



DEPARTMENT OF MECHANICAL ENGINEERING

2.6.1. Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website and attainment of POs and COs are evaluated (SEM – III – C – SCHEME)

2022 REGULATION-COURSE OUTCOMES

SEMESTER	COURSE CODE	COURSE NAME	COURSE ID	COURSE OUTCOME
III	MEC301	Engineering Mathematics-III	CO 1	Apply the concept of Laplace transform to solve the real integrals in engineering problems.
			CO 2	Apply the concept of inverse Laplace transform of various functions in engineering problems..
			CO 3	Expand the periodic function by using Fourier series for real life problems and complex engineering problems.
			CO 4	Find orthogonal trajectories and analytic function by using basic concepts of complex variable theory.
			CO 5	Apply Matrix algebra to solve the engineering problems.
			CO 6	Solve Partial differential equations by applying numerical solution and analytical methods for one dimensional heat and wave equations
III	MEC302	Strength of Materials	CO 1	Demonstrate fundamental knowledge about various types of loading and stresses induced..
			CO 2	Draw the SFD and BMD for different types of loads and support conditions.
			CO 3	Analyses the bending and shear stresses induced in beam.
			CO 4	Analyses the deflection in beams and stresses in shaft.
			CO 5	Analyses the stresses and deflection in beams and Estimate the strain energy in mechanical elements.
			CO 6	Analyses buckling phenomenon in columns.
III	MEC303	Production Processes	CO 1	Illustrate principles of forming processes.
			CO 2	Demonstrate applications of various types of welding processes..
			CO 3	Differentiate chip forming processes such as turning, milling, drilling, etc..
			CO 4	Illustrate the concept of producing polymer components and ceramic components..
			CO 5	Illustrate the concept of producing polymer components and ceramic components.
			CO 6	Illustrate principles and working of non-traditional manufacturing
			CO 7	Understand the manufacturing technologies enabling Industry 4.0



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III	MEC304	Materials and Metallurgy	CO 1	Identify the various classes of materials and comprehend their properties.
			CO 2	Apply phase diagram concepts to engineering applications.
			CO 3	Apply particular heat treatment for required property development
			CO 4	Identify the probable mode of failure in materials and suggest measures to prevent them
			CO 5	Choose or develop new materials for better performance
			CO 6	Decide an appropriate method to evaluate different components in service..
III	MEC305	Thermodynamics	CO 1	Demonstrate application of the laws of thermodynamics to a wide range of systems..
			CO 2	Compute heat and work interactions in thermodynamic systems
			CO 3	Demonstrate the interrelations between thermodynamic functions to solve practical problems.
			CO 4	Compute thermodynamic interactions using the steam table and Mollier chart
			CO 5	Compute efficiencies of heat engines, power cycles.
			CO 6	Apply the fundamentals of compressible fluid flow to the relevant systems

SEMESTER	COURSE CODE	COURSE NAME	COURSE ID	COURSE OUTCOME
IV	MEC401	Engineering Mathematics-IV	CO 1	Apply the concept of Vector calculus to evaluate line integrals, surface integrals using Green's theorem, Stoke's theorem & Gauss Divergence theorem.
			CO 2	Use the concepts of Complex Integration for evaluating integrals, computing residues & evaluate various contour integrals.
			CO 3	Apply the concept of Correlation, Regression and curve fitting to the engineering problems in data science.
			CO 4	Illustrate understanding of the concepts of probability and expectation for getting the spread of the data and distribution of probabilities.
			CO 5	Apply the concept of probability distribution to



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				engineering problems & testing hypothesis of small samples using sampling theory.
			CO 6	Apply the concepts of parametric and nonparametric tests for analyzing practical problems..
IV	MEC402	Fluid Mechanics	CO 1	Define properties of fluids, classify fluids and evaluate hydrostatic forces on various surfaces.
			CO 2	Illustrate understanding of dimensional analysis of Thermal and Fluid systems.
			CO 3	Differentiate velocity potential function and stream function and solve for velocity and acceleration of a fluid at a given location in a fluid flow.
			CO 4	Formulate and solve equations of the control volume for fluid flow systems and Apply Bernoulli's equation to various flow measuring devices
			CO 5	Calculate pressure drop in laminar and turbulent flow, evaluate major and minor losses in pipes.
			CO 6	Calculate resistance to flow of incompressible fluids through closed conduits and over surfaces.
IV	MEC403	Kinematics of Machinery	CO 1	Identify various components of mechanisms
			CO 2	Develop mechanisms to provide specific motion
			CO 3	Draw velocity and acceleration diagrams of various mechanisms
			CO 4	Choose a cam profile for the specific follower motion
			CO 5	Predict condition for maximum power
			CO 6	Illustrate requirements for an interference-free gear pair.
IV	MEC404	CAD/CAM	CO 1	Identify suitable computer graphics techniques for 3D modeling.
			CO 2	Transform, manipulate objects & store and manage data..
			CO 3	Transform, manipulate objects & store and manage data.
			CO 4	Create the CAM Tool path for specific given operations.
			CO 5	Build and create data for 3D printing of any given object using rapid prototyping and tooling processes.
			CO 6	Illustrate understanding of various cost effective alternatives for manufacturing products
			CO 1	Illustrate construction, working principles and



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IV	MEC404	Industrial Electronics		applications of power electronic switches..
			CO 2	Identify rectifiers and inverters for dc and ac motor speed control.
			CO 3	Develop circuits using OPAMP and Timer IC 555.
			CO 4	Identify digital circuits for industrial applications..
			CO 5	Demonstrate the knowledge of basic functioning of microcontrollers.
			CO 6	Analyze speed-torque characteristics of electrical machines for speed control.