

BACHELOR OF SCIENCE (HONOURS) COMPUTER SCIENCE

Program Objectives

Students who choose B.Sc. (Honours) Computer Science Program, will develop the ability to think critically, logically, analytically and to use and apply current technical concepts and practices in the core development of solutions in the form of Information Technology. The knowledge and skills gained with a degree in Computer Science prepare graduates for a broad range of jobs in Education sector, Research field, Government sector, Business sector and Industry.

The program covers the various essential concepts in Computer Science. These are included as core course like Structured Foundation of Computer Fundamentals, Computing Methods, Data Structure, Software Engineering, Programming Concepts in various languages (C, C++, Java, Visual Basic etc.), Design and Analysis of Algorithm, Theory of Computation, System Programming, Computer Networking, System Administration, Operating System, Computer Architecture, Microprocessor, PHP programming, Numerical Methods, Computer Graphics and Database Management System.

An exceptionally broad range of topics covering current trends and technologies in Computer Science like - Programming in Python, Information Security and Cyber Laws, Data Mining, R-Programming, E-commerce, Data Sciences, Internet Technologies, Artificial Intelligence, Android Programming, UNIX/ LINUX programming etc are included in the course. Hands on sessions in Computer Lab using various Programming languages and tools will enable students to deal with real life problems which will lead to better understanding of the topics and will also widen the horizon of students' self-experience.

Program Learning Outcomes:

Completion of B.Sc. (Honours) Computer Science Program shall enable a student

- i) To communicate technical information both orally and in writing
- ii) Apply the knowledge gained in core courses to a broad range of advanced topics in Computer Science, to learn and develop sophisticated technical products independently.
- iii) To design, implement and evaluate computer-based system, process, component, or program to meet desired needs by critical understanding, analysis and synthesis.
- iv) Identify applications of Computer Science in other fields in the real world to enhance the career prospects
- v) Realize the requirement of lifelong learning through continued education and research.
- vi) Use the concepts of best practices and standards to develop user interactive and abstract application
- vii) Understand the professional, ethical, legal, security, social issues and responsibilities

COMPUTER SCIENCE & APPLICATION
HS First Year

Learning Objectives:

1. To develop logic for Problem Solving
2. To understand the concept of Object Oriented Methodology
3. To implement Object Oriented Programming using C++
4. To understand the concept of working with Relational Database
5. To understand the basic concept of Logic of Computing
6. To understand the basic concepts of Communication and Networking technologies
7. To understand Open Source Software

Competencies:

Course Outcome

The student will develop the following proficiency:

1. Identifying Computer Components / Subsystems / Peripherals
2. Problem Solving using Object Oriented Programming
3. Database Handling

COMPUTER SCIENCE & APPLICATION
HS Second Year

Learning Objectives:

1. To develop logic for Problem Solving
2. To understand the concept of Object Oriented Methodology
3. To implement Object Oriented Programming using C++
4. To understand the concept of working with Relational Database
5. To understand the basic concept of Logic of Computing
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Competencies:

Course Learning Outcome

The student will develop the following proficiency:

1. Identifying Computer Components / Subsystems / Peripherals
2. Problem Solving using Object Oriented Programming Database Handling