**Program Outcomes:**

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization for the solution of complex engineering problems.

2. Problem analysis: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles

of mathematics, natural sciences, and engineering sciences.

3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet t h e specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.

4. Conduct investigations of complex problems: The problems

 that cannot be solved by straightforward application of knowledge,

theories and techniques applicable to the engineering discipline. \*

 that may not have a unique solution. For example, a design problem can be

solved in many ways and lead to multiple possible solutions.

 that require consideration of appropriate constraints/requirements not

explicitly given in the problem statement. (like: cost, power requirement,

durability, product life, etc.).

 which need to be defined (modeled) within appropriate mathematical

framework.

 that often require use of modern computational concepts and tools.#

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 for sustainable development.

8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the 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 on complex engineering activities with the engineering community and with t h e 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 t h e 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: Recognise 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. System Inception and Elaboration:**Conceptualize the software and/or hardware systems, system components and process/procedures through requirement analysis, modeling /design of the system using various architectural / design patterns, standard notations, procedures and algorithms.

**PSO 2. System Construction:**Implement the systems, procedures and processes using the state of the art technologies, standards, tools and programming paradigms.

**PSO 3. System Testing and Deployment:**Verify and validate the systems, procedures and processes using various testing and verification techniques and tools.

**PSO 4. Quality Maintenance:**Manage the quality through various product development strategies under revision, transition and operation through maintainability, flexibility, testability, portability, reusability, interoperability, correctness, reliability, efficiency, integrity and usability to adapt the system to the changing structure and behavior of the systems /environments.