

**Courses offered:**

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|---|-----------|---------------|
| 1. Bachelor in Computer Science (B. Sc- Computer Science) | - 3 years | - 6 Semesters |
| 2. Bachelor of Computer Application (BCA)                 | - 3 years | - 6 Semesters |

**Programme Outcomes ( B.C.A – Bachelor of Computer Application)**

After the course is completed, the students must be able to:

P1: inculcate the skills of problem solving, decision making, convergent and divergent thinking.

P2: develop the logical thinking, reasoning and solution provider approach.

P3: equip the 21<sup>st</sup> century skills and real life solutions

P4: nourish the young minds for the challenging opportunities in the IT industry and ITES.

P5: inculcate essential skills as demanded by the global software industry through interactive learning process.

P6: develop the leadership qualities, team-building skills, audio- visual presentations and personality development programs.

P7: provide the demands of the Information technology.

P8: develop analytical, managerial and communication skill besides inculcating the virtues of self-study.

P9: develop of skilled cohort in software industry and Information Technology

P10: provide solution to other subjects of study.

P11: enable the students in analysing and giving values on data.

P12: build basic programming skills to enable students to build Utility programs.

P13: make the students on the cutting edge technologies.

P14: develop professionalism in Computer Science.

**Programme Specific Outcomes**

PS1: Development of solutions to the third world problems.

PS2: Information synthesise and analytical problem solving method using IT.

PS3: Draw out the values contained in data in an informative tags.

PS4: Helps in Data processing in Industrial and social aspects

PS5: Development of ethics of legal programming.

PS6: To secure and safeguard the human society from unethical information.

PS7: To unite, share and co-operate every human through computer network.

**COURSE OUTCOME:**

After the course is completed, the students must be able to:

Code: BCA 101: Mathematics -1:

Credit: 4

- C1: understand the fundamentals of matrices operations
- C2: familiarise the Limits of Continuity
- C3: understand the concept of Differentiation and Integration
- C4: learn in details of Vector Algebra

Code: BCA 102: Business Communication:

Credit: 3

- C1: understand the concept and fundamentals of Communication.
- C2: deliberate in details written communication
- C3: learn in details of structures and standard library functions.
- C4: Specify in details of header files

Code: BCA 103: Programming with C

Credit: 4

- C1: .understand the characteristic of programming languages.
- C2: deliberate in depth with examples of control structures.
- C3: specify the usage of functions and arrays
- C4: deliberate memory management of data

Code: BCA 104: Fundamentals of Information Technology Credit: 4

- C1: understand the basic knowledge of Computer.
- C2: learn the details of High Level and Low level languages.
- C3: specify in depth the mode of communication and data transmission
- C4: deliberate the structures of Operating System

Code: BCA 105: Basics of Physics

Credit: 4

- C1: understand the laws of motion
- C2: learn the concept of energy, work and power
- C3: knows how electricity and electromagnetism works
- C4: learns thermal, chemical effects of current and the corresponding laws

Code: BCA 106: Practical I

Credit: 6

- C1: competency of C language
- C2: use of information technology

Code: BCA 201: Mathematics II

Credit: 4

- C1: understand set theory, relations and functions
- C2: learn the ordered relation and lattices

Code: BCA 202: Business Organisation & Management Credit: 4

- C1: deliberate the basic fundamentals of business environment
- C2: explain the organizational theory.
- C3: understand the ideas of marketing by using relevant terminology.
- C4: specify in depth the management of business organisation.

Code: BCA 203: Digital Electronics Credit: 4

- C1: understand Boolean algebra
- C2: know the concepts of counters, flip flops and adders

Code: BCA 204: Data Structure using C Credit: 4

- C1: learn the classification, characteristics and understanding of Data structures
- C2: specify the details of Searching Techniques
- C3. deliberate in details with examples Basic Concepts of Memory Management Techniques
- C4. understand in depth File System Operations
- C5. specify the characteristics of File Organization Methods

Code: BCA 205: Database Management Systems Credit: 4

- C1: understand the characteristics of DBMS with examples
- C2.deliberate the details of types of database languages with examples
- C3. learn the details of ER- Diagrams and Relationship
- C4. understand in depth Basic concepts of Relational Model
- C5. learn in details with examples MYSQL Commands
- C6. Learn in details with examples in PL-SQL

Code: BCA 206: Practical II Credit: 6

- C1: perform programming in C data structures
- C2: develop Data Base Management System

Code: BCA 301: Mathematics III Credit: 4

- C1: know the nature of variables, sequences, series and properties
- C2: define vector calculus with theorems
- C3: understand the series: Periodic, Fourier
- C4: solve differential equations of first and second degree

Code: BCA 302: Computer Architecture Credit: 4

- C1: deliberate in details with examples Boolean algebra and logic circuits
- C2: learn the details of Data Representation and Computer Arithmetic
- C3: learn in depth Computer Organization and Design
- C4: learn the details of architecture of CPU
- C5: deliberate the classification and characteristics of Basic Computer Programming Concepts
- C6: write down in depth Basic Computer Programming Concepts
- C7: learn the classification and characteristics of Input -Output organization

Code: BCA 303 Front End Design Tools

Credit: 4

- C1: understand the front end design tools using Visual Basic
- C2: develop the forms, common controls using VB.
- C3: interface with back end databases
- C4: write help systems

Code: BCA 304: Financial Accounting

Credit: 3

- C1: understand the basics of financial accounting
- C2: know the nature of financial statement, analysis
- C3: concept of inventory and the details

Code: BCA 305: Object oriented Programming

Credit: 4

- C1: understand the concept of Object Oriented Programming
- C2: use the syntax and semantics
- C3: handle objects and files

Code: BCA 306: Practical III

Credit: 6

- C1: use of front end design tools
- C2: develop programs using Object Oriented Programming

Code: BCA 401: Mathematics IV

Credit: 4

- C1: understand the different combination and permutation
- C2: calculate the different statistical measures and probability distributions.
- C3: interpolate by using different methods
- C3: solve linear and non-linear equation using various methods

Code: BCA 402: Software Engineering

Credit: 4

- C1: understand in details with examples Concepts of Software process
- C2: specify the details of Software requirements and analysis
- C3: learn in depth Design concepts and principles of software engineering
- C4: understand in depth software Configuration Management and Project Management
- C5: learn in details with examples Software Testing
- C6: specify in depth trends in software engineering

Code: BCA 403: Java Programming & Website Design

Credit: 4

- C1: deliberate in depth java programming fundamental.
- C2: specify in details with examples Basic Java OOPs concepts, read and make elementary modifications to Java programs that solve real-world problems.
- C3: understand in depth an integrated development environment to write, compile, run, and test simple object-oriented Java programs, identify and fix defects and common security issues in code, java Interface and Packages.
- C4: deliberate the details of Exception handling in java
- C5: identify the classification and characteristics of File Handling in java.
- C6: learn the details of File Handling in java.
- C7: learn the characteristics of Applet Programming.

Code: BCA 404: Operating Systems

Credit: 4

- C1: understanding the concept of OS
- C2: know the insights of OS, process involve
- C3: learn the system model and issues
- C4: manage information, file and memory

Code: BCA 405: Business Economics

Credit: 4

- C1: understand the scope and methods of economics
- C2: analyze market structure and macro-economic structure
- C3: aware of the global economy

Code: BCA 406: Practical IV

Credit: 6

- C1: use of JAVA programming and designing of website by JAVA

Code: BCA 501: Computer Networks

Credit: 4

- C1: understand the Elements of Data Communications and network Systems
- C2: learn in depth Transmission Media
- C3: understand in details with examples Network Models
- C4: understanding the various classifications and characteristics of Protocols
- C5: learn in depth Error Detection and Corrections Algorithms
- C6: learn in detail of Network Security.

Code: BCA 502: net Programming

Credit: 4

- C1: know the architecture and management of resources under .net
- C2: compare and contrast with VB and VB.net, C and C++
- C3: Understand ASP, ADO.net

Code: BCA 503: Linux Environment

Credit: 4

- C1: System Administration & Maintenance
- C2: deliberate in depth Basic LINUX Commands.
- C3: learn in details with examples basic concepts of shell scripting
- C4: understand the Linux kernel, classification and characteristics of Process, Management and scheduling mechanisms, depth Memory Management and allocation strategies.
- C5: learn the details of Server Configuration and Maintenance.
- C6: understand basics of various OS related concepts, files, directories, kernel, inodes, APIs, system calls, processes, signals, etc. details of Networking OS Environment
- C7: learn in details with examples system software
- C8: learn the details of Linux File System.
- C9: learn the details of Operating System organization.
- C10: understand the applications where several processes need to communicate with each other to complete a task.

Code: BCA 506: Computer Network Security

Credit: 4

- C1: threats in network and security

C2: understand security architecture  
C3: understand network management with security

Code: BCA 507: Practical V

Credit: 4

C1: solve problems using .net programming  
C2: develop programs under linux environment

Code: BCA 509: Minor Project

Credit: 4

C1: execute assignments / project as decided by the department

Code: BCA 601: Management Information Systems

Credit: 4

C1: understand the concept of MIS.  
C2: learn the concepts of system design  
C3: acquire knowledge of different levels of development of a system

Code: BCA 602: Computer Graphics & Multimedia Applications

Credit: 4

C1: understand in details with features of computer Graphics.  
C2: use of hardware & software of Computer Graphics.  
C3: deliberate in depth about many technology use in Computer Graphics to sharpening of output image.  
C4: learn the details of modelling different objects.  
C5: have the knowledge of animation & Multimedia.

Code: BCA 606: (Electives) Artificial Intelligence

Credit: 4

C1: demonstrate fundamental understanding of the history of artificial intelligence (AI) and its foundations.  
C2: apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning.  
C3: demonstrate awareness and a fundamental understanding of various applications of AI techniques in intelligent agents, expert systems, artificial neural networks and other machine learning models.  
C4: demonstrate proficiency developing applications in an 'AI language', expert system shell, or data mining tool.  
C5: demonstrate proficiency in applying scientific method to models of machine learning.  
C6: demonstrate an ability to share in discussions of AI, its current scope and limitations, and societal implications.

Code: BCA 607: Practical VI

Credit: 4

C1: perform activities on computer graphics and projects on multimedia  
C2: to accomplish tasks based on electives

Code: BCA 608: Major project

Credit: 9

C1: to perform and submit a major project report with details therein