

Department of Electrical and Electronics Engineering

M. Tech. (Energy Technology)

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1: To prepare the students for successful career in the energy industry, energy service companies, energy utility and consultancy agencies and in the academic and R&D institutions.

PEO2: To produce energy professionals, who are sensitive to, and well aware of, the energy issues and concerns, and who can apply their specialized knowledge for the sustainable development.

PEO3: Post-Graduates will be able to pursue Doctorates and Post-Doctorates in the field of Renewable energy, waste management, energy efficiency, energy & environment and many other interdisciplinary courses.

PEO4: Post-Graduates will be proficient to provide optimized solution for complex engineering problems in Energy & Environment or allied interdisciplinary engineering.

PEO5: Post-Graduate will become self confident in terms of their communicational skills or life skills and will be able to demonstrate their skills in upliftment of the society.

PROGRAMME OUTCOMES (POs)

1. **Problem analysis:** Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
2. **Design/development of solutions:** Design solutions for complex engineering problems related with the subject and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.
3. **Efficiency of the systems:** Acquired the expertise and skills required for energy auditing and management, economical calculation of energy cost, development, implementation, maintenance of energy systems.
4. **The energy professionals and society:** Apply various concepts relating with the energy efficiency, waste management, clean energy, minimizing waste, exploring new energy sources, human comfort with minimum/clean energy, minimizing the use of non renewable energy etc, for eliminating various health hazards and the upliftment of the society.
5. **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.
6. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
7. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

1. Post Graduate will be able to design, analyse and evaluate the performance of Renewable and Non-renewable energy/environmental systems considering Indian and global perspective and integrate the knowledge for enhancing the energy efficiency.
2. Quantify the emission from various sources by conducting energy audits using appropriate measurements and evaluate a wide range of potential solutions at feasible and optimal solutions through energy efficient devices/ independent or hybrid renewable energy systems considering public health and safety, cultural, societal and environmental factors.
3. Analyse the energy demand and supply gap and evaluate various potential technologies to fill the gap while considering the societal and environmental impact.
4. Quantify the waste generation from various sectors and demonstrate the methods of management and its minimization and its conversion to energy without harming the environment and society.
5. Evaluate various transforming/conversion methods which is adoptable by the society without impacting the environment.