FIRST YEAR B.C.A

Subject: Accountancy – I

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain basic concepts and principles of accounting and the accounting cycle.
CO2	Record business transactions and prepare journal, ledger, and trial balance.
CO3	Prepare final accounts including trading, profit & loss account, and balance sheet.
CO4	Apply accounting concepts for error rectification, depreciation, and adjustments.
CO5	Analyze financial statements for understanding business performance and decision-making.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	1	2	1	1	2	1	1	0	0	**1.5**
CO2	3	3	2	2	2	1	1	2	1	1	0	0	**1.6**
CO3	3	3	3	2	2	1	1	3	1	1	0	0	**1.8**
CO4	3	3	3	2	2	1	1	3	1	1	0	0	**1.8**
CO5	3	3	3	3	2	2	1	3	2	1	1	1	**2.1**

FIRST YEAR B.C.A

Subject: Industrial Economics

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain the basic concepts, scope, and importance of industrial economics.
CO2	Analyze factors influencing industrial location, growth, and structure.
CO3	Evaluate market structures and pricing mechanisms in different industries.
CO4	Assess the role of government policies, industrial finance, and labor in industrial development.
CO5	Apply economic principles for understanding industrial problems and decision-making.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	1	1	2	1	1	2	1	1	0	0	**1.3**
CO2	3	3	2	2	2	2	1	3	1	1	0	0	**1.7**
CO3	3	3	3	2	2	2	2	3	1	1	1	0	**1.9**
CO4	3	3	3	3	3	2	2	3	2	1	1	1	**2.3**
CO5	3	3	3	3	3	2	2	3	2	2	1	1	**2.4**

FIRST YEAR B.C.A

Subject: Business Statistics

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain the fundamental concepts, scope, and significance of business statistics.
CO2	Organize, summarize, and present data using appropriate statistical tools.
CO3	Apply measures of central tendency, dispersion, and correlation to business data.
CO4	Perform statistical analysis using probability, regression, and time-series techniques.
CO5	Interpret statistical results to support business decision-making and problem-solving.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	1	2	1	1	2	1	1	0	0	**1.4**
CO2	3	3	2	2	2	1	1	3	1	1	0	0	**1.6**
CO3	3	3	3	2	2	2	1	3	1	1	0	0	**1.8**
CO4	3	3	3	3	2	2	2	3	1	1	1	0	**2.0**
CO5	3	3	3	3	3	2	2	3	2	2	1	1	**2.4**

FIRST YEAR B.C.A

Subject: Office Automation Tools

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Describe the basic components and functions of office automation systems.
CO2	Demonstrate proficiency in using word processing tools for document creation and formatting.
CO3	Use spreadsheet software for data entry, analysis, and graphical representation.
CO4	Prepare effective presentations using suitable presentation tools.
CO5	Integrate various office tools for professional documentation and business communication.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	1	2	1	2	1	2	1	1	0	0	**1.4**
CO2	3	3	2	3	2	3	2	3	2	1	0	0	**2.0**
CO3	3	3	3	3	2	3	2	3	2	1	0	0	**2.1**
CO4	3	3	3	3	2	3	2	3	2	2	1	0	**2.3**
CO5	3	3	3	3	3	3	2	3	2	2	1	1	**2.5**

FIRST YEAR B.C.A

Subject: Communication Skills

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain the process, types, and importance of effective communication in business and professional contexts.
CO2	Develop listening, speaking, reading, and writing (LSRW) skills for effective interpersonal communication.
CO3	Prepare professional documents such as emails, reports, and business letters with clarity and accuracy.
CO4	Demonstrate verbal and non-verbal communication skills in individual and group settings.
CO5	Apply communication techniques for presentations, interviews, and professional interactions.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	2	2	1	1	2	3	2	2	2	1	0	0	**1.5**
CO2	2	2	1	1	2	3	3	2	2	1	0	0	**1.6**
CO3	2	2	2	2	2	3	3	2	3	2	0	0	**1.9**
CO4	2	3	2	2	2	3	3	2	3	2	1	0	**2.1**
CO5	2	3	2	2	3	3	3	3	3	2	1	1	**2.3**

FIRST YEAR B.C.A

Subject: Operating System

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain the basic structure, functions, and components of an operating system.
CO2	Describe process management concepts including scheduling, synchronization, and deadlocks.
CO3	Analyze memory management techniques and their implementation.
CO4	Demonstrate file system organization, storage management, and device management.
CO5	Apply operating system concepts to design and evaluate performance of system-level operations.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	2	2	1	1	2	1	1	0	0	**1.5**
CO2	3	3	3	2	2	1	1	3	1	1	0	0	**1.7**
CO3	3	3	3	3	2	2	1	3	1	1	0	0	**1.9**
CO4	3	3	3	3	2	2	2	3	1	1	1	0	**2.0**
CO5	3	3	3	3	3	2	2	3	2	1	1	1	**2.3**

FIRST YEAR B.C.A SECOND SEMESTER

Subject: Accountancy – II

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain the accounting treatment for partnership firms, including admission, retirement, and dissolution.
CO2	Prepare and analyze financial statements of companies according to accounting standards.
CO3	Apply methods for accounting of depreciation, reserves, and provisions.
CO4	Interpret and prepare statements of cash flow and fund flow for business decision-making.
CO5	Evaluate accounting information for managerial decision-making and financial planning.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	1	2	1	1	2	1	1	0	0	**1.4**
CO2	3	3	3	2	2	1	1	3	1	1	0	0	**1.7**
CO3	3	3	3	2	2	2	1	3	1	1	0	0	**1.8**
CO4	3	3	3	3	2	2	2	3	2	1	1	0	**2.1**
CO5	3	3	3	3	3	2	2	3	2	2	1	1	**2.3**

FIRST YEAR B.C.A SECOND SEMESTER

Subject: Industrial Organisation

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain the concept, structure, and types of industrial organizations.
CO2	Describe the factors influencing industrial growth, location, and management.
CO3	Analyze the roles of ownership, control, and corporate governance in industrial performance.
CO4	Evaluate the impact of government policies, labor relations, and industrial finance on organizational growth.
CO5	Apply industrial management principles for effective decision-making and organizational success.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	1	1	2	1	1	2	1	1	0	0	**1.3**
CO2	3	3	2	2	2	2	1	3	1	1	0	0	**1.7**
CO3	3	3	3	2	2	2	2	3	1	1	1	0	**1.9**
CO4	3	3	3	3	3	2	2	3	2	1	1	1	**2.3**
CO5	3	3	3	3	3	2	2	3	2	2	1	1	**2.4**

FIRST YEAR B.C.A SECOND SEMESTER

Subject: Mathematics

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain fundamental mathematical concepts, principles, and their relevance in computing.
CO2	Apply concepts of algebra, matrices, and determinants in solving computational problems.
CO3	Utilize concepts of calculus and coordinate geometry for analytical problem-solving.
CO4	Apply principles of probability, permutation, and combination in logical reasoning and decision-making.
CO5	Develop mathematical models and apply quantitative techniques to real-world business and computer problems.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	3	2	2	2	1	1	2	1	1	0	0	**1.5**
CO2	3	3	3	2	2	1	1	3	1	1	0	0	**1.7**
CO3	3	3	3	3	2	2	1	3	1	1	0	0	**1.9**
CO4	3	3	3	3	2	2	2	3	2	1	1	0	**2.1**
CO5	3	3	3	3	3	2	2	3	2	2	1	1	**2.3**

FIRST YEAR B.C.A SECOND SEMESTER

Subject: Programming in C

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain basic concepts of computer programming, structure of C program, and data types.
CO2	Apply decision-making and looping structures to solve computational problems.
CO3	Implement modular programming using functions and arrays.
CO4	Develop programs using pointers, structures, and file handling concepts.
CO5	Design, test, and debug C programs for real-life applications using standard coding practices.

CO–PO Mapping Matrix

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	2	1	1	0	0	1	0	0	0
CO2	2	3	3	2	1	1	0	0	1	0	0	0
CO3	2	3	3	2	1	1	1	0	1	0	0	0
CO4	2	3	3	3	1	1	1	0	1	0	0	1
CO5	3	3	3	3	2	2	1	1	2	0	1	1

FIRST YEAR B.C.A SECOND SEMESTER

Subject: Principles of Management

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain the fundamental principles, functions, and importance of management in organizations.
CO2	Describe the roles and responsibilities of managers in planning, organizing, leading, and controlling.
CO3	Apply management theories and concepts to real-world organizational problems.
CO4	Analyze decision-making and leadership styles for effective team and organizational performance.
CO5	Evaluate modern trends in management, including motivation, communication, and strategic planning.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	2	2	2	1	2	3	3	2	2	2	1	0	**1.8**
CO2	2	2	3	1	3	3	3	2	3	2	1	0	**2.1**
CO3	3	3	3	2	3	3	3	3	3	3	1	1	**2.6**
CO4	3	3	3	2	3	3	3	3	3	3	2	1	**2.7**
CO5	3	3	3	3	3	3	3	3	3	3	2	2	**2.9**

FIRST YEAR B.C.A SECOND SEMESTER

Subject: Operating System – II

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain the advanced concepts of operating systems including process synchronization, deadlocks, and memory management.
CO2	Demonstrate the working of various process scheduling and disk management algorithms.
CO3	Apply system calls and inter-process communication mechanisms in real-time problem-solving.
CO4	Analyze file system structures and security mechanisms in multi-user operating environments.
CO5	Design and implement small-scale simulations to understand kernel operations and performance evaluation.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	3	3	3	2	1	1	2	1	1	0	0	**1.7**
CO2	3	3	3	3	2	1	1	2	1	1	0	0	**1.7**
CO3	3	3	3	3	3	2	1	3	1	1	1	0	**2.0**
CO4	3	3	3	3	3	2	1	3	2	1	1	1	**2.2**
CO5	3	3	3	3	3	2	2	3	2	2	1	1	**2.3**

SECOND YEAR B.C.A THIRD SEMESTER

Subject: E-Business Essentials

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain the concepts, framework, and evolution of e-business and e-commerce.
CO2	Describe various models of e-business including B2B, B2C, C2C, and their applications.
CO3	Analyze security, legal, and ethical issues in e-business environments.
CO4	Apply e-payment systems, digital marketing strategies, and online transaction processes.
CO5	Evaluate the role of emerging technologies in shaping modern e-business platforms.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	2	2	2	2	2	1	1	0	0	**1.6**
CO2	3	3	2	2	2	2	2	3	1	1	0	0	**1.7**
CO3	3	3	3	2	3	2	2	3	2	2	1	1	**2.2**
CO4	3	3	3	3	3	2	3	3	2	2	1	1	**2.4**
CO5	3	3	3	3	3	3	3	3	2	2	1	1	**2.5**

SECOND YEAR B.C.A THIRD SEMESTER

Subject: Business Law

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain the fundamental concepts and importance of business law in commercial activities.
CO2	Describe the essential elements of contracts, agreements, and their enforceability under the Indian Contract Act.
CO3	Interpret laws related to partnership, company formation, and consumer protection.
CO4	Apply legal principles in solving business-related case studies and compliance issues.
CO5	Analyze the impact of cyber laws, intellectual property rights, and e-contracts in digital business environments.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	2	2	2	1	3	2	2	2	1	2	1	0	**1.6**
CO2	2	2	2	1	3	2	2	2	1	2	1	0	**1.6**
CO3	3	3	2	2	3	2	3	3	2	2	1	1	**2.2**
CO4	3	3	3	2	3	3	3	3	2	2	1	1	**2.3**
CO5	3	3	3	3	3	3	3	3	2	2	1	1	**2.4**

SECOND YEAR B.C.A THIRD SEMESTER

Subject: Principles of Management

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain the basic principles, functions, and importance of management in modern organizations.
CO2	Describe the various roles, skills, and responsibilities of managers at different levels.
CO3	Apply management concepts and theories in solving organizational and administrative problems.
CO4	Analyze leadership, motivation, and decision-making techniques for effective management.
CO5	Evaluate contemporary issues and trends influencing managerial practices and organizational success.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	2	2	2	1	2	3	3	2	2	2	1	0	**1.8**
CO2	2	2	3	1	3	3	3	2	3	2	1	0	**2.1**
CO3	3	3	3	2	3	3	3	3	3	3	1	1	**2.6**
CO4	3	3	3	2	3	3	3	3	3	3	2	1	**2.7**
CO5	3	3	3	3	3	3	3	3	3	3	2	2	**2.9**

SECOND YEAR B.C.A THIRD SEMESTER

Subject: OOPs using C++

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand and explain core OOP concepts: classes, objects, encapsulation, and abstraction.
CO2	Apply class design, constructors/destructors, and encapsulation to implement modular code.
CO3	Employ i nheritance and polymorphism to design extensible object-oriented solutions.
CO4	Use advanced C++ features (pointers, dynamic memory, templates, file I/O) to implement efficient programs.
CO5	Design, test and debug C++ programs (OOP paradigm) for real-world problems using best practices.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	2	1	1	0	0	1	0	0	0	**1.00**
CO2	3	3	3	2	1	1	1	0	1	0	0	0	**1.25**
CO3	3	3	3	3	1	1	1	0	1	0	1	0	**1.42**
CO4	3	3	3	3	1	1	1	1	1	0	1	0	**1.50**
CO5	3	3	3	3	2	2	2	1	2	0	1	1	**1.92**

SECOND YEAR B.C.A THIRD SEMESTER

Subject: Data Structure and Algorithm

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain fundamental data structures, their operations, and the importance of algorithmic efficiency.
CO2	Implement arrays, stacks, queues, and linked lists in C/C++ to solve computational problems.
CO3	Apply searching and sorting algorithms to enhance program performance and data management.
CO4	Design tree and graph-based algorithms for hierarchical and networked data representation.
CO5	Analyze algorithm complexity and optimize solutions using time and space efficiency concepts.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	3	2	2	1	1	1	1	1	0	0	0	**1.25**
CO2	3	3	3	3	1	1	1	2	1	0	0	0	**1.50**
CO3	3	3	3	3	2	1	1	2	1	0	1	0	**1.67**
CO4	3	3	3	3	2	1	1	2	2	0	1	0	**1.75**
CO5	3	3	3	3	2	2	1	3	2	1	1	1	**2.08**

SECOND YEAR B.C.A THIRD SEMESTER

Subject: Database Management System (DBMS)

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand basic concepts of databases, data models, and database architectures.
CO2	Apply Entity-Relationship (ER) modeling for database design and normalization techniques to ensure data integrity.
CO3	Use Structured Query Language (SQL) for data definition, manipulation, and control operations.
CO4	Implement relational database concepts using SQL and design simple database applications.
CO5	Analyze issues related to transaction management, concurrency control, and database recovery techniques.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	3	2	2	1	1	0	1	0	0	0	0	**1.08**
CO2	3	3	3	3	1	1	1	2	0	0	0	0	**1.42**
CO3	3	3	3	3	2	1	1	2	1	0	0	0	**1.58**
CO4	3	3	3	3	2	1	1	2	1	1	0	0	**1.67**
CO5	3	3	3	3	2	2	1	3	2	1	1	1	**2.08**

SECOND YEAR B.C.A FOURTH SEMESTER

Subject: Cost Accountancy

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the basic concepts, objectives, and scope of cost accounting and its importance in managerial decision-making.
CO2	Classify and analyze various elements of cost such as material, labor, and overheads.
CO3	Prepare cost sheets and statements for determining the cost of products and services.
CO4	Apply cost accounting methods such as job costing, process costing, and contract costing in business scenarios.
CO5	Evaluate the role of cost control, cost reduction, and budgetary control in improving business efficiency.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	1	2	1	1	1	1	0	0	0	**1.17**
CO2	3	3	3	2	2	1	1	1	1	0	0	0	**1.42**
CO3	3	3	3	2	2	1	1	2	1	1	0	0	**1.58**
CO4	3	3	3	3	2	1	1	2	1	1	1	0	**1.75**
CO5	3	3	3	3	2	2	2	2	2	1	1	1	**2.08**

SECOND YEAR B.C.A FOURTH SEMESTER

Subject: Business Law – II

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain the key provisions of major business laws such as the Companies Act, Partnership Act, and Negotiable Instruments Act.
CO2	Interpret the legal framework governing business organizations and contracts.
CO3	Apply legal principles to solve business-related case studies and disputes.
CO4	Analyze the implications of corporate governance, ethics, and compliance in business practices.
CO5	Develop awareness of emerging legal issues in e-commerce, intellectual property rights, and cyber laws.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	1	2	1	1	1	1	0	0	0	**1.17**
CO2	3	3	2	2	2	1	1	1	1	0	0	0	**1.33**
CO3	3	3	3	2	2	1	1	2	1	1	0	0	**1.58**
CO4	3	3	3	3	2	2	1	2	1	1	1	0	**1.75**
CO5	3	3	3	3	3	2	2	2	2	1	1	1	**2.17**

SECOND YEAR B.C.A FOURTH SEMESTER

Subject: Entrepreneurship

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the concept, importance, and characteristics of entrepreneurship and entrepreneurs.
CO2	Identify and analyze opportunities for new ventures and develop entrepreneurial skills.
CO3	Prepare business plans incorporating marketing, finance, and management strategies.
CO4	Evaluate the role of innovation, creativity, and leadership in entrepreneurship development.
CO5	Examine government policies, institutional support, and emerging trends in entrepreneurship and startups.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	1	2	1	1	1	2	1	0	0	**1.33**
CO2	3	3	3	2	2	1	1	2	2	1	1	0	**1.75**
CO3	3	3	3	3	3	2	1	2	2	1	1	1	**2.08**
CO4	3	3	3	3	3	2	2	2	2	1	1	1	**2.17**
CO5	3	3	3	3	3	3	2	3	3	2	1	1	**2.42**

SECOND YEAR B.C.A FOURTH SEMESTER

Subject: *Java Programming*

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the fundamental concepts of object-oriented programming (OOP) and Java syntax.
CO2	Apply OOP principles such as inheritance, polymorphism, abstraction, and encapsulation to solve programming problems.
CO3	Develop Java programs using packages, interfaces, exception handling, and multithreading.
CO4	Design GUI-based applications using Java AWT and Swing components.
CO5	Implement file handling, JDBC connectivity, and basic networking concepts in Java applications.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	3	2	2	1	1	1	1	1	0	0	0	**1.25**
CO2	3	3	3	3	1	1	1	2	1	0	0	0	**1.58**
CO3	3	3	3	3	2	1	1	2	1	1	1	0	**1.75**
CO4	3	3	3	3	2	2	1	3	2	1	1	1	**2.08**
CO5	3	3	3	3	3	2	2	3	2	1	1	1	**2.33**

SECOND YEAR B.C.A FOURTH SEMESTER

Subject: Management Information System (MIS) and Decision Support System (DSS)

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the concepts, role, and importance of Management Information Systems in organizational decision-making.
CO2	Analyze various components, architecture, and types of information systems used in management functions.
CO3	Apply Decision Support System (DSS) tools and techniques for solving structured and unstructured business problems.
CO4	Evaluate the use of emerging technologies such as AI, data analytics, and cloud computing in MIS and DSS.
CO5	Design simple information systems and DSS models for effective business operations and decision-making.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	2	1	1	1	1	1	0	0	0	**1.17**
CO2	3	3	3	2	2	1	1	2	1	0	0	0	**1.50**
CO3	3	3	3	3	2	2	1	2	2	1	1	0	**1.83**
CO4	3	3	3	3	3	2	2	3	2	1	1	1	**2.25**
CO5	3	3	3	3	3	2	2	3	3	1	1	1	**2.33**

SECOND YEAR B.C.A FOURTH SEMESTER

Subject: Networking and Web Designing

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the fundamentals of computer networks, network models, and communication protocols.
CO2	Explain the working of different network topologies, devices, and transmission media.
CO3	Apply basic concepts of client-server architecture and internet technologies in web design.
CO4	Design and develop static and dynamic web pages using HTML, CSS, and JavaScript.
CO5	Integrate web applications with databases and apply networking principles for hosting and deployment.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	3	2	2	1	1	1	1	1	0	0	0	**1.25**
CO2	3	3	3	2	2	1	1	2	1	0	0	0	**1.50**
CO3	3	3	3	3	2	1	1	2	1	1	0	0	**1.67**
CO4	3	3	3	3	2	2	1	3	2	1	1	1	**2.08**
CO5	3	3	3	3	3	2	2	3	2	1	1	1	**2.25**

THIRD YEAR FIFTH SEMESTER

Subject: Management Accounting

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the basic concepts and objectives of management accounting.
CO2	Analyze financial statements using various tools for managerial decision-making.
CO3	Apply cost control and budgetary control techniques for business management.
CO4	Evaluate performance using ratio analysis, variance analysis, and cash flow statements.
CO5	Develop strategic insights for effective decision-making through accounting information.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	1	1	1	1	0	0	0	0	0	**0.92**
CO2	3	3	3	2	2	1	1	1	1	0	0	0	**1.42**
CO3	3	3	3	3	2	2	1	1	1	0	0	0	**1.58**
CO4	3	3	3	3	2	2	2	1	1	0	0	0	**1.67**
CO5	3	3	3	3	3	2	2	2	1	1	1	0	**2.00**

THIRD YEAR FIFTH SEMESTER

Subject: Organizational Behaviour

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Explain the fundamental concepts, theories, and importance of organizational behaviour.
CO2	Analyze individual behaviour and motivation in an organizational setting.
CO3	Examine group dynamics, leadership styles, and team-building processes.
CO4	Assess organizational culture, structure, and change management strategies.
CO5	Apply behavioural concepts for improving communication, productivity, and workplace relationships.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	1	2	1	1	0	0	0	0	0	**1.00**
CO2	3	3	2	2	2	2	1	1	1	0	0	0	**1.42**
CO3	3	3	3	2	2	3	3	2	1	0	0	0	**1.75**
CO4	3	3	3	2	3	3	3	2	2	1	0	0	**2.00**
CO5	3	3	3	3	3	3	3	2	2	1	1	0	**2.25**

THIRD YEAR FIFTH SEMESTER

Subject: Business Elective – I

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the fundamental concepts and applications of selected business elective area (e.g., Marketing, Finance, HR, or International Business).
CO2	Analyze the business environment and identify strategic opportunities in the chosen domain.
CO3	Apply theoretical business concepts to real-life case studies and problem-solving scenarios.
CO4	Demonstrate decision-making skills through data interpretation and managerial analysis.
CO5	Develop communication, teamwork, and ethical practices relevant to professional business settings.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	1	2	1	1	0	0	0	0	0	**1.00**
CO2	3	3	3	2	2	2	1	1	1	0	0	0	**1.50**
CO3	3	3	3	3	2	2	2	2	1	0	0	0	**1.83**
CO4	3	3	3	3	3	2	2	2	2	1	0	0	**2.08**
CO5	3	3	3	3	3	3	3	3	2	1	1	0	**2.42**

THIRD YEAR FIFTH SEMESTER

Subject: RDBMS

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the fundamental concepts of database systems and data models.
CO2	Design and implement relational database schemas using normalization principles.
CO3	Develop and execute SQL queries for data manipulation and retrieval.
CO4	Apply relational algebra and transaction management concepts for efficient database design.
CO5	Demonstrate proficiency in database connectivity and basic PL/SQL programming for application development.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	2	1	1	0	0	0	0	0	0	**0.92**
CO2	3	3	3	3	1	1	0	0	0	0	0	0	**1.25**
CO3	3	3	3	3	2	1	1	1	0	0	0	0	**1.50**
CO4	3	3	3	3	2	2	1	1	1	0	0	0	**1.58**
CO5	3	3	3	3	2	2	1	1	1	1	0	1	**1.75**

THIRD YEAR FIFTH SEMESTER

Subject: Visual Basic (VB)

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the basic concepts, features, and environment of Visual Basic programming.
CO2	Design user interfaces using forms, controls, and menus for Windows-based applications.
CO3	Apply programming logic and event-driven concepts to develop VB applications.
CO4	Connect databases and handle data using ADO or other VB data access methods.
CO5	Develop, test, and debug real-time business and management applications using Visual Basic.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	3	1	1	0	0	0	0	0	0	**1.00**
CO2	3	3	3	3	1	1	1	1	0	0	0	0	**1.33**
CO3	3	3	3	3	2	2	1	1	1	0	0	0	**1.58**
CO4	3	3	3	3	2	2	2	1	1	0	0	1	**1.75**
CO5	3	3	3	3	2	3	2	2	1	1	1	1	**2.08**

THIRD YEAR FIFTH SEMESTER

Subject: IT Elective I

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the core concepts and recent trends in the selected IT elective area (e.g., Cloud Computing, Cyber Security, Data Analytics, AI, or IoT).
CO2	Analyze technical challenges and identify appropriate IT-based solutions for real-world problems.
CO3	Apply theoretical and practical knowledge to design, develop, or simulate IT systems.
CO4	Use modern tools and technologies to evaluate system performance and efficiency.
CO5	Demonstrate teamwork, communication, and ethical values in implementing IT projects and solutions.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	3	2	2	1	1	0	0	0	0	0	1	**1.08**
CO2	3	3	3	3	2	2	1	1	1	0	0	1	**1.58**
CO3	3	3	3	3	2	2	2	2	1	1	0	1	**1.83**
CO4	3	3	3	3	2	2	2	2	2	1	1	1	**2.08**
CO5	3	3	3	3	3	3	3	2	2	1	1	1	**2.25**

THIRD YEAR SIXTH SEMESTER

Subject: Business Law – III

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the advanced concepts and provisions of business and corporate law.
CO2	Analyze legal issues related to contracts, partnerships, and company management.
CO3	Evaluate the legal framework governing e-commerce, cyber laws, and intellectual property rights.
CO4	Interpret and apply business laws to real-life cases and managerial decision-making.
CO5	Demonstrate awareness of professional ethics, corporate governance, and social responsibility in business practices.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	2	2	1	2	1	0	0	0	0	0	0	**0.92**
CO2	3	3	3	2	2	2	1	1	0	0	0	0	**1.42**
CO3	3	3	3	3	3	2	1	1	1	1	0	0	**1.75**
CO4	3	3	3	3	3	3	2	2	1	1	0	0	**2.00**
CO5	3	3	3	3	3	3	3	3	2	2	1	1	**2.42**

THIRD YEAR SIXTH SEMESTER

Subject: Business Elective II

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand specialized business areas such as marketing, finance, or human resource management.
CO2	Analyze business problems and apply elective-specific tools and techniques to solve them.
CO3	Evaluate managerial decisions considering financial, ethical, and legal implications.
CO4	Demonstrate entrepreneurial and innovative thinking in business decision-making.
CO5	Develop teamwork, leadership, and communication skills relevant to business operations.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	3	2	2	2	1	1	0	0	0	0	0	**1.17**
CO2	3	3	3	3	2	2	1	1	0	0	0	0	**1.58**
CO3	3	3	3	3	3	2	2	1	1	0	0	0	**1.75**
CO4	3	3	3	3	3	3	3	2	2	1	1	1	**2.25**
CO5	3	3	3	3	3	3	3	3	3	2	1	1	**2.58**

THIRD YEAR SIXTH SEMESTER

Subject: *Elements of Commerce*

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the fundamental concepts and principles of commerce and trade.
CO2	Explain the structure, objectives, and functions of business organizations.
CO3	Analyze the role of commerce in economic development and globalization.
CO4	Demonstrate understanding of marketing, banking, and insurance systems.
CO5	Develop basic managerial, communication, and entrepreneurial skills related to commerce.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	3	2	1	1	0	0	0	0	0	0	0	**0.83**
CO2	3	3	2	2	1	1	0	0	0	0	0	0	**1.00**
CO3	3	3	3	2	2	1	1	0	0	0	0	0	**1.25**
CO4	3	3	3	3	2	2	1	1	1	0	0	0	**1.58**
CO5	3	3	3	3	3	3	2	2	2	1	1	1	**2.33**

THIRD YEAR SIXTH SEMESTER

Subject: *System Programming*

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the fundamental concepts and components of system software such as assemblers, loaders, linkers, and compilers.
CO2	Explain the design and working of system programs and their interaction with hardware and operating systems.
CO3	Analyze various phases of compilation and design simple assemblers or macro processors.
CO4	Apply knowledge of system software for performance optimization and resource management.
CO5	Develop problem-solving and programming skills related to system-level programming and debugging.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	3	3	2	2	1	0	0	0	0	0	0	**1.17**
CO2	3	3	3	3	2	2	1	0	0	0	0	0	**1.42**
CO3	3	3	3	3	3	2	1	1	0	0	0	0	**1.58**
CO4	3	3	3	3	3	3	2	1	1	0	0	0	**1.75**
CO5	3	3	3	3	3	3	2	2	1	1	1	1	**2.25**

THIRD YEAR SIXTH SEMESTER

Subject: IT Elective II

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Understand the concepts, trends, and applications in the chosen IT elective area (e.g., Cloud Computing, Data Analytics, Cyber Security, IoT, etc.).
CO2	Analyze problems and select suitable IT tools, frameworks, or technologies for effective solutions.
CO3	Apply programming, database, or networking principles to implement IT-based projects.
CO4	Evaluate IT systems for performance, security, and scalability using appropriate metrics.
CO5	Demonstrate teamwork, communication, and continuous learning skills in the context of emerging IT domains.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	3	3	3	3	2	1	0	0	0	0	0	**1.50**
CO2	3	3	3	3	3	3	2	1	0	0	0	0	**1.75**
CO3	3	3	3	3	3	3	3	2	1	1	0	0	**2.08**
CO4	3	3	3	3	3	3	3	2	2	1	1	1	**2.33**
CO5	3	3	3	3	3	3	3	3	2	2	2	2	**2.50**

THIRD YEAR SIXTH SEMESTER

Subject: *Project Work / Internship*

Course Outcomes (COs)

After successful completion of this course, the student will be able to:

CO Code	Course Outcome Statement
CO1	Identify and define real-world IT or business problems through literature review and requirement analysis.
CO2	Design system architecture and select appropriate methodologies, tools, and technologies for project implementation.
CO3	Develop a functional software application or solution adhering to software development principles and documentation standards.
CO4	Evaluate and test project performance based on parameters such as usability, efficiency, and scalability.
CO5	Demonstrate teamwork, communication, professional ethics, and project management skills.

CO–PO Mapping Matrix with Mean

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Mean
CO1	3	3	3	3	3	2	2	1	1	0	0	0	**1.75**
CO2	3	3	3	3	3	3	2	2	1	1	0	0	**2.00**
CO3	3	3	3	3	3	3	3	2	2	1	1	1	**2.25**
CO4	3	3	3	3	3	3	3	3	2	2	1	1	**2.42**
CO5	3	3	3	3	3	3	3	3	3	3	2	2	**2.67**