Department of Computer Science and Engineering

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B.Tech. Computer Science and Engineering (Undergraduate Programme)

One has to earn minimum 180 credits over 4 years of course (Including project in 7th and 8th semester at institute) Results are awarded on scale of 10.

Programme Educational Objectives (PEO)

1. Graduates will have a strong foundation of core principles in Computer Science & Engineering necessary to formulate, solve and analyze engineering problems and set them up for research and development, industry, academia and higher learning.
2. Graduates will have theoretical background along with technical skills to work professionally in the area of Computer Hardware & Software design and implementation, Embedded Systems, Information Security, Wireless Networks, Multimedia processing, System Analysis, Data Science and Artificial Intelligence.
3. Graduates will have a successful career and work with values and social concern bridging the digital divide and meeting the requirements of society and industries.
4. Graduates will have an exposure to emerging cutting edge technologies, adequate training and opportunities to work on research problems with effective skills.
5. Graduates will have an attitude for lifelong learning and a strong inclination for research and development by pursuing higher studies in the field of engineering or science or business.

Programme Outcomes (PO)

- PO1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO2. Problem analysis: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3. Design/development of solutions: 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.

- PO4. Conduct investigations of complex problems: 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.
- PO5. Modern tool usage: 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.
- PO6. The engineer and society: 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.
- PO7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10. Communication: Communicate effectively on complex engineering activities with the engineering community and with the 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.
- PO11. Project management and finance: Demonstrate knowledge 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.
- PO12. Life-long learning: 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 Specific Outcomes (PSO)

At end of the programme graduation, the students of the program will have:

- PSO1: necessary engineering knowledge with technical competency, analytical and designing skills for innovative solution for research and solving the problems in the field of Computer Science & Engineering.
- PSO2: ability to design systems, components and processes to meet desired needs and to provide sustainable development and engineering solution to the problems using the knowledge and skills developed in thrust areas.
- PSO3: ability to use modern engineering tools and demonstrate analytical, logical and problem solving skills with excellent programming.

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