

## B. Tech. - Information Technology Program Learning Objectives & Outcomes: Program Learning Objectives (PLOs):

To prepare students to apply their knowledge and multifaceted skills to be employed and excel in IT professional careers and/or to continue their education in IT and/or related post graduate programmes.

### *Program Objective 1*

To provide students with **Core Competence** in mathematical, scientific and basic engineering fundamentals necessary to formulate, analyze and solve hardware/software engineering problems and/or also to pursue advanced study or research.

### *Program Objective 2*

To train students with good **breadth** of knowledge in core areas of Information Technology and related engineering so as to comprehend engineering trade-offs, analyze, design, and synthesize data and technical concepts to create novel products and solutions for the real life problems.

### *Program Objective 3*

To inculcate in students to maintain high **professionalism** and ethical standards, effective oral and written communication skills, to work as part of teams on multidisciplinary projects and diverse professional environments, and relate engineering issues to the society, global economy and to emerging technologies.

### **Learning Outcomes:**

- a. An ability to apply knowledge of mathematics, including discrete mathematics, probability, statistics, science, computer science and engineering, electronic engineering and electrical engineering as it applies to computer hardware and software.
- b. An ability to design and conduct experiments, as well as to organize, analyze and interpret data to produce meaningful conclusions and recommendations.
- c. An ability to design hardware and software systems, components, or processes to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- d. An ability to work individually or as a member with responsibility to function on multi-disciplinary teams.
- e. An ability to identify, formulate, and solve hardware and software computing problems, accounting for the interaction between hardware and software.
- f. An understanding of professional, legal, and ethical issues and responsibilities.
- g. An ability to communicate effectively in speech and in writing, including documentation of hardware and software systems.
- h. Able to show the understanding of impact of engineering solutions in a global on the society, economic, environmental.
- i. Demonstrate an ability to acquire new knowledge in the computing discipline and to engage in life-long learning.
- j. Knowledge of contemporary issues in the social sciences and the humanities using computational tools.
- k. An ability to use the techniques, skills, and modern engineering tools necessary for computer engineering practice.
- l. An ability to apply engineering and management knowledge and techniques to estimate time and resources needed to complete a computer engineering project.

### Program Specific Outcomes

- Knowledge of data management system like data acquisition, big data so as to enable students in solving problems using the techniques of data analytics like pattern recognition and knowledge discovery.
- Basic knowledge in hardware/software methods and tools for solving real-life and R&D problems with an orientation to lifelong learning.
- Sound knowledge base and skill sets to develop and expand professional careers in fields related to human-computer interaction and management of industrial processes for the design and implementation of intelligent systems.