

BCA

Programme Outcomes

The program focuses on the skill enhancement of students in which following skills are enhanced.

- Improve their computer literacy, their basic understanding of operative systems and a working. Knowledge of software commonly used in academic and professional environments.
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- Learn how to organize information efficiently in the forms of outlines, charts, etc. by using appropriate software. Develop the skills to present ideas effectively and efficiently.
- Do Academic and Professional Presentations - Designing and delivering an effective presentation and developing the various IT skills to the electronic databases.
- Develop IT-oriented security issues and protocols. Design and implement a web page.
- Improve communication and business management skills, especially in providing technical support. Serve as the System Administrators with thorough knowledge of DBMS.
- Understand, analyse and develop computer programmes in the areas related to algorithms, web design, mobile application design.
- Apply standard software engineering process and strategies in software project development using open source programming environment to deliver a quality product for business success.
- To demonstrate advanced skills in effective analysis design and realization of business system utilizing contemporary information technology.

This program fit the students for following job role

- Software Developer
- Network Engineer
- Web Developer
- Programmer
- Software Tester
- System Analyst

COURSE OUTCOMES

COURSE NAME: Fundamentals of Information Technology

CLASS - BCA SEMESTER – I

Course Outcomes

After studying this course, students should be able to:

- understand the fundamental hardware components that make up a computer's hardware and the role of each of these components
- understand the difference between an operating system and an application program, and what each is used for in a computer
- describe some examples of computers and state the effect that the use of computer technology has had on some common products
- Use systems development, word-processing, spreadsheet, and presentation software to solve basic information systems problems.

COURSE NAME: Programming Fundamentals using C

CLASS – BCA SEMESTER – I

Course Outcomes

After successful completion of the course students will be able to

- **Knowledge and Understanding:** On successful completion of this subject the students have the programming ability in C Language.
- **Intellectual Cognitive/ Analytical Skills:** Enhancing Logical Thinking and Reasoning Skills through Collaborative Learning in C Programming.
- **Practical Skills:** Students would be capable of developing various applications to solve deluge of real-world problems. They can also learn to make system software as well as application software. These existing languages could become base for developing new languages which can inherent its features. On the backend of various embedded systems, these languages are deployed.
- **Transferable Skills:** In many multinational companies they can work effectively in a group or team to achieve goals and can show initiative and leadership abilities.

Semester-2

COURSE NAME: Digital Electronics

CLASS – BCA SEMESTER – 2

Course Outcomes

After successful completion of the course students will be able to

- Convert numbers from one number system to another.
- Represent information using Binary Codes.
- Draw Logic circuit Diagrams and write Truth Tables for the functions.
- Solve and minimize expressions of Boolean Algebra.
- Draw Combinational Circuits and Sequential Circuits.
- Perform address selection in semiconductor memory chips.

COURSE NAME: Data Structures

CLASS - BCA SEMESTER – 2

Course Outcomes

After successful completion of the course students will be able to

- **Knowledge and Understanding:**
 - Define basic, static and dynamic data structures and relevant standard algorithms for them: stack, queue, dynamically linked lists, trees, graphs, heap, priority queue, hash tables, sorting algorithms.
 - Demonstrate advantages and disadvantages of specific algorithms and data structures
 - Select basic data structures and algorithms for autonomous realization of simple programs or program parts
 - Determine and demonstrate bugs in program, recognize needed basic operations with data structures
 - Formulate new solutions for programming problems or improve existing code using learned algorithms and data structures,
 - Evaluate algorithms and data structures in terms of time and memory complexity of basic operations.
- **Intellectual Skills:**
 - Ability to define the computer science problems.
 - Ability to drive different solution alternatives for the computer science problems.
 - Ability to analyze the solution alternatives and choose the optimum one
- **Practical Skills:**
 - Design, build and develop programs of varying levels of complexity.
- **Transferable Skills:** Knowledge of the concepts and material presented in this course will provide the students with the capability to:
 - Use data structures effectively to solve practical problems.
 - Write and present effective computer programs that employ efficient algorithms.
 - Work in stressful environment and within constraints.
 - Search for information and adopt life-long self-learning

Semester-3

COURSE NAME: Fundamentals of Database Management System

CLASS - BCA SEMESTER – 3

Course Outcomes

After studying this course, students should be able to:

- **Knowledge & Understanding :** Databases and their design & development
- **Intellectual Cognitive/ analytical skills:** Normalization of Databases.
- **Practical Skills :**Using SQL and PL/SQL
- **Transferable skills:** Usage of DBMS design and administration.

COURSE NAME: Computer System Organization and Architecture

CLASS - BCA SEMESTER – 3

Course Outcomes

After studying this course, students should be able to:

- **Knowledge and Understanding:**
 - Students will know what are registers, various types of registers and interfacing various registers.
 - Students will learn about the architecture of common bus system.
 - Students will learn about the different micro-operations used.
 - Students will learn about Design of basic computer.
 - Students will learn about Instruction Cycle, Interrupt Cycle.
 - Students will understand about various kinds of memories used, memory hierarchy.
 - Students will learn about I/O interface, DMA controller, modes of data transfer.
 - Students will learn about difference between pipeline and vector processing.

COURSE NAME: Object Oriented Programming using C++

CLASS - BCA SEMESTER – 3

Course Outcomes

After studying this course, students should be able to:

- **Knowledge and Understanding:**
 - Able to know how to do programming in C++ environment.
 - Able to understand and implement the concepts of object oriented approach using C++.
 - Able to acquire in depth knowledge and develop software in C++
- **Intellectual(Cognitive/ Analytical) Skills:**
 - identify different class attributes, member functions, base class and derived class and their relationships among them
 - learn how to reuse the code using polymorphism
 - understand and use of different exception handling mechanisms and concept of multithreading for robust faster and efficient application development.
- **Practical Skills:**
 - to solve a real life existing problems using the features of C++
 - to develop software/ big and complex programs for a complex problems
 - implement advance features of object oriented approach in other various language(s).

Semester 4

COURSE NAME: Computer Networks

CLASS - BCA SEMESTER – 4

Course Outcomes

After studying this course:

- Students will know what is network and its types.
- Students will learn about the different topologies used in network.
- Students will understand different protocols used in internet.
- Students will understand and be able to describe the differences between intranet, extranet and internet.
- Students will understand about various multiplexing and switching techniques used in networks.

COURSE NAME: Management Information System

CLASS - BCA SEMESTER – 4

Course Outcomes

After studying this course, students should be able to:

- Relate the basic concepts and technologies used in the field of management information systems;
- Compare the processes of developing and implementing information systems.
- Outline the role of the ethical, social, and security issues of information systems. 4. Translate the role of information systems in organizations, the strategic management processes, with the implications for the management.
- Apply the understanding of how various information systems like DBMS work together to accomplish the information objectives of an organization.

COURSE NAME: Relational Database Management Systems with Oracle

CLASS – BCA SEMESTER – 4

Course Outcomes

After studying this course, students should be able to:

- Apply the basic concepts of Database Systems and Applications.
- Use the basics of SQL and construct queries using SQL in database creation and interaction.
- Design a commercial relational database system (Oracle, MySQL) by writing SQL using the system.
- Analyze and Select storage and recovery techniques of database system.

Semester5

COURSE NAME: System Analysis and Design

CLASS - BCA SEMESTER – 5

- **Knowledge and Understanding:**
 - Understand the principles and tools of systems analysis and design
 - Understand the application of computing in different context
 - Understand the professional and ethical responsibilities of practicing the computer professional including understanding the need for quality
- **Intellectual(Cognitive/ Analytical) Skills:**
 - Solve a wide range of problems related to the analysis, design and construction of information systems - Analysis and Design of systems of small sizes

Course Outcomes

After studying this course, students should be able to:

COURSE NAME: System Software

CLASS - BCA SEMESTER – 5

Course Outcomes

After studying this course, students should able to:

- Understand the functions, features and design options of macro processors.
- Understand the functions and design options of loader, editor structure and functions and capabilities of an interactive debugging system.
- Analyze the working of Lexical analyzer (LEX) and Parser tool (YACC)
- Understand the proficiency in software development cost estimation, testing methodologies and author a software testing plan.

COURSE NAME: Java Programming

CLASS - BCA SEMESTER – 5

Course Outcomes

After studying this course, students should be able to:

- **Knowledge and Understanding:**
 - Implement Object Oriented programming concept using basic syntaxes of control Structures, strings and function for developing skills of logic building activity.
 - Identify classes, objects, members of a class and the relationships among them needed for a finding the solution to specific problem
- **Intellectual(Cognitive/ Analytical) Skills:**
 - Evaluate how to achieve reusability using inheritance, interfaces and packages and describes faster application development can be achieved.

- Understand use of different exception handling mechanisms and concept of multithreading for robust faster and efficient application development.
- **Practical Skills:**
 - Design, implement, test, debug, and document programs that use basic data types and computation, simple I/O, conditional and control structures, string handling and functions.
 - The importance of Classes & objects and will be able to implement it along with constructors, Arrays and Vectors.
 - Develop computer-based systems.

COURSE NAME: Web Designing using HTML and DHTML

CLASS - BCA SEMESTER – 5

Course Outcomes

After studying this course, students should be able to:

- Use knowledge of HTML and CSS code and an HTML editor to create websites
- Use critical thinking skills to design and create websites.
- Create online forms
- Publish website to the web

Semester-6

COURSE NAME: E-Commerce

CLASS - BCA SEMESTER – 6

Course Outcomes

After studying this course, students should be able to:

- Analyze the impact of E-commerce on business models and strategy.
- Describe the major types of E-commerce.
- Explain the process that should be followed in building an E-commerce presence.
- Identify the key security threats in the E-commerce environment.
- Describe how procurement and supply chains relate to B2B E-commerce.

COURSE NAME: Operating Systems

CLASS - BCA SEMESTER – 6

Course Outcomes

After studying this course, students should be able to:

- Describe the important computer system resources and the role of operating system in their management policies and algorithms.
- Understand the process management policies and scheduling of processes by CPU
- Evaluate the requirement for process synchronization and coordination handled by operating system
- Describe and analyze the memory management and its allocation policies.
- Identify use and evaluate the storage management policies with respect to different storage management technologies.
- Identify the need to create the special purpose operating system

COURSE NAME: Software Engineering

CLASS - BCA SEMESTER – 6

Course Outcomes

After studying this course, students should be able to:

- Understanding the issues affecting the organisation , planning, control of software-based systems development.
- Complete the analysis and design of software intensive systems.
- Read and understand the professional and technical literature on software engineering.

COURSE NAME: Web Designing using ASP.Net

CLASS - BCA SEMESTER – 6

Course Outcomes

After studying this course, students should be able to:

- To develop Webpages, Static Websites, Dynamic Websites.
- To use ASP as Server Side Scripting Language.
- To use PHP as Server Side Scripting Language.
- To use JSP, JavaScript.
- To understand database and it's connectivity with Server Side Scripting language.
- To develop Web Applications with MySQL/SQL as backend.

