B.Tech – Electronics and Communication Engineering (Avionics)

Program Educational Objectives (PEO)

1. To embed technical knowledge and deep understanding in the broad area of electronics and communication engineering with exposure to the state of the art developments.

2. To equip the students with strong theoretical and experimental knowledge with exposure to real-life and practical applications in electronics and communication (Avionics), and allied areas. To encourage students to utilize their knowledge in carrying out interdisciplinary research.

3. To provide equal emphasis to students in acquiring substantial knowledge for leadership roles at various levels, technical skills to work in industry/R&D organizations, and creating a very strong platform for higher education/future academic research in world class institutions.

4. To instill deep sense of ethics, social values, professionalism and inter-personal skills among students.

Program Specific Objectives (PSO)

1. To offer in-depth knowledge and skills in the field of Electronics and Communication Engineering and allied areas which make the students ready to analyze design, optimize, implement, and solve practical problems.

2. To educate and equip the students in the state of the art tools and techniques in the area of space science & technology for producing quality engineers/scientists for space industries in general and ISRO in particular.

3. Enable graduates to contribute to the solution of real world practical problems in industrial, services and government organizations by applying skills acquired through continual learning.

4. To practice and inculcate an ability of Independent thinking and utilizing learned knowledge in the area of Electronics and Communication for societal benefits.

PROGRAM OUTCOMES (PO): (Defined by NBA)
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 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.