(058-CSE-01-02) COMPUTER ENGINEERING

Significance of the Programme:

This course will be a unique blend of computer engineering and manufacturing engineering. The students studying this course will be taught and trained on the subjects relevant to both these engineering domains, which will help them to stand apart from the regular computer engineering or manufacturing engineering graduates from other institutions. Such blending will also enable them to fetch the best of career opportunities. The students possess an in-depth understanding of the concepts of mathematics, computer software and hardware after they finish the course. This program delves into various aspects of computer science engineering including computation, algorithms, programming languages, Simulation and Modelling, Embedded Computing Systems, IoT, web Technology, Simulation and Modelling, Embedded Computing Systems, etc.

Career Options:

- Computer Programmer
- System Database Administrator
- Software Designer
- Computer Systems Analyst
- Software Developer
- Data Warehouse Analyst
- Engineering Support Specialist
- Higher studies at IITs, NITs, state universities and abroad.

Program Objectives:

- The Graduates will be able to develop scientific knowledge and problem-solving skills by integrating computer engineering fundamentals and advanced manufacturing engineering concepts.
- Able to design innovative solutions to both hardware and software problems.
- Engage in professional development with effective communication, ethical and teamwork and adopt current trends through lifelong learning.

Outcomes of the Program:

- Able to conceptualize and solve problems related to computer science and manufacturing engineering domains and evaluate optimal solutions considering economic and eco-friendly factors.
- Critical thinking skills, i.e. the ability to critically analyse the problems apply independent judgment for synthesizing information to make intellectual and creative advances for developing new scientific knowledge in computer science and manufacturing engineering.
- Ability to apply computer-based software tools and techniques modelling, analysis and optimization in computer and manufacturing domains.

Major Course Outlines:

- Basic mathematics of Computer Science like Discrete Mathematics, Linear algebra etc.
- Computer Organization & Architecture
- Data Structures & Algorithms
- Database Management Systems
- Computer Networks and Circuit Theory
- Microprocessor & Computer Architecture
- Principles of Programming Language
- Digital Electronics & Logic Design
- Simulation and Modelling, Embedded Computing Systems
- Internet of Things