COURSE OUTCOMES OF BACHELOR OF COMPUTER APPLICATIONS(BCA)Regular-Semester I &II

Paper No.	Title of the Paper	Course Outcomes
BCA-101	Computer and Programming Fundamentals	CO1. Understanding the Fundamental concepts of computer CO2.Introduction to operating system and its types. CO3.understanding the different types of computer languages and the Programming Methodologies. CO4.Knowledge of basic network terms, computer network and Local area and wide area network
BCA-102	PC Software	CO1. Recognize when to use each of the Microsoft Office programs to create professional and academic documents. CO2. Apply skills and concepts for basic use of computer hardware, software, networks, and the Internet in the workplace and in future coursework.
BCA-103	Mathematics	CO1.To demonstrate the ability to follow, construct, and write mathematical proofs. CO2. Perform computations in higher mathematics. CO3. To utilize technology to address mathematical ideas
BCA-104	Logical organization of computer-I	CO1.Ability to describe the basics of various digital components. CO2. understand the principles of design of combinational and sequential logic circuits using basic components.
BCA-105	Practical Software Lab	CO1. To become productive by acquiring a basic understanding of Microsoft Word, Microsoft Excel, Microsoft PowerPoint. CO2.Gain the knowledge of basic input/output devices settings.

BCA-106	C-Programming	CO1. Design an algorithmic solution for a given problem. CO2. Draw flowcharts for the solution. CO3. Write a maintainable C program for a given algorithm. CO4. Write well documented and indented program according to coding standards.
BCA-107	Logical organization of computer-II	CO1.Discuss the basic concepts and structure of computers. CO2. Understand concepts of register transfer logic and arithmetic operations. CO3. Explain different types of addressing modes and memory organization. CO4. Learn the different types of serial communication techniques.
BCA-108	Mathematical Foundation of Computer Science	CO1.To develop an ability to apply mathematical foundations, algorithmic based principles, and computer science theory in the modelling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choice.
BCA-109	Structured System Analysis and Design	CO1.Introduce set of techniques and graphical tools that are used by the system analyst. CO2.Ability for teamwork for organizational process to develop system specification requirements that could then be easily understandable by the user. CO3.Knowledge of system maintenance, post maintenance after implementation of the system in the market.
BCA-110	Practical software lab based on paper BCA-106	CO1. learning the basic programming constructs, they can easily switch over to any other language. CO2.After the completion of this course, the students will be able to develop applications.

COURSE OUTCOME OF BCA-II

Sr.NO	Subject	Course Outcome
BCA-201	Introduction to Operating system	CO1. Learn the basic concepts of operating systems. and about process management CO2. Apply different optimization techniques for the improvement of system performance CO3. Learn and apply different memory management techniques CO4. Discuss various protection and security aspects. CO5. Apply different deadlock prevention techniques
BCA-202	Data Structures -I	CO1. To choose appropriate data structure as applied to specified problem definition. CO2. To access how the choice of data structure and algorithm methods impacts the performance of program. CO3. To use linear non-linear data structure like stacks, queues, linked list etc.
BCA-203	Introduction to Database System	CO1. Demonstrate the basic elements of a relational database management system. CO2. Identify data models for relevant problems. CO3. Design entity relationship and convert entity relationship diagrams into RDBMS and formulate SQL queries on the respect data. CO4. Apply normalization for the development of application software's. CO5. Design and implement a full real size database system
BCA-204	Communication Skills	CO1. To improve the vocabulary of English and competency for business English. CO2. Use of language lab / English learning tools such as mobile apps like Sling etc. are also encouraged and lot of listening practice, reading and understanding exposure should be given to the students.
BCA-205	C Language and SQL programming	CO1.Design and implement a database schema for given problem. CO2. Capable to design and build a GUI application. CO3. Apply the normalization techniques for development of application software to realistic problems. CO4. Formulate queries using SQL DML/DDL/DCL commands CO5. Identify the appropriate data structures and algorithms for solving real world problems.
BCA-206	Web Designing	CO1. Understanding web theory to basic programming techniques. CO2. Use fundamental skills to maintain web server services required to host a website. CO3. To use scripting languages and web services to

		transfer data and add interactive components to web pages. CO4. To create and manipulate web media objects using editing software.
BCA-207	Data Structures – II	CO1. Choose appropriate data structures to represent data items in real world problems. CO2. Analyze the time and space complexities of algorithms CO3. Design programs using a variety of data structures such as stacks, queues, hash tables, binary trees, search trees, heaps, graphs, and B-trees. CO4.Analyze and implement various kinds of searching and sorting techniques.
BCA-208	Object Oriented Programming using C++	CO1. Gain the basic knowledge on Object Oriented concepts. CO2. Ability to develop applications using Object Oriented Programming Concepts. CO3. To implement features of object oriented programming to solve real world problems.
BCA-209	Software Engineering	CO1.Adapt the basic software engineering methods and practices in their appropriate applications CO2. Distinguish the various software process models such as waterfall model, evolutionary models, etc. CO3. Compose the requirements document by understanding the software requirements CO4. Relate the software architectural styles to the suitable applications. CO5. Determine the need for, and an ability to engage in, life-long learning. CO6. Analyze, design and maintain software systems
BCA-210	HTML and C++ Programming	CO1. Identify the appropriate data structures and algorithms for solving real world problems. CO2. Implement various kinds of searching and sorting techniques CO3. Implement data structures such as stacks, queues, Search trees, and hash tables to solve various computing problems CO4.To develop a dynamic webpage.

BCA (Bachelors of Computer Applications)

COURSE OUTCOMES:

Semester V

BCA-301 Management information system

- To understand the categories of Information System (IS) and its various operations support systems.
- To gain knowledge about various IS like Accounting System, Inventory Control System and Office Automation System.
- To explain various phases of software development life cycle (SDLC).
- To enable the students to understand managerial issues related to the information systems.
- Ability to analyze a problem and identify and to define the computing requirements appropriate to its solution.
- Understand and evaluate a computer based information system.

BCA-302 Computer Graphics

- Understand the real graphics programming.
- Understand the mathematics basics, mainly linear algebra and implemented by OpenGL and programming language like C.
- Recognize a number of problems and topics drawn from computer graphics, and explores them through the lens of dynamic geometry software.
- Draw upon various motivational theories to design a motivational program.
- Understand the 2D and 3D computer graphics.
- Understand number of problems and topics drawn from computer graphics.

BCA-303 Data Communication and Networking

- Learn the need to create a Network.
- Learn about different layers and protocols present in those layers.
- Learn to configure the network devices.
- Learn about IP -Addressing.
- Learn about Network Security.

BCA-304 Visual Basic & BCA-305 Practical software Lab based on paper BCA304.

- Understand basics of visual programming and describe internals, major features and enhancements in Visual Basic
- Describe the basic structure of a Visual Basic project and use main features of IDE.
- Creating programs by manual coding in Visual Basic.
- Learn of code using various control structures and loops.
- Understanding the concept of arrays and methods.
- Creating various applications using IDE tools.
- Create applications with logic and restrictions by coding.
- Studying connectivity with databases.

Semester VI

BCA-306 E-Commerce

- Understand basics of E Commerce an its hardware and software requirements.
- Understand planning and management of resources required for an e-commerce company.
- Understand how to control and manage the organizations at different locations.
- Understand how Internet works to enable the services provided by e commerce.
- Understand how to control different functions and enhance e commerce company efficiency.

BCA-307 Object Technologies & Programming using Java & BCA-310 Practical software Lab based on paper BCA-307

- Understand the concept of OOP as well as the purpose and usage principles of inheritance, polymorphism, encapsulation and method overloading.
- Identify classes, objects, members of a class and the relationships among them needed for a specific problem.
- Create Java application programs using sound OOP practices (e.g., interfaces and APIs) and proper program structuring (e.g., by using access control identifies, automatic documentation through comments, error exception handling).
- Use testing and debugging tools to automatically discover errors of Java programs as well as use versioning tools for collaborative programming/editing.
- Develop programs using the Java Collection API as well as the Java standard class library.

BCA-308 Artificial Intelligence

- Understand basic concepts of artificial intelligence.
- Understand various ways to define an artificial problem and how to think and act over that problem (Humanly or Rationally).
- Learning various methods of problem solving using different approaches.
- Solving problems using various algorithms using blind and heuristic techniques.
- Understand planning of an AI Problem and executing the plan to find optimum solution.
- Understanding basic concepts of Natural language processing and its application in various fields.
- Understand the concept of learning and various types and where these learning methods are applied in real life.

BCA-309 Introduction to .net & BCA-310 Practical software Lab based on paper BCA-309

- Understand .NET Framework and describe some of the major enhancements to the new version of C#.
- Studying the IDE and latest versions of Visual Studio.NET.
- Learn to create applications using Microsoft C#.
- Learn of code using various control structures and loops.
- Understanding the concept of arrays and methods.
- Learn to create applications with the use of ADO. NET.
- Learn to create database applications using C#.
- Learn how to work with XML Documents.