

Program Structure of B.Tech (Computer Science & Engineering)

1. Program Mission

To provide education in the futuristic and emerging frontier areas of Computer Science & Engineering through knowledge, learning, research and innovation. To develop the overall personality of students by making them not only excellent engineering professionals and technocrats but also good individuals with regards for human values, pride in their heritage and culture, a sense of right and wrong and yearning for perfection and imbibe attributes of courage of conviction and action

2. Program Educational Objectives/Goals:

- i. The graduates will have strong analytical, problem-solving and critical-thinking skills.
- ii. The graduates will serve relevant local and global organizations and work towards providing innovative solutions to current and futuristic organizational and societal problems.
- iii. The student shall have the ability to examine the impact of engineering solutions in societal, health, safety, legal, cultural and environmental contexts.
- iv. The graduates will have strong interpersonal communication, practice professional ethics and have the capability to work as an individual/ member of a team/ leader of diverse teams/entrepreneur.
- v. The student will have the ability to support and practice independent and life-long learning for professional development and sustainable performance.

3. Program Learning Outcomes:

For Engineering:

Graduates of the program will have an ability to:

- i. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- ii. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- iii. an ability to communicate effectively with a range of audiences
- iv. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

- v. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- vi. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- vii. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

For Computing:

Graduates of the program will have an ability to:

- i. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
- ii. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- iii. Communicate effectively in a variety of professional contexts.
- iv. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- v. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- vi. Apply computer science theory and software development fundamentals to produce computing-based solutions.

4. Skills & Competencies

- a. Analytical Skills
- b. Critical thinking
- c. Problem Solving
- d. Creativity
- e. Resilience & Adaptability
- f. Interpersonal Skills
- g. Technical Skills
- h. Leadership skills