

## **B.Tech. (EBME) Electronics & Biomedical Engineering**

### **PROGRAM OUTCOMES AS DEFINED BY NBA (PO)**

#### **Engineering Graduates will be able to:**

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 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 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 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.

## **PROGRAMME SPECIFIC OUTCOMES (PSO)**

**PSO1:** Acquire knowledge on fundamentals of engineering and biological sciences to identify and solve electronics & biomedical engineering problems.

**PSO2:** Design, develop, acquire, analyze and test biomedical devices and processes to improve quality of healthcare

**PSO3:** Apply modern engineering tools and techniques to solve complex electronics & biomedical engineering problems.

## **PROGRAMME EDUCATIONAL OUTCOMES (PEO)**

**PEO-1:** To produce graduates having a strong background of basic science, mathematics & engineering with ability to use these tools.

**PEO-2:** To produce graduates who can demonstrate technical competence in the field of electronics and biomedical engineering and develop solutions to the complex problems.

**PEO-3:** To produce graduates having professional competence through life-long learning such as advanced degrees, professional skills and other professional activities related globally to engineering & society.

**PEO- 4:** To produce graduates who function effectively in a multi-disciplinary environment and individually, within a societal and environmental context.

**PEO-5:** To produce graduates who would be able to take individual responsibility and work as a part of a team towards the fulfilment of both individual and organizational goals.