ELECTRONICS AND COMMUNICATION ENGINEERING

Vision:

To become a leader of education, research and innovation in the area of Electronics and Communication Engineering and to train students to be innovative and well prepared professionals in the area of Electronics and Communication Engineering.

Mission:

1. Educate and mentor students to meet the current as well as future challenges by providing them with a firm foundation in both theory and practice of Electronics and Communication Engineering.
2. Create, develop and disseminate new knowledge by top quality applied research in Electronics and Communication Engineering by interacting with government agencies and private industry.
3. Promote a sense of leadership and service to the society.

Program Educational Objectives (PEOs)

1. Excel in professional career and/or higher education by acquiring knowledge in area of Electronics and Communication Engineering.
2. Analyze real life problems, design appropriate system to provide solutions that are technically sound, economically feasible and socially acceptable.
3. Exhibit professionalism, ethical attitude, communication skills, teamwork in their profession and adapt to current trends by engaging in life-long learning.

Programs Outcomes of B.Tech. Electronics and Communication Engineering are

B.Tech. Electronics and Communication Engineering students will demonstrate the ability 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.

PSO-1 An ability to understand the concepts of basic Electronics & Communication Engineering and to apply them to various areas like Signal processing, VLSI, Embedded systems, Communication Systems, Digital & Analog Devices, etc.

PSO-2 An ability to solve complex Electronics and Communication Engineering problems, using latest hardware and software tools, along with analytical skills to arrive cost effective and appropriate solutions.

PSO-3 Wisdom of social and environmental awareness along with ethical responsibility to have a successful career and to sustain passion and zeal for real-world applications using optimal resources as an Entrepreneur.

Department of Electronics & Communication Engineering,
M. M. M. University of Technology Gorakhpur-273010

PROGRAM NAME	**M. Tech. In Digital Systems**
PROGRAM EDUCATIONAL OBJECTIVES (PEOs)	
PEO1	To enable students in digital systems engineering with experts and professionals in the present generation of advanced digital techniques.
PEO2	To develop the capability of independent research project in digital systems engineering applying research principles and methods.
PEO3	To train the post-graduate in digital systems with the depth knowledge of various subjects of state-of-art interest.
PEO4	To train the postgraduate having the knowledge of different simulation tools used for measure the performance and diagnose the digital systems.
PEO5	To prepare students for Compiling and interpreting research data and presenting them in an appropriate format with scientific presentation, taking into consideration scientific principles and methodology, as well as practical applicability.
PEO6	To train students a high level of autonomy, accountability, credibility, ethics, and responsibility for all personal work outputs in the advanced digital domain.
PROGRAM OUTCOMES (POs)	
PO1	An ability to understand concept of advanced digital systems challenges and problems.
PO2	Educate and mentor students to address future challenges.
PO3	An ability to independently carry out research /investigation and development work to solve practical problems.
PO4	Design and implement an independent research project in field of digital systems by applying research principles and methods.
PO5	Create, develop and disseminates new knowledge in the field of digital systems.
PO6	Recognise the need for life- long -learning and prepare oneself to understand, select and apply appropriate techniques and modern engineering and IT tools to solve complex problems of digital systems field for environment and society context.
Program Specific Outcomes (PSOs)	
PSO1	An ability to understand the issues and challenges related to advanced digital systems.
PSO2	An ability to solve complex digital systems problems, using latest hardware and software tools, along with analytical skills to achieve cost effective and appropriate solutions.
PSO3	Wisdom of social and environmental awareness along with ethical responsibility to have a successful career and to sustain passion and zeal for real-world applications using optimal resources as an entrepreneur.

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PROGRAM NAME	**M. Tech. In Communication Engineering**
PROGRAM EDUCATIONAL OBJECTIVES (PEOs)	
PEO1	To enable students in Communication engineering with experts and professionals in the present generation of Advanced RF communication techniques.
PEO2	To develop the capability of independent research project in RF communication engineering applying research principles and methods
PEO3	To train the postgraduate in communication engineeringwith the depth knowledge of various subjects of state-of-art interest like advanced, smart antennas, satellite, microwave & mobile Communication
PEO4	To train the postgraduate having the knowledge of different simulation tools used for measure the performance and diagnose the RF communication systems
PEO5	To prepare students for Compiling and interpreting research data and presenting them in an appropriate format with scientific presentation, taking into consideration scientific principles and methodology, as well as practical applicability.
PEO6	To train students a high level of autonomy, accountability, credibility, ethics, and responsibility for all personal work outputs in the advanced RF and microwave fields.
PROGRAM OUTCOMES (POs)	
PO1	An ability to understand concept of advanced Communication Engineering challenges and problems.
PO2	Educate and mentor students to address future challenges.
PO3	An ability to independently carry out research /investigation and development work to solve practical problems.
PO4	Design and implement an independent research project in Communication field applying research principles and methods.
PO5	Create, develop and disseminates new knowledge in the field of communication engineering.
PO6	Recognise the need for life- long -learning and prepare oneself to understand, select and apply appropriate techniques and modern engineering and IT tools to solve complex problems of communication field for environment and society context.
Program Specific Outcomes (PSOs)	
PSO1	An ability to understand the issues and challenges related to advanced communication system.
PSO2	An ability to solve complex communication engineering problems, using latest hardware and software tools, along with analytical skills to achieve cost effective and appropriate solutions.
PSO3	Wisdom of social and environmental awareness along with ethical responsibility to have a successful career and to sustain passion and zeal for real-world applications using optimal resources as an entrepreneur.

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