

## **Program Outcomes for BCA**

**PO1:** Understand and apply fundamental principles of computer science, including programming, algorithms, data structures, computer networks, and databases.

**PO2:** Demonstrate proficiency in using various programming languages, tools, and technologies to develop software applications and solutions.

**PO3:** Analyze complex computing problems and develop appropriate solutions using computational and algorithmic approaches.

**PO4:** Design, implement, test, and maintain software systems and applications effectively.

**PO5:** Apply knowledge of database management systems to design and manage databases, ensuring data integrity and security.

**PO6:** Develop and deploy web-based applications using various web technologies and frameworks.

**PO7:** Apply project management principles to plan, execute, and manage projects effectively, ensuring timely delivery and quality.

**PO8:** Communicate effectively in both technical and non-technical contexts, including writing technical documentation and presenting ideas clearly.

**PO9:** Work collaboratively in teams, contributing to group projects and respecting diverse perspectives and roles.

**PO10:** Adhere to professional and ethical standards in computing, including respect for intellectual property and privacy.

**PO11:** Demonstrate the ability to adapt to rapidly changing technologies and engage in lifelong learning to stay current in the field.

**PO12:** Understand and evaluate the impact of computing solutions on individuals, organizations, and society, including ethical, legal, and environmental considerations.

These outcomes collectively aim to prepare graduates for various roles in the IT industry, equip them with a strong foundation in computing, and develop their ability to address both technical and non-technical challenges.

### **Program Specific Outcomes (PSO):**

- 1) Students will be able to understand, analyze, and develop computer programs related to algorithms, web design, and networking for efficient computer-based system design.
- 2) Apply standard software engineering practices and strategies in software project development using an open-source programming environment to deliver a quality product for business success.
- 3) Students will be able to know various issues, and the latest trends in technology development and thereby innovate new ideas and solutions to existing problems.

## **Semester - I**

### **Course Outcomes:**

#### **Introduction to Programming using C (BCAMJ101)**

- CO 1: Understanding a functional hierarchical code organization.
- CO 2: Ability to define and manage data structures based on problem subject domain.
- CO 3: Ability to work with textual information, characters, and strings.
- CO 4: Ability to work with arrays of complex objects.
- CO 5: Understanding a concept of object thinking within the framework of a functional model.
- CO 6: Understanding a concept of functional hierarchical code organization.
- CO 7: Understanding a defensive programming concept. Ability to handle possible errors during program execution.

#### **Financial Accounting (BCAMN101)**

- CO 1. Prepare consolidated financial statements using international accounting standards.
- CO 2. Manage the financial operations including revenues, expenses, assets, liabilities, and capital.
- CO 3. To understand and be able to calculate the various ratios through financial statements and its impact on the short and long-term position of the firm.
- CO 4. Determine the long-term sources of finance to fulfill the long-term finance needs of organization.
- CO 5. Demonstrate the applicability of the concept of Financial Management to understand Capitalization and Capital Structure.
- CO 6. Determine the break-even point and analyze the profit on a large volume of output by differentiating between fixed and variable costs.
- CO 7. Improve the business management by recording all the costs incurred in conducting the business.
- CO 8. Evaluate and determine the organization's motives for holding cash, Cash budget, Managing Inventory, and Receivables.
- CO 9: Apply accounting and financial information for decision-making and achievement of business goals.

## **Information and Communication Technology (MDC117)**

- CO 1. To aware them of the basics of computer and its evolution.
- CO 2. Provide knowledge of different units of computer like processing unit, IO unit, and storage unit.
- CO 3. How to operate Windows OS and its features.
- CO 4. DOS OS and its internal and external commands.
- CO 5. To understand the fundamentals of computers and their components
- CO 6. To earn knowledge of different types of memory, networks
- CO 7. To know Operating systems and different types of Operating systems

## **English/MIL Communication (AECCE101)**

- CO 1. Competent enough in drafting and editing various types of business correspondence to deal with their professional and organizational needs.
- CO 2. Express ideas more effectively and correctly both in oral and written forms of communication.

## **Office Automation Software Lab (BCASE101)**

- CO 1. Understand the usage of Computers,
- CO 2. Understand windows directory
- CO 3. Understand the components of office automation.
- CO 4. Perform operations using MS Word, Excel, and PowerPoint, Surf details through the Internet,
- CO 5. Understand and discuss the use of Office Package and the Internet in daily life

## **Semester - III**

### **Course Outcomes:**

#### **Object Oriented Programming with C ++ (BCAMJ301)**

CO 1: Identify the importance of object-oriented programming and the difference between structured-oriented and object-oriented programming features.

CO 2: Able to make use of objects and classes for developing programs.

CO 3: Able to use various object-oriented concepts to solve different problems.

#### **Digital Logic and Computer Organization (BCAMJ302)**

CO 1: An ability to understand the theory of Digital Design and Computer Organization to provide insight into how basic computer components are specified.

CO 2. An ability to understand the functions of various hardware components and their building blocks.

CO 3. An ability to understand and appreciate Boolean algebraic expressions to digital design.

CO 4. An in-depth understanding of realization of different combinational/sequential circuits.

CO 5. An in-depth understanding of different stages of an instruction execution.

CO 6: An in-depth understanding of how different hardware components are related and work in communication

CO 7: An ability to understand computer buses and input/output peripherals.

#### **Introduction to Algebra (BCAMN301)**

CO 1. Recognize technical terms and appreciate some of the uses of algebra

CO 2. Collect like terms and simplify expressions term by term

CO 3. Multiply out brackets

CO 4. Simplify some formulas

CO 5. Solve simple linear equations.

#### **Indian Astronomy (MDC303)**

CO 1. Understanding the history of Indian astronomy: Students can learn about the history and development of astronomy in India.

CO 2. Learning about Indian astronomers: Students can learn about ancient Indian astronomers and their work.

CO 3. Understanding the mathematical basis of Indian astronomy: Students can learn about the fundamental algorithms of astronomy developed by Indian astronomers and the mathematical rationale behind them.

CO 4. Learning about the applications of Indian astronomy: Students can learn about how Indian astronomy was used to prepare calendars.

### **English Communication (AECCE301)**

CO 1. Students can learn to communicate effectively in English in different social settings. They can also learn to use appropriate vocabulary, grammar, and pronunciation.

CO 2. Students can learn to be comfortable with English when reading or listening. They can also learn to use receptive skills to acquire exposure to language and literature.

CO 3. Students can learn to write and speak good English in all situations. They can also learn to develop their speech and writing styles.

CO 4. Students can learn to strengthen their professional skills. They can also learn to be professional but cordial to all.

## **Semester - V**

### **Course Outcomes:**

#### **Microprocessor and Computer Architecture (BCAMJ501)**

- CO 1. Understand the architecture of microprocessors
- CO 2. Understand the basics of assembly language programming
- CO 3. Understanding various methods of assembly language programming
- CO 4. Analyze different architectures of microprocessors

#### **Computer Networks (BCAMJ502)**

- CO 1. To learn about the basics of Computer Networks.
- CO 2. To learn various Protocols used in Communication.
- CO 3. Describe the functions of the data link layer and explain the protocols.
- CO 4. To learn Transport Layer services and its protocols
- CO 5. To have a general idea on Network Administration.

#### **Core Java (BCAMJ503)**

- CO 1. Understand the principles and practice of object-oriented analysis and design in the construction of robust, maintainable programs that satisfy their requirements;
- CO 2. Implement, compile, test, and run Java programs comprising more than one class, to address a particular software problem.
- CO 3. Understand the concept of package, interface, multithreading, and File handling in Java.

#### **Introduction to Geometry and Probability-Statistics (BCAMN501)**

- CO 1. Understanding probability theory: Students learn the language and core concepts of probability theory, including the laws of probability and Bayes theorem.
- CO 2. Understanding statistical inference: Students learn the basic principles of statistical inference, including Bayesian and frequentist methods.
- CO 3. Understanding statistical distributions: Students learn about standard univariate distributions and their properties, as well as the concept of a statistical distribution.
- CO 4. Understanding exploratory data analysis: Students learn about exploratory data analysis.