

Under Graduation Course Name: Level: Year of Approval:

B. Tech (4 Years) UG Started in 2018 2018

**Grants Fetched:** NAIN granted a fund of 63000 /-Title: Design and development of smart garbage collection system using solar powered electric vehicle. K-tech new age innovation.

## **Programme Educational Objectives (PEOs)**

**PEO I:** Graduates are enabled to pursue advanced studies, engage in research and explore diverse career opportunities in industry and academia.

**PEO II:** To empower graduates with a broad engineering knowledge that enables them to comprehend, analyze, innovate and design new electrical products, develop technical solutions for real world challenges and contribute effectively to societal needs.

**PEO III:** Graduates are prepared to instill a professional and ethical attitude, foster creativity, enhance effective communication and presentation skills and develop team work abilities.

**PEO IV:** Graduates are prepared to exhibit leadership qualities, social consciousness and ethical values for lifelong learning.

## **Programme Specific Objectives (PSOs)**

**PSO-1** Apply fundamental principles of mathematics, science and engineering to identify, analyse, design and investigate complex problems related to electric circuits, analog and digital electronics, electrical and electronics measurements, control systems, electrical machines, power systems, renewable energy systems and electric vehicles.

**PSO-2** Utilize advanced techniques and modern engineering hardware and software tools in electrical and electronics engineering to foster lifelong learning and effectively adapt to multidisciplinary environments.

**PSO-3** Assess electrical problems with an ethical perspective, taking into account societal and environmental implications and communicate solutions clearly through both oral and written presentations.

## **Programme Outcomes (POs)**

**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, review research literature, and analyze 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 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 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.

**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.