#### **COURSE OUTCOMES:**

1. Familiar with Research.
2. Understand about the Quantitative Methods for Problem Solving.
3. Study basics of Tabular and Graphical Description of Data.



4. Understanding about Soft Computing.
5. Learning about Structure and Components of Research Report.

## **ASP.NET**

### **COURSE OBJECTIVES:**

5. Use AJAX to create partial-page updates that refresh only the parts of the Web page that have changed
6. Configure an asp.net application. Creating ASP.Net applications using standard .net controls.
7. Connecting to data sources and managing them.
8. Maintain session and controls related information for user used in multi-user web applications

### **COURSE OUTCOMES:**

5. Successful students will able to design web applications using ASP.NET
6. Successful students will be able to use ASP.NET controls in web applications.
7. Successful students will be able to debug and deploy ASP.NET web applications
8. Successful students will be able to create database driven ASP.NET web applications and web services

## **Software Engineering**

### **COURSE OBJECTIVES:**

4. Be successful professionals in the field with solid fundamental knowledge of software engineering
5. Utilize and exhibit strong communication and interpersonal skills, as well as professional and ethical principles when functioning as members and leaders of multi-disciplinary teams
6. Apply their foundations in software engineering to adapt to readily changing environments using the appropriate theory, principles and processes

### **COURSE OUTCOMES:**

4. Learn how to apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment
5. An ability to work in one or more significant application domains. Work as an individual and as part of a multidisciplinary team to develop and deliver quality software
6. Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for the software lifecycle

## **Advanced Java Programming**

### **COURSE OBJECTIVES:**

6. Introduce students about the Basis futures of Java.
7. Discussions about Java Virtual Machine.
8. To make students to understand Event Handling.
9. To study the Java Design Patters.
10. To study the working with Hibernate Framework.

### **COURSE OUTCOMES:**

6. Familiar with Basis futures of Java .
7. Understand about the JVM.
8. Study basics of Event Handling.
9. Understanding Java Design Patters.
10. Learning about Hibernate Framework

  
**Dr. Pravin Joshi**  
Director  
Prerna College of Commerce  
Nagpur-24