

# Electronics and Communication Engineering, IET, BU

## Vision & Mission of the Institute (IET)

### **Vision of Institute:**

To emerge as an institution of excellence in engineering education and research that emphasizes on the human values, competence and professionalism integrated with the course curriculum as per global standards to serve the nation as well as the society with innovating mindset to take up any challenge they come across in industrial, scientific or academic fields within or outside the country.

### **Mission of Institute:**

<b>M1</b>	To equip with the latest tools and equipment matching the state-of-art technologies to facilitate the academic and research activities at par with the best institutions.
<b>M2</b>	To inculcate a proper mix of creativity, innovation, competence, entrepreneurial leadership, and professionalism in the minds of the students so as to yield the internationally accepted best products.
<b>M3</b>	To provide proper ambiance for the teaching-learning system that preserves universal human values, ethics, and morals to meet the aspirations of all the stakeholders for sustainable development of the institute.
<b>M4</b>	To develop a potential pool of intellectuals and professionals that can serve anywhere efficiently in decision making and policy adoption according to the local, national and global needs

## Vision & Mission of the Department (E&CE)

### **Vision of E&CE Department**

To be a department as a center of excellence producing globally acceptable engineers and technologists in Electronics and Communication Engineering, to cater to the needs of industry, research & development organizations in Electronics and Communication Engineering, with an innovative mindset to take up any challenge they come across in industrial, scientific or academic fields within or outside the country.

### **Mission of E&CE Department**

<b>M1</b>	To equip with the state-of-art technologies to support academic and research excellence in the field of Electronics and Communication Engineering.
<b>M2</b>	To inculcate knowledge and technical skills to create competent professionals, technocrats and entrepreneurs in Electronics and Communication Engineering by providing continuous training for skill development and adopting new technologies.
<b>M3</b>	To provide proper ambiance for effective interactions of students, faculty and management with the Electronics and Communication Engineering industry personnel, alumni, academicians of premier Institutions and other stakeholders for sustainable development of the department and its stakeholders.
<b>M4</b>	To cultivate strong and universal ethical values within the students in decision making and policy adoption for sustainable development of the society and the Engineering community.

## **PROGRAM OUTCOME (PO) for IET**

### **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 and analyze complex engineering problems from the research papers and literature, and thereafter reach 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 cultural, societal, and environmental considerations for public health and safety.

### **PO4; Conduct investigations of complex problems:**

Use research-based knowledge and 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 to reason informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues, and the consequent responsibilities.

### **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 teamwork:**

Function effectively as an individual, and as a member or leader in diverse teams and individual and in multidisciplinary settings relevant to the professional engineering practice.

### **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 lifelong learning in the broadest context of technological change.

## **PROGRAM OUTCOMES (PO) for E& CE Dept**

On completion of the B. Tech degree the Electronics and Communication Engineering, the graduates will be able to

**PO1:** Apply the basic knowledge in mathematics, science and engineering to the solution of complex engineering problems in the field of Electronics and Communication Engineering.

**PO2:** Identify, formulate review, analyze and solve complex problems using first principles of mathematics, natural sciences, and engineering sciences and thereafter reach substantiated conclusions.

**PO3:** Design solutions for complex engineering problems and system components and offer solutions or processes to meet the specified needs of the cultural, societal and environmental concerns related to public health and safety.

**PO4:** Apply research-based knowledge and design methods and conduct experiments, analyze, synthesize and interpret data pertaining to Electronics and Communication Engineering problems so as to arrive at valid conclusions.

**PO5:** Construct, create and apply appropriate techniques, resources and modern engineering tools required for Electronics and Communication Engineering applications.

**PO6:** Apply the contextual knowledge to assess societal, health, safety and cultural issues and endure the consequent responsibilities relevant to the professional engineering practice.

**PO7:** Examine the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO8:** Apply ethical principles and social responsibilities to develop consciousness of professional ethics and responsibilities and norms of the engineering practice as an expert in the field of Electronics and Communication Engineering.

**PO9:** Function effectively as a member/leader in multidisciplinary and diverse teams or individual relevant to the professional engineering practice.

**PO10:** Communicate effectively the engineering activities with the engineering community and with society at large for being able to comprehend and write effective reports and documentation and make effective presentations.

**PO11:** Demonstrate knowledge and understanding of the engineering and management principles to manage projects in a multidisciplinary environment as a member and leader in a team, to manage projects.

**PO12:** Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change in Electronics and Communication Engineering.

**Program Specific Outcomes (PSO)**  
**(for Electronics and Communication Engineering Dept)**

On completion of the B. Tech degree the Electronics and Communication Engineering, the graduates will be able to attain the following program specific attributes in addition to 12 PO's mentioned:

**PSO-1:**

Analyse, design and simulate systems and applications that contain any electronics-based hardware component or module.

**PSO-2:**

Design and develop models related to communication engineering, control and automation sectors.

**Program Educational Objectives (PEO)**

**PEO-1:** Graduate will have successful professional careers with innovative ideas while serving the Government firm, industry, corporate, military academic and research organization or being an entrepreneur.

**PEO-2:** Graduate will be able to work effectively in different fields as a team member or individual with the ability of solving engineering problems with core expertise in analysis, design, networking, security, and development using advanced tools in electronics and communication systems.

**PEO-3:** Graduate will be able to develop themselves professionally by continuous learning and and advance their careers through activities such as participation in professional certification programs, and seeking higher education innovation and research while benefitting the society.

**PEO-4:** Graduate will be able to show the leadership in diverse cultures, nationalities and fields while working efficiently with interdisciplinary teams locally and internationally.