BACHELOR OF COMPUTER APPLICATION

COURSE OUTCOMES
SEMESTER I

BCA-101

Computer and programming fundamentals

CO1: To impart knowledge about the structure, components and functions of a computer system.

CO2: Understand computer hardware and software architecture.

CO3: Skills to learn computer languages and concept of problem solving.

CO4: Learning essential IT support skills including internet and intranet.

BCA-102

PC Software

CO1: Understand the concept of MS- Windows and Operating System.

CO2: Gain hands on experience of working in Microsoft products such as MS Word, MS Excel and MS PowerPoint.

CO3: Demonstrate problem-solving skills.

CO4: Apply logical skills to programming in a variety of languages.

BCA-103

Mathematics

CO1: To develop formal reasoning.

CO2: To understand and solve the mathematical problems based on sets, matrices, differentiation and integration.

CO3: To familiarize students with linear algebra, differential and integral calculus.

CO4: Develop and maintain problem-solving skills and Use mathematical ideas to model real- world problems.

BCA-104
Logical Organization of Computer-1

CO1: To understand and examine various number systems and its conversion.

CO2: Ability to interpret logic gates and its operations.

CO3: Skills to use Boolean algebra using k-map.

CO4: Understand the functions of basic digital combinational circuits.

SEMESTER II

BCA-106
'C' Programming

CO1: In-Depth understanding of various concepts of C- language.

CO2: Ability to read, understand and trace the execution of programs.

CO3: To enable the students to make flowchart and design an algorithm for a given problem.

CO4: To enable the students to develop logics and programs.

BCA-107
Logical Organization of Computer-2

CO1: To enable the students to understand, analyze and design various combinations and sequential circuits.

CO2: To understand I/O and memory organization.

CO3: Ability to understand the functionality, organization and implementation of computer system.

CO4: Ability to design instructions and I/O organization of a computer system.

BCA-108
Mathematical foundations of Computer Science

CO1: Understand some aspects of computer programming.

CO2: Understand the concepts of algorithms.

CO3: Apply knowledge of computing, mathematics, science and engineering appropriate to the modeling and design of software.

CO4: Implement the numerical methods using computer software and apply them in examples.

BCA-109
Structured System Analysis and Design

CO1: To understand the system, its uses and analysts.

CO2: To design the tools of structured analysis i.e. DFD, data dictionary, flow charts, Gantt charts etc.

CO3: To enable the students to perform testing of software and its quality assurance and maintenance.

CO4: Implementing the system, its evaluation, maintenance and its documentation.

SEMESTER III

BCA-201
Introduction to Operating System

CO1: In-Depth understanding of process management, concurrent processes and threads, memory management ,deadlock and virtual memory concept.

CO2: It gains extensive knowledge on principles and modules of operating system.

CO3: Compare performance of processor scheduling algorithm.

CO4: Performing disk scheduling and disk structure.

BCA-202
Data Structure-I

CO1: Ability to describe stack, queue and link list.

CO2: It gains a comprehensive knowledge of data structures and algorithm.

CO3: It understands the issues involved in algorithm complexity and performance.

CO4: Representing graph theory and tree structure.

BCA-203
Introduction to Database System

CO1: It understands the database concepts.

CO2: Construct and normalize conceptual data models.

CO3: Implement a relational database into database management system.

CO4: Implementing SQL queries.

BCA-204
Communication Skills

CO1: It demonstrates critical and innovative thinking.

CO2: Apply communication theories and model.

CO3: Learning the concept of interview and presentation skills.

CO4: Implementing proper use of language, basic vocabulary, and fluency.

SEMESTER IV

BCA-206
Web Designing

CO1: The objective of this course is to familiarize students with the coding process including syntax ,best practices and the ideas of the coding process including syntax, best practices and the idea of "code once, reuse many times."

CO2: It understands the various steps in designing creative and static website.

CO3: Introducing the concept of HTML.

CO4: Implementing CSS and DHTML.

BCA-207
Data Structures-II

CO1: It understands the knowledge of data structure and algorithm on which file structure and databases are based.

CO2: Ability to summarize searching and sorting techniques.

CO3: Ability to gain knowledge of tree and graph concepts.

CO4: Implementing File Organization.

BCA-208
Object Oriented Programming Using C++

CO1: Apply C++ features to program design and implementation.

CO2: Explain object oriented concepts and describe how they are supported by C++ including identifying the features of C++ programming language.

CO3: Applying Inheritance and its types.

CO4: Implementing Exception Handling and Templates.

BCA-209
Software Engineering

CO1: It understands the software development and paradigm.

CO2: It gains knowledge about the software product and process.

CO3: It gains knowledge about the software life cycle models.

CO4: Testing and Maintenance of Software System.

SEMESTER V

BCA-301
Management Information Systems (MIS)

CO1: The students acquire the knowledge about solving problem related to analysis, design and construction of MIS.

CO2: It analyzes business information to facilitate evaluation of strategic alternatives.

CO3: Planning, Controlling the system.

CO4: Demonstrating Decision Making System.

BCA-302
Computer Graphics

CO1: The students acquire the knowledge about the computer graphics and its application.

CO2: Acquiring knowledge about 2D Geometrical Transforms and 2D viewing.

CO3: Explore projections and visible surface detection techniques for display of 3D scene on 2D screen.

CO4: Extract scene with different clipping methods and its transformation to graphics display device.

BCA-303
Data Communication and Networking

CO1: To enable students to have a good knowledge of computer network its types and topologies.

CO2: To learn about the different layers and protocol, IP addressing and network security.

CO3: Define various examples of wireless communication system, standards related to 2G and 3G wireless networks.

CO4: Acquiring knowledge about network security issues.

BCA-304
Visual Basic

CO1: The student will be able to make basic and advance projects.

CO2: They can understand how a form can be connected with a backend.

CO3: Determine logical alternatives with VB.NET decision structures.

CO4: Implement lists and loops with VB.NET controls and iteration.

SEMESTER VI

BCA-306
E-Commerce

CO1: The students acquire the knowledge about scope, overview and impact of electronic commerce.

CO2: Knowledge about the security implementation and electronic payment by the e- commerce.

CO3: Describe the key features of Internet, Intranets and Extranets and explain how they relate to each other.

CO4: Assess electronic payment systems, recognize and discuss global E-commerce issues.

BCA-307
Object Technologies and Programming Using JAVA

CO1: The students will be able to understand the concepts of OOPs and Java.

CO2: They can also understand packages, Exception handling and multithreading concept in java.

CO3: Understand the fundamentals of object-oriented programming in Java, including defining classes, objects, invoking methods etc and exception handling mechanisms.

CO4: Identify classes, objects, members of a class and relationships among them needed for a specific problem.

BCA-308
Artificial Intelligence

CO1: To enable students to have a good knowledge about solving the space and search problem.

CO2: To learn about the natural language processing and expert system.

CO3: Perform different operations on Variables and store results.

CO4: Learn the concept of data-driven program execution flow control in Visual Basic programming and Understand loops to do repetition.

BCA-309
Introduction To .NET

CO1: The students will be able to understand .NET framework and its structure and use main features of integrated development environment (IDE).

CO2: Demonstrate knowledge of object-oriented concepts Design user experience and functional requirements C#.NET application.

CO3: Design and Implement Windows Applications using Windows Forms, Control Library, Advanced UI Programming & Data Binding concepts.

CO4: Understand and implement string manipulation, events and exception handling within .NET application environment.

PROGRAM OUTCOMES

PO1: **MATHEMATICAL KNOWLEDGE:** Apply the knowledge of mathematics, science and computing to the solution of complex scientific problems.

PO2: **ENVIRONMENT AND SUSTAINABILITY:** Understand the impact of the professional software engineering solution in societal and environmental contents and demonstrate the knowledge of and need for sustainable development.

PO3: **COMMUNICATION:** Being able to comprehend and effective presentation.

PO4: **EMPLOYABILITY:** Become employable in various IT companies and government jobs.

PO5: The Objective of the course is to develop skilled manpower in the various areas of software industry and Information Technology.

PO6: To develop the basic programming skills to enable students to build Utility programs.

PO7: To develop the foundation for higher studies in the field of Computer Application.

PO8: To keep the students up-to-date with all the latest and cutting edge technologies.

PROGRAM SPECIFIC OUTCOMES

PSO1: An ability to apply knowledge of mathematics, computer science and management in practice.

PSO2: An ability to design a computing system to meet desired needs within realistic constraints such as safety, security and applicability in multidisciplinary teams with positive attitude.

PSO3: The BCA course aims at inculcating essential skills as demanded by the global software industry through interactive learning process. This also includes team-building skills, audio-visual presentations and personality development programs.

PS04: An ability to enhance not only comprehensive understanding of the theory but its application too in diverse field.

PSO5: In order to enhance programming skills of the young IT professionals, the program has introduced the concept of project development in each language/technology learnt during semester.

PSO6: The program prepares the young professional for a range of computer applications, computer organization, computer networking, Software Engineering, Web Designing, Big Data, IOT, Python and Advance JAVA.