

**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 Outcome (B. Sc. – Computer Science) – Physics, Mathematics, Computer Science**

P1: To apply the knowledge of computing and mathematics appropriate to the discipline.

P2: Capacitate to identify, formulate, and develop solutions to computational challenges.

P3: Familiarise to design, implement, and evaluate a computational system to meet desired needs within realistic constraints.

P4: To evaluate the function effectively on teams to accomplish shared computing design, evaluation, or implementation goals.

- An understanding of professional, ethical, legal, security, and social issues and responsibilities for the computing profession.
- To synthesize communicate and engage effectively with diverse stakeholders.
- An ability to analyze impacts of computing on individuals, organizations, and society.
- Recognition of the need for and ability to engage in continuing professional development.
- Reasons to use appropriate techniques, skills, and tools necessary for computing practice.
- Application of mathematical foundations, algorithmic principles, and computer science theory in the modelling and design of computational systems in a way that demonstrates comprehension of the trade-offs involved in design choices.
- Compare and contrast to apply design and development principles in the construction of software systems of varying complexity.

**Programme Specific Outcome**

PS1: Development of solution based program on day to day problems.

PS2: Providing solutions to other discipline using technologies.

PS3: Accessibility of the latest technology to the rural people.

PS4: Coping with the accessibility problems in real world.

PS5: Development of new models and transcript through Information technologies

PS6: Analysis of Big Data

PS7: Equipping of Cloud computing

PS8: Application of Artificial Intelligence

**Course Outcome**

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

**CS 101: IT Tools and Applications**

**Theory: 60 marks Practical: 40 marks**

C1: Understand the basic knowledge of Computer System

C2: Use of different versions of Microsoft Windows.

C3: Application of word processing, Spreadsheet and Presentation software packages.

C4: Deliberate on the basic knowledge of internet terminologies.

Computer Lab:

- Perform the basic operations of word processing.
- Creating spreadsheet with calculation
- Presentation using power point
- Creation of e-mail and sharing of Data

### **CS 202: Problem Solving Techniques and Programming in C**

**Theory: 60 marks      Practical: 40 marks**

C1: Learn the techniques of problem solving

C2: Understand the details of C language

C3: Learn the I/O statements and Data Structure in C

Computer Lab:

- Writing of programs on the operation on numbers using C
- Writing of programs on the manipulation of texts.
- Writing of programs by using functions / recursion

### **CS 303: Digital Computer Design**

**Theory: 60 marks      Practical: 40 marks**

C1: Data representation in digital

C2: Logics and Circuits in Computer Design

Computer Lab:

- Use of digital trainer kits to build the logic gates.
- Implementation of logic circuits using digital trainer kits.

### **CS 404: Object Oriented Programming in Java**

**Theory: 60 marks      Practical: 40 marks**

C1: Deliberate the details in Object Oriented Programming.

C2: Understand in details with features of Java.

C3: Identify the classes and details of Exception handling.

C4: Learn the details of File Handling in Java.

Computer Lab:

- Writing of programs on the operation on natural numbers using Java.
- Writing of programs on class, objects, inheritance and constructor in Java.
- Writing of Java programs by using arrays.

### **CS 505: Data Structures Using C**

**Theory: 100 marks**

C1: Learn the characteristics and understanding of Data Structure.

- C2: Specify the detail uses of Stacks and Queues.
- C3: Deliberate in details of Linked List operations.
- C4: Specify in depth approach to sorting and searching techniques
- C5: Specify the better approach to tree structure.

## **CS 506: Computer Networks**

### **Theory: 100 marks**

- C1: Understand the basic knowledge and models of Computer Networks.
- C2: Learn the details of transmission of data in network.
- C3: Specify the mode of data communication in depth.
- C4: Deliberate in depth about the relation between different layers of network

### **CS 507: Practical (Data Structures using C): 100 marks**

Computer Lab:

- Implementation on PUSH, POP operations of stack using Arrays and Pointers.
- Implementation on add, delete operations of a queue using Arrays and Pointers.
- Conversion of infix and postfix using stack
- Creation, insertion and deletion in doubly linked list

## **CS 608: Database Management Systems**

### **Theory: 100 marks**

- C1: Understand the characteristics of Database Management System.
- C2: Learn the details of Entity Relationship(ER) modelling and Relationship.
- C3: Learn in details Relational Data model and database design.
- C4: Understand in depth with examples in MYSQL.
- C5; Deliberate the details of Transaction Processing.

## **CS 609: Operating Systems**

### **Theory: 100 marks**

- C1: Understand the detail process of Operating System (OS).
- C2: Learn the characteristics of Processor management and I/O management.
- C3: Understand the File system and detection in Dead Lock.
- C4: Learn the detail concept of Synchronisation.

### **CS 610: Practical ( DBMS & OS): 100 marks**

Computer Lab:

- Writing Java programs to access database and SQL queries.
- Writing of programs to demonstrate the process of synchronisation in OS

