

Department of Electrical Engineering (B.Tech.)

Program Education Objectives(PEO)

The program educational objectives of the Electrical Engineering Program at Institute of Engineering & Technology, Bhaddal are that its graduates could demonstrate the following essential components of a successful engineer and/or consultant within two to four years of graduation:

- 1.** To train the students of Electrical Engineering program so that they can work with government or private sector companies responsible for development of power sector & prove themselves in electrical maintenance for the industry.
- 2.** To train students of Electrical Engineering program who can contribute to teaching profession, research & development by pursuing higher studies.
- 3.** To train students of Electrical engineering program in a manner that they should function effectively in the multicultural and multidisciplinary groups in their practice of Electrical engineering profession.

Program Outcomes(PO)

- 1. Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusion using first principles of mathematics, sciences, and engineering sciences.
- 3. 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
- 4. 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.
- 5. Modern tool usage:** Create, select, and apply appropriate techniques , resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
- 6. 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.
- 7. Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the

knowledge of, and need of sustainable development.

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

9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. **Communication:** Communicate effectively in 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.

11. **Project management and finance:** Demonstrate knowledge and 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.

12. **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.

Program Specific Outcomes (PSO)

1. Graduates will demonstrate their knowledge in effective implementation during their practice of profession of Electrical Engineering with due regard to environment and social concerns.

2. Graduates will demonstrate their knowledge in analysis, design, erection and laboratory experimentation regarding Electrical Engineering.

3. Graduates will be motivated for continuous self learning in engineering practice and pursue research in advanced areas of Electrical Engineering in order to offer engineering services to the society, ethically.

Course Outcome (CO)

<https://ptu.ac.in/wp-content/uploads/2024/06/Revised-BTech-EE-2023-onwards.pdf>