

## **Bachelor of Technology (Electrical Engineering)**

### **Program Outcomes (POs)**

On successfully completing the program, students will be able to gain:

**PO 1: Engineering Knowledge:** Ability to apply knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO 2: Problem Analysis:** Ability to 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/Development of Solutions:** Ability to design solutions for complex engineering problems and design systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

**PO 4: Conduct Investigations of Complex Problems:** Ability to conduct investigation into complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

**PO 5: Modern Tool Usage:** Ability to 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: Engineer and Society:** Ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to professional engineering practice.

**PO 7: Environment and sustainability:** Ability to recognize and incorporate the diversity and commonalities of engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

**PO 8: Ethics:** Ability to apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

**PO 9: Individual and Team Work:** Ability to function effectively as an individual and as a member or leader in diverse teams and interdisciplinary settings.

**PO 10: Communication:** Ability to 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: Project Management and Finance:** Ability to demonstrate knowledge and understanding of engineering and management principles and also apply these principles to one's own work as a member and leader to the teams to manage projects and interdisciplinary teams.

**PO 12: Life-long Learning:** Ability to recognize the need for, and have the preparations and ability to engage in independent and lifelong learning in the broadest context of technological change.

### **Program Educational Objectives**

**PEO 1:** To equip graduates of the Electrical Engineering program to solve challenging issues in the domain of electrical engineering, such as power systems, renewable energy, and smart grids, through research and innovation in order to help create a sustainable and energy-efficient future.

**PEO 2:** To transform graduates of the Electrical Engineering program into successful professionals capable of designing and developing energy systems, automation solutions, and electrical infrastructure that meet global standards; pursuing higher studies, entrepreneurship, or research.

**PEO 3:** To enable graduates of the Electrical Engineering program to acquire the skills needed to address complex societal and industrial challenges with a rational, adaptable, and interdisciplinary approach.

### **Program Specific Outcomes (PSOs)**

**PSO 1:** Ability to evaluate, create, design, and use modern techniques to deal with challenging issues in the fields of power electronics, electrical machines, and automation.

PSO 2: Capability to integrate artificial intelligence and data-driven approaches in modelling, analysis, and optimization of electrical systems, fostering innovation and automation to address real world challenges in electric vehicles, renewable energy solutions and emerging technologies.

PSO 3: Developing the capacity to design efficient electrical systems utilizing the concepts of renewable energy, smart grids, electric vehicles, and industrial automation to meet contemporary and future needs.