**PROGRAMME 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, research literature, and analyze 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 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 modeling 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 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.