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School of Engineering & Technology
Department of Mechanical Engineering

B.Tech (Mech.)

Programme Outcomes (POs)

PO1	Engineering Knowledge	Apply mathematics, science, and mechanical engineering principles to solve complex problems.
PO2	Problem Analysis	Identify, formulate, and analyze mechanical engineering challenges using scientific principles.
PO3	Design & Development	Design mechanical systems and components considering safety, sustainability, and efficiency.
PO4	Research & Investigation	Conduct experiments, analyze data, and synthesize information for innovative solutions.
PO5	Modern Tool Usage	Utilize advanced engineering tools, software, and technologies for mechanical applications.
PO6	Engineer & Society	Assess societal, health, safety, and legal aspects in mechanical engineering practice.
PO7	Environment & Sustainability	Understand the environmental impact of mechanical engineering solutions and promote sustainability.
PO8	Ethics	Apply ethical principles and professional responsibilities in engineering practice.
PO9	Individual & Team Work	Function effectively as an individual and as a team leader in multidisciplinary settings.
PO10	Communication	Communicate technical concepts effectively through reports, presentations, and documentation.
PO11	Project Management & Finance	Apply engineering and management principles to project execution and financial planning.
PO12	Life-long Learning	Engage in continuous learning to adapt to technological advancements in mechanical engineering.

Programme Specific Outcomes (PSOs)

PSO1	Core Mechanical Engineering Expertise	Gain proficiency in thermodynamics, fluid mechanics, manufacturing, and machine design.
PSO2	Industry-Oriented Skills	Develop practical skills for mechanical system design, automation, and industrial applications.
PSO3	Innovation & Entrepreneurship	Foster creativity and innovation for developing new mechanical technologies and startups.

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PSO4	Research & Development	Engage in mechanical engineering research to contribute to advancements in automation and sustainability.

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School of Engineering & Technology
Department of Mechanical Engineering

M. Tech Thermal (Mech.)

Programme Outcomes (POs)

PO1	Advanced Thermal Engineering Knowledge	Apply in-depth technical knowledge in the design and operation of various thermal systems.
PO2	Problem Analysis & Research	Identify, formulate, and solve complex thermal engineering problems using scientific principles.
PO3	Experimental & Computational Expertise	Conduct experiments, analyze data, and utilize computational tools for thermal system optimization.
PO4	Sustainable & Energy-Efficient Solutions	Develop energy-efficient and environmentally sustainable thermal engineering solutions.
PO5	Modern Tools & Simulation Techniques	Utilize advanced engineering tools, software, and simulation techniques for thermal analysis.
PO6	Ethical & Professional Responsibility	Uphold ethical standards and professional integrity in thermal engineering practices.
PO7	Communication & Leadership	Demonstrate effective communication and leadership skills in multidisciplinary engineering teams.
PO8	Lifelong Learning & Innovation	Engage in continuous learning and research to adapt to evolving thermal engineering technologies.

Programme Specific Outcomes (PSOs)

PSO1	Thermal System Design & Optimization	Develop expertise in designing and optimizing thermal systems for industrial applications.
PSO2	Renewable & Alternative Energy Technologies	Apply knowledge of renewable energy sources and alternative thermal technologies.
PSO3	Computational Fluid Dynamics (CFD) & Heat Transfer	Utilize CFD and advanced heat transfer techniques for thermal system analysis.
PSO4	Research & Development in Thermal Engineering	Conduct innovative research to contribute to advancements in thermal engineering and energy systems.

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School of Engineering & Technology
Department of Mechanical Engineering

M. Tech Machine Design (Mech.)

Programme Outcomes (POs)

PO1	Advanced Mechanical Design Knowledge	Gain expertise in mechanical design principles, stress analysis, and material selection.
PO2	Computational & Analytical Skills	Utilize computational tools and simulation techniques for mechanical system analysis.
PO3	Research & Innovation	Conduct independent research and contribute to advancements in machine design.
PO4	Design Optimization & Manufacturing	Apply optimization techniques to enhance mechanical component efficiency and durability.
PO5	Modern Tools & Simulation	Use advanced software for finite element analysis (FEA) and computational fluid dynamics (CFD).
PO6	Ethical & Professional Responsibility	Uphold ethical standards and professional integrity in mechanical engineering practices.
PO7	Communication & Leadership	Demonstrate effective communication and leadership skills in multidisciplinary engineering teams.
PO8	Lifelong Learning & Industry Adaptation	Engage in continuous learning to adapt to evolving mechanical design technologies.

Programme Specific Outcomes (PSOs)

PSO1	Advanced Stress & Failure Analysis	Master techniques for analyzing mechanical stresses, fatigue, and failure mechanisms.
PSO2	Machine Dynamics & Vibration Analysis	Develop expertise in machine dynamics, vibration control, and system stability.
PSO3	Computational Design & Simulation	Utilize CAD, FEA, and CFD tools for mechanical system modeling and optimization.
PSO4	Research & Development in Machine Design	Conduct innovative research to contribute to advancements in mechanical design and automation.

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School of Engineering & Technology
Department of Civil Engineering

B.Tech (Civil)

Programme Outcomes (POs)

PO1	Engineering Knowledge	Apply mathematics, science, and civil engineering principles to solve complex problems.
PO2	Problem Analysis	Identify, formulate, and analyze civil engineering challenges using scientific principles.
PO3	Design & Development	Design civil structures and systems considering safety, sustainability, and efficiency.
PO4	Research & Investigation	Conduct experiments, analyze data, and synthesize information for innovative solutions.
PO5	Modern Tool Usage	Utilize advanced engineering tools, software, and technologies for civil applications.
PO6	Engineer & Society	Assess societal, health, safety, and legal aspects in civil engineering practice.
PO7	Environment & Sustainability	Understand the environmental impact of civil engineering solutions and promote sustainability.
PO8	Ethics	Apply ethical principles and professional responsibilities in engineering practice.
PO9	Individual & Team Work	Function effectively as an individual and as a team leader in multidisciplinary settings.
PO10	Communication	Communicate technical concepts effectively through reports, presentations, and documentation.
PO11	Project Management & Finance	Apply engineering and management principles to project execution and financial planning.
PO12	Life-long Learning	Engage in continuous learning to adapt to technological advancements in civil engineering.

Programme Specific Outcomes (PSOs)

PSO1	Structural Engineering Expertise	Gain proficiency in designing and analyzing buildings, bridges, and other structures.
PSO2	Geotechnical & Environmental Engineering	Develop skills in soil mechanics, foundation engineering, and environmental sustainability.
PSO3	Transportation & Infrastructure Development	Apply civil engineering principles to roadways, railways, and urban planning.

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School of Engineering & Technology
Department of Civil Engineering

M. Tech Construction Technology & Management (Civil)

Programme Outcomes (POs)

PO1	Advanced Knowledge in Construction Technology	Gain expertise in construction materials, project management, and structural engineering.
PO2	Problem-Solving & Innovation	Apply engineering principles to solve complex construction challenges efficiently.
PO3	Research & Analytical Skills	Conduct independent research and analyze construction methodologies for optimization.
PO4	Sustainable & Smart Construction	Implement eco-friendly and technologically advanced construction practices.
PO5	Legal & Contractual Awareness	Understand construction laws, contracts, and financial management in civil projects.
PO6	Leadership & Teamwork	Demonstrate leadership in managing construction projects and multidisciplinary teams.
PO7	Communication & Documentation	Effectively communicate technical concepts and prepare professional reports.
PO8	Lifelong Learning & Industry Adaptation	Engage in continuous learning to stay updated with evolving construction technologies.

Programme Specific Outcomes (PSOs)

PSO1	Construction Materials & Management	Develop expertise in selecting materials and managing construction projects efficiently.
PSO2	Infrastructure Development & Planning	Apply knowledge to design and execute large-scale infrastructure projects.
PSO3	Advanced Structural Analysis	Utilize modern tools for structural analysis and optimization in construction.
PSO4	Research & Development in Construction	Conduct innovative research to contribute to advancements in construction technology.

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School of Engineering & Technology
Department of Civil Engineering

M. Tech Structural Engineering (Civil)

Programme Outcomes (POs)

PO1	Advanced Structural Engineering Knowledge	Gain expertise in structural analysis, design, and material behavior.
PO2	Problem-Solving & Innovation	Apply engineering principles to solve complex structural challenges efficiently.
PO3	Research & Analytical Skills	Conduct independent research and analyze structural methodologies for optimization.
PO4	Sustainable & Smart Structures	Implement eco-friendly and technologically advanced structural solutions.
PO5	Legal & Contractual Awareness	Understand construction laws, contracts, and financial management in civil projects.
PO6	Leadership & Teamwork	Demonstrate leadership in managing structural projects and multidisciplinary teams.
PO7	Communication & Documentation	Effectively communicate technical concepts and prepare professional reports.
PO8	Lifelong Learning & Industry Adaptation	Engage in continuous learning to stay updated with evolving structural technologies.

Programme Specific Outcomes (PSOs)

PSO1	Structural Analysis & Design	Develop expertise in designing and analyzing buildings, bridges, and other structures.
PSO2	Earthquake & Disaster-Resistant Structures	Apply knowledge to design structures that withstand seismic and environmental forces.
PSO3	Advanced Computational Techniques	Utilize modern tools for finite element analysis (FEA) and computational modeling.
PSO4	Research & Development in Structural Engineering	Conduct innovative research to contribute to advancements in structural technology.

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School of Engineering & Technology
Department of Electrical Engineering

B.Tech (EE)

Program Outcomes (POs)

These outcomes define the broad skills and competencies that graduates should acquire.

PO1	Engineering Knowledge	Apply mathematics, science, and engineering fundamentals to solve complex electrical engineering problems.
PO2	Problem Analysis	Identify, formulate, and analyze engineering challenges using first principles.
PO3	Design & Development	Create solutions for electrical systems considering safety, sustainability, and societal impact.
PO4	Investigations of Complex Problems	Use research-based knowledge and experimental methods to derive conclusions.
PO5	Modern Tool Usage	Utilize advanced engineering tools and software for electrical applications.
PO6	The Engineer & Society	Assess societal, health, legal, and cultural issues relevant to electrical engineering.
PO7	Environment & Sustainability	Understand the impact of engineering solutions on the environment and promote sustainable practices.
PO8	Ethics	Uphold professional ethics and responsibilities in engineering practice.
PO9	Individual & Team Work	Function effectively in diverse teams and multidisciplinary environments.
PO10	Communication	Convey technical information clearly through reports, presentations, and documentation.
PO11	Project Management & Finance	Apply engineering and management principles to lead projects efficiently.
PO12	Lifelong Learning	Adapt to technological advancements and engage in continuous learning.

Program Specific Outcomes (PSOs)

These outcomes focus on specialized competencies related to Electrical Engineering.

PSO1	Fundamental Understanding	Master core concepts of electrical engineering, including power systems, electronics, and control systems.

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PSO2	Problem-Solving in Electrical Engineering	Apply theoretical and practical knowledge to design and optimize electrical systems.
PSO3	Professional & Ethical Responsibility	Demonstrate ethical conduct, effective communication, and responsiveness to societal and environmental needs.

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School of Engineering & Technology
Department of Electrical Engineering

M.Tech Power System (EE)

Program Outcomes (POs)

These outcomes define the broad skills and competencies that graduates should acquire.

PO1	Research & Development	Independently conduct research and development activities to tackle practical challenges in power systems.
PO2	Problem Analysis	Recognize, evaluate, and address technical challenges in power systems while considering safety, societal, and environmental requirements.
PO3	Design & Development	Develop innovative solutions for power system engineering problems using advanced methodologies.
PO4	Investigations of Complex Problems	Apply research-based knowledge and experimental techniques to analyze and solve complex power system issues.
PO5	Modern Tool Usage	Utilize state-of-the-art tools and software for power system modeling, simulation, and analysis.
PO6	The Engineer & Society	Assess the societal, legal, and ethical implications of power system engineering solutions.
PO7	Environment & Sustainability	Promote sustainable practices in power system engineering to minimize environmental impact.
PO8	Ethics	Uphold professional ethics and responsibilities in power system engineering.
PO9	Individual & Team Work	Function effectively in diverse teams and multidisciplinary environments.
PO10	Communication	Convey technical information clearly through reports, presentations, and documentation.
PO11	Project Management & Finance	Apply engineering and management principles to lead power system projects efficiently.
PO12	Lifelong Learning	Adapt to technological advancements and engage in continuous learning in power system engineering.

Program Specific Outcomes (PSOs)

These outcomes focus on specialized competencies related to Power System Engineering.

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PSO1	Advanced Power System Analysis	Master core concepts of power system operation, control, and protection.
PSO2	Problem-Solving in Power Systems	Apply theoretical and practical knowledge to design and optimize power system networks.
PSO3	Professional & Ethical Responsibility	Demonstrate ethical conduct, effective communication, and responsiveness to societal and environmental needs in power system engineering.

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School of Engineering & Technology
Department of Electrical Engineering

M.Tech Control System (EE)

Program Outcomes (POs)

These outcomes define the broad skills and competencies that graduates should acquire.

PO1	Engineering Knowledge	Apply mathematics, science, and engineering fundamentals to solve complex control system problems.
PO2	Problem Analysis	Understand various control strategies and their applications for different types of systems.
PO3	Design & Development	Design large-scale control systems through modeling, analysis, and simulation.
PO4	Investigations of Complex Problems	Demonstrate implementation skills using advanced software and embedded tools.
PO5	Modern Tool Usage	Utilize state-of-the-art simulation tools such as MATLAB, LabVIEW, and DSPACE for control engineering applications.
PO6	The Engineer & Society	Contribute positively to collaborative and multidisciplinary research in control systems.
PO7	Environment & Sustainability	Undertake research in emerging areas of control systems with due consideration for economic and environmental factors.
PO8	Ethics	Follow ethical practices and contribute to sustainable development in control system engineering.
PO9	Individual & Team Work	Work independently and collaboratively in multidisciplinary settings.
PO10	Communication	Communicate technical concepts effectively through reports, presentations, and discussions.
PO11	Project Management & Finance	Apply engineering and management principles to lead control system projects efficiently.
PO12	Lifelong Learning	Recognize the need for continuous learning and professional development in control system engineering.

Program Specific Outcomes (PSOs)

These outcomes focus on specialized competencies related to Control System Engineering.

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PSO1	Advanced Control System Design	Master core concepts of control system modeling, analysis, and implementation.
PSO2	Problem-Solving in Control Systems	Apply theoretical and practical knowledge to design and optimize control strategies.
PSO3	Professional & Ethical Responsibility	Demonstrate ethical conduct, effective communication, and responsiveness to societal and environmental needs in control system engineering.

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School of Engineering & Technology
Department of Electronics and Communication Engineering

B.Tech Electronics and Communication Engineering

Program Outcomes (POs)

These outcomes define the broad skills and competencies that graduates should acquire.

PO1	Engineering Knowledge	Apply mathematics, science, and engineering fundamentals to solve complex electronics and communication engineering problems.
PO2	Problem Analysis	Identify, formulate, and analyze engineering challenges using first principles.
PO3	Design & Development	Develop solutions for electronic systems considering safety, sustainability, and societal impact.
PO4	Investigations of Complex Problems	Use research-based knowledge and experimental methods to derive conclusions.
PO5	Modern Tool Usage	Utilize advanced engineering tools and software for electronics applications.
PO6	The Engineer & Society	Assess societal, health, legal, and cultural issues relevant to electronics and communication engineering.
PO7	Environment & Sustainability	Understand the impact of engineering solutions on the environment and promote sustainable practices.
PO8	Ethics	Uphold professional ethics and responsibilities in engineering practice.
PO9	Individual & Team Work	Function effectively in diverse teams and multidisciplinary environments.
PO10	Communication	Convey technical information clearly through reports, presentations, and documentation.
PO11	Project Management & Finance	Apply engineering and management principles to lead projects efficiently.
PO12	Lifelong Learning	Adapt to technological advancements and engage in continuous learning.

Program Specific Outcomes (PSOs)

These outcomes focus on specialized competencies related to Electronics and Communication Engineering.

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PSO1	Advanced Electronics & Communication Systems	Ability to design, develop, and analyze systems in electronics, communication, signal processing, VLSI, and embedded systems.
PSO2	Modern Tool Utilization	Ability to use modern tools (both software and hardware) for the analysis of electronics and communication engineering systems.

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School of Engineering & Technology
Department of Computer Science

B.Tech Computer Science (CS)

Program Outcomes (POs)

PO1	Apply knowledge of mathematics, science, and engineering fundamentals to solve complex computing problems.
PO2	Design and develop software solutions considering societal, environmental, and ethical aspects.
PO3	Conduct investigations using research-based knowledge and methods to analyze computing challenges.
PO4	Utilize modern tools and technologies for software development and system design.
PO5	Function effectively as an individual and in multidisciplinary teams.
PO6	Communicate effectively in both technical and non-technical contexts.
PO7	Engage in lifelong learning to adapt to technological advancements.

Program Specific Outcomes (PSOs)

PSO1	Develop efficient algorithms and software solutions for real-world applications.
PSO2	Implement secure and scalable computing systems using emerging technologies.
PSO3	Apply AI, data science, and cloud computing principles in software development.

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School of Engineering & Technology
Department of Computer Science

M.Tech Computer Science and Engineering (CSE)

Program Outcomes (POs)

PO1	Conduct independent research and development to solve complex computing problems.
PO2	Demonstrate expertise in advanced computing areas like AI, cybersecurity, and data science.
PO3	Apply modern engineering tools and techniques for software and system development.
PO4	Function effectively in multidisciplinary teams and leadership roles.
PO5	Engage in lifelong learning and professional development.

Program Specific Outcomes (PSOs)

PSO1	Design and develop innovative computing solutions using advanced algorithms.
PSO2	Implement secure and optimized software architectures for various applications.
PSO3	Apply research methodologies to contribute to advancements in computing.

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School of Engineering & Technology
Department of Computer Science

M.Tech Software Engineering

Program Outcomes (POs)

PO1	Apply software engineering principles to design and develop high-quality software systems.
PO2	Utilize modern software development methodologies and tools effectively.
PO3	Conduct research and innovation in software engineering practices.
PO4	Demonstrate leadership and teamwork in software development projects.
PO5	Engage in continuous learning to adapt to evolving software technologies.

Program Specific Outcomes (PSOs)

PSO1	Develop scalable and secure software solutions using industry best practices.
PSO2	Implement AI-driven and cloud-based software applications.
PSO3	Apply software testing and quality assurance techniques for reliable systems.

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