

# **DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**Year of establishment: 1997**

## **VISION**

**To develop as a center of excellence in Electronics and Communication Engineering through creative and innovative practices in teaching, learning and research.**

## **MISSION**

- To impart quality education, training and research at the undergraduate, post graduate and doctoral levels in all the areas of Electronics and Communication Engineering.**
- To inculcate a perceptive alacrity to observe, identify real life problems, formulate strategies for solution and evolve contextually effective solutions.**
- To deliver theoretical base, advanced technological concepts, teamwork spirit, ethics, human values, practical base, research and development to the students, extension activities to other organization through creation of advanced facilities and providing platforms for synergy.**

### **Program: B. Tech in Electronics and Communication Engineering**

#### **Program Educational Objectives (PEOs)**

**The Program Educational Objectives (PEOs) of the B.Tech. Program in Electronics and Communication Engineering at School of Engineering, Tezpur University are**

- PEO-1: To prepare the students with good understanding of the respective subjects with design, analytical and problem solving skills.**
- PEO-2: To train the students with knowledge of latest design trends.**
- PEO-3: To inculcate in students the sense of ethics, morality, professionalism, creativity, leadership, independent thinking, self-confidence, good communication skills and prepare them to become successful engineers who can work worldwide in industries and research & development laboratories.**
- PEO-4: To introduce the research world to them so that they feel motivated for higher studies and innovation not only in their own domain but multidisciplinary domain.**

## Program Outcomes (PO)

The graduates will be able to

- **PO-1 Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- **PO-2 Problem Analysis:** Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
- **PO-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.
- **PO-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.
- **PO-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.
- **PO-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.
- **PO-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.
- **PO-8 Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **PO-9 Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

## **Program Outcomes (POs)**

- **PO-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.**
- **PO-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.**
- **PO-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.**

## **Program Specific Outcomes (PSOs)**

**The graduates will be able to demonstrate the acquisition of**

- **PSO-1: Comprehensive knowledge and coherent understanding of the discipline of Electronics and Communication Engineering in a broad multidisciplinary context, their different learning areas, their linkages with related fields of study, and current and emerging developments associated in Electronics and Communication Engineering.**
- **PSO-2: Practical, professional and procedural knowledge required for carrying out professional or highly skilled work/tasks related to Electronics and Communication Engineering, including knowledge required for undertaking self-employment initiatives, and knowledge and mindset required for entrepreneurship involving enterprise creation, improved product development, or a new mode of organization.**
- **PSO-3: Skills in areas related to Electronics and Communication Engineering in a broad multidisciplinary context, including wide-ranging practical skills, involving variable routine and non-routine contexts relating to the discipline.**