(B.TECH.)

Course Duration

8 Semester

(4 Years)

Eligibility Criteria

Pass in PUC / 10+2 examination with Physics and Mathematics as compulsory subjects along with one of the subjects - Chemistry / Biotechnology / Biology / Computer Science / Electronics / Technical Vocational subjects and obtained at least 45% marks (40% in case of candidate belonging to SC/ST category) in the above subjects taken together, of any Board recognized by the respective State Governments / Central Government / Union Territories or any other qualification recognized as equivalent thereto.

Overview

The field of Computer Science and Information Technology (CS & IT) has roots in Electrical Engineering, Mathematics, and Linguistics. In the past, Computer Science and Information Science were taught as part of mathematics or engineering departments, and in the last 3 decades, they have emerged as separate engineering fields.

The B.Tech. Computer Science and Information Technology, an undergraduate programme, is crafted to nurture motivated, innovative, and passionate graduates to fill ICT positions across sectors who can conceptualize, design, analyse, and develop ICT applications to meet modern-day requirements.

The B.Tech. in Computer Science and Information Technology curriculum is outcome-based and it delivers the most advanced theoretical concepts and practical skills in the domain. By enrolling on this programme, students develop critical, innovative, and problem-solving abilities for a

smooth transition from academia to the corporate world. In addition, students are trained in interdisciplinary topics and attitudinal skills to enhance their scope of work.

Computer Science and Information Technology (CS & IT) encompasses a variety of areas related to computation and applications of computing like the development of algorithms, analysis of algorithms, programming languages, software design, computer hardware, e-commerce, business information technology, Data Analytics, Machine Learning, Block Chain Technology, Augmented Virtual Reality, Mobile Application Development, IoT, Wireless Sensor network, Web Technology.

Course Curriculum

- Sem - 1
- Sem - 2
- Sem - 3
- Sem - 4
- Sem - 5
- Sem - 6
- Sem - 7
- Sem - 8

01 Multivariable Calculus & Linear Algebra
02 Engineering Chemistry
03 Communication Skills
04 Programming with C
05 Elements of Mechanical Engineering
06 IoT and Applications (Innovation)
07 Design Thinking (Entrepreneurship)
08 Programming with C Lab
09 Engineering Workshop

Programme Educational Objectives (PEOs)

After few years of graduation, the graduates of B.Tech. (Computer Science and Information Technology) will be able to:

PEO-1

Purse higher education in the core or allied areas of Computer Science and Information Technology.

PEO-2

Have technical career in the core or allied areas of Computer Science and Information Technology or start entrepreneurial activity for the growth of the economy.

PEO-3

Continue to learn and to adapt to ever changing technologies in the core or allied areas of Computer Science and Information Technology.

Programme Outcomes (POs)

On successful completion of the programme, the graduates of B.Tech. (Computer Science and Information Technology) programme will be able to:

PO 1

Apply the knowledge of mathematics, science, engineering fundamentals, and solve problems in the Computer Science and Information Technology.

PO 2

Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO 3

Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO 4

Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO 5

Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO 6

Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 7

Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 8

Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10

Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 11

Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12

Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Handbooks

B.Tech CSIT (2022-26)

B.Tech CSIT (2021-25)

B.Tech CSIT (2019-23)

Programme Specific Outcomes

On successful completion of the programme, the graduates of B.Tech. (Computer Science and Information Technology) programme will be able to:

- **PSO-1** Apply the knowledge of mathematics, Computer Science and Information Technology to solve complex problems in CS and IT.
- **PSO-2** Analyze, design, develop solutions and conduct investigations in the domains of database, networks and security, system software and system administration.
- **PSO-3** Apply appropriate techniques, use modern programming languages, tools, and packages for quality software development.

Career Opportunities

Large number of IT companies employs huge number of computer science and IT professionals in their Indian and Overseas offices. Hence, students who complete this programme successfully have industrial career opportunities in IT/Allied Industries as:

- Information security analyst: IT security analysts work to prevent cyber-attacks by monitoring their business' network for breaches and weak spots and to create emergency plans in the event of an attack.
- Network architect: Sometimes called network engineers, these IT professionals design and build communication networks, such as local area networks (LANs), wide area networks (WANs), and intranets.
- Computer support specialist: Support specialists provide advice and troubleshooting help to individuals and businesses that have questions about their software.

- Database administrator: DBAs use software and programmes to organize and store data for businesses that range from financial firms to shipping companies.
- Systems administrator: System administrators conduct the day-to-day maintenance and operation of a business' network, including LANs, WANs, intranets, and other communication systems. Salaries for this position vary by industry.

Fee

- **Indian / SAARC Nationals₹ 1000**
- **NRI Fee₹ 2000**
- **Foreign NationalsUS$ 50**