



Manipal University Jaipur

Faculty of Science, Technology and Architecture Department Electronics & Communication Engineering

B.Tech. in Electronics Engineering (VLSI Design and Technology) (AY 2023-24 onwards)

Program Outcomes and Program Specific Outcomes

Program Outcomes (POs)

- [PO.1.] Engineering knowledge: Demonstrate and apply knowledge of Mathematics, Science, and Engineering to classical and recent problems of electronic design & communication system.
- [PO.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.
- [PO.3.] Design/development of solutions: Design a component, system, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- [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 modeling 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 practices
- [PO.9.] Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings
- [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)

- [PSO 1]. An ability to understand the fundamentals of Electronics Engineering and to implement them in various domains of VLSI, communications, Image & Signal Processing.
- [PSO 2]. An ability to use the core and multidisciplinary knowledge for technical breakthroughs in industry and research to address the challenges of real world.
- [PSO 3]. To succeed professionally, the ideal combination of attitude and technical knowledge to sustain passion which results in success stories either in employment or as an entrepreneur.

Program Educational Objectives (PEOs)

- [PEO 1]. Graduates will exhibit the skills necessary to use modern technology and software in the domain of VLSI to address complex, multi-disciplinary problems in the real world.
- [PEO 2]. Graduates will develop strong character with knowledge and understanding of their social duties.
- [PEO 3]. Graduates will take up higher studies to continue research work in the recent trends and technologies.