

Programme Outcomes (School of Engineering)

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, 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, give and receive clear instructions.
11. **PROJECT MANAGEMENT & 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.

PROGRAM SPECIFIC OUTCOMES

B.Tech. (Computer Science and Engineering)

PSO-1: Apply standard Software Engineering practices and strategies in real-time software project development using open-source programming environment or commercial environment to deliver quality product for the organization success.

PSO-2: Design and develop computer programs/computer-based systems in the areas related to algorithms, networking, web design, cloud computing, IoT and data analytics of varying complexity

PSO-3: Acquaint with the contemporary trends in industrial/research settings and thereby innovate novel solutions to existing problems

M.Tech. (Computer Science and Engineering)

PSO-1: Apply Software Engineering Principles and Practices to provide software solutions.

PSO-2: Design and Develop Network, Mobile and Web-based Computational systems under realistic constraints.

PSO-3: Analyse and apply mathematical models to find solutions for various hardware and software issues in the design and maintenance of computer systems.

MCA

PSO-1: Apply the knowledge of computer application to find solutions for real-life application.

PSO-2: Ability to analyze, design, develop and maintain the software application with latest technologies.

PSO-3: Utilize skills and knowledge for computing practice with commitment on social, ethical, cyber and legal values.

PhD-(Computer Science and Engineering)

PSO-1. To prepare each student to actively participate in development and growth of the field of Computer Science and Engineering in the industry or research.

PSO-2. To impart skill in new technologies related to computing field.

PSO-3. To develop research oriented skills in computing and other interdisciplinary areas related to computing and complexity.

B.Tech. (Electronics and Communication Engineering)

PSO 1: Technical knowledge and analysis: Apprehend and analyze specific engineering problems of communication, networking, electrical & electronics circuits, signal processing, embedded systems, VLSI design and semiconductor technology by applying the knowledge of basic sciences, engineering mathematics and engineering fundamentals.

PSO 2: Design and Implementation: Ability to design and implement the acquired technical knowledge with proficiency in logical programming for applications in electronics & communication engineering.

PSO 3: Innovation and Development: Ability to innovate and develop the Assistive Products and Electronic Systems to Cater the Specific Requirements of Real World Problems.

M.Tech. (VLSI Design)

PSO 1: Achieve Verification and prototype development concentrating on applications.

PSO 2: Integrate multiple sub-systems to develop System On Chip, improve its performance.

PSO 3: Transfer the Technology from Specifications to IC/FPGA Technologies, in the areas of Digital and Analog VLSI Systems.

PhD (Electronics and Communication Engineering)

The PhD (Electronics and Communication Engineering) programme is one of the oldest doctoral programmes of the department. Traditionally bright students with ME/MTech degree in a relevant discipline have been admitted into this programme.

PSO 1: The research training program aims at strengthening the fundamentals and imparting advanced training. PhD students get opportunities to pursue innovative research on interesting topics including VLSI Design, Microwave and Millimeter wave Engineering, Digital Signal Processing, Electromagnetism, Power Electronics, Digital Signal Processing, Speech Processing, Image Processing and related field.

PSO 2: A PhD thesis results in a number of high quality research publications in reputed journals and conferences. The research and training experience enables the graduates to successfully lead R&D teams in the industry.

B.Tech. (Electrical Engineering)

Able to apply the knowledge gained during the course of the program from Mathematics, Basic Computing, Basic Sciences and Social Sciences in general and all electrical courses in particular to identify, formulate and solve real life problems faced in industries and/or during research work.

PSO 1: Able to provide socially acceptable technical solutions to complex electrical engineering problems with the application of modern and appropriate techniques for sustainable development.

PSO 2: Able to apply the knowledge of ethical and management principles required to work in a team as well as to lead a team.

B.Tech. (Mechanical Engineering)

PSO 1: Apply their knowledge in the domain of Thermal Engineering, Design Engineering and Manufacturing Engineering. An ability to identify, analyze and solve mechanical engineering problems related to allied engineering streams.

PSO 2: An ability to find out, state the local industrial problems, and solve with the use of Mechanical Engineering tools in the sphere of research and development, production, quality assurance, and maintenance and to apply managerial skills to become Technocrats and Entrepreneur.

PSO 3: An ability of collaborative learning to find out cost-effective, optimal solution sustainable growth with the help of modern CAD/CAM tools, ANSYS, Solidworks and various optimization techniques like Taguchi, RSM, Regression analysis etc. while ensuring best manufacturing practices.

M.Tech. (Nuclear Science and Technology)

PSO 1: Apply their knowledge in the domain of Nuclear Power plant Engineering, Nuclear Reactor Physics, Application in Radiation Technology, Plasma Physics, Radioactive waste Management and Thermal Hydraulics of Nuclear Reactor etc. An ability to identify, analyze and solve Nuclear engineering related problems.

PSO 2: An ability to find out, Nuclear physics and safety, security and safeguards related problems, and solve with the use of standard numerical tools such as CANDU and BWR simulator and perform research and development and to apply managerial skills to become Scientist, Technocrats and Entrepreneur etc.

PSO 3: Able to provide accurate technical solutions to Nuclear engineering related problems with the application of appropriate techniques for nuclear safety and operation. An ability of collaborative learning to find out cost-effective, optimal solution sustainable growth with the help of modern tools, and various optimization techniques.