

ST. MOTHER THERESA ENGINEERING COLLEGE
Department of Mechanical Engineering
Course Outcomes -Regulations: 2021
II Year (Odd Semester)

MA3351 Transforms and Partial Differential Equations

CO 1	Understand how to solve the given standard partial differential equations.
CO 2	Solve differential equations using Fourier series analysis which plays a vital role in engineering applications
CO 3	Appreciate the physical significance of Fourier series techniques in solving one- and two-dimensional heat flow problems and one-dimensional wave equa
CO 4	Understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of engineering
CO 5	Use the effective mathematical tools for the solutions of partial differential equations by using Z transform techniques for discrete time systems

ME3351 Engineering Mechanics

CO 1	Illustrate the vector and scalar representation of forces and moments.
CO 2	Examine the rigid body in equilibrium.
CO 3	Determine the properties of distributed forces.
CO 4	Determine the friction and the effects by the laws of friction.
CO 5	Calculate dynamic forces exerted in rigid body.

ME3391 Engineering Thermodynamics

CO 1	Apply the zeroth and first law of thermodynamics by formulating temperature scales and calculating the property changes in closed and open engineering systems.
CO 2	Apply the second law of thermodynamics in analysing the performance of thermal devices through energy and entropy calculations.
CO 3	Apply the second law of thermodynamics in evaluating the various properties of steam through steam tables and Mollier chart
CO 4	Apply the properties of pure substance in computing the macroscopic properties of ideal and real gases using gas laws and appropriate thermodynamic relations.
CO 5	Apply the properties of gas mixtures in calculating the properties of gas mixtures and applying various thermodynamic relations to calculate property changes

CE3391 Fluid Mechanics and Machinery

CO 1	Understand the properties and behaviour in static conditions. Also, to understand the conservation laws applicable to fluids and its application through fluid kinematics and dynamics
CO 2	Estimate losses in pipelines for both laminar and turbulent conditions and analysis of pipes connected in series and parallel. Also, to understand the concept of boundary layer and its thickness on the flat solid surface
CO 3	Formulate the relationship among the parameters involved in the given fluid phenomenon and to predict the performances of prototype by model studies
CO 4	Explain the working principles of various turbines and design the various types of turbines
CO 5	Explain the working principles of centrifugal, reciprocating and rotary pumps and design the centrifugal and reciprocating pumps

ME3392 Engineering Materials and Metallurgy

CO 1	Explain alloys and phase diagram, Iron-Iron carbon diagram and steel classification.
CO 2	Express the isothermal transformation, continuous cooling diagrams and different heat treatment processes.
CO 3	Clarify the effect of alloying elements on ferrous and non-ferrous metals.
CO 4	Summarize the properties and applications of non-metallic materials.
CO 5	Explain the testing of mechanical properties.

ME3393 Manufacturing Processes

CO 1	Explain the principle of different metal casting processes.
CO 2	Describe the various metal joining processes.
CO 3	Illustrate the different bulk deformation processes.
CO 4	Apply the various sheet metal forming process.
CO 5	Apply suitable molding technique for manufacturing of plastics components.

ME3381 Computer Aided Machine Drawing

CO 1	Prepare standard drawing layout for modelled assemblies with BoM.
CO 2	Model orthogonal views of machine components.
CO 3	Prepare standard drawing layout for modelled part

ME3382 Manufacturing Technology Laboratory

CO 1	Demonstrate the safety precautions exercised in the mechanical workshop and join two metals using GMAW.
CO 2	The students able to make the work piece as per given shape and size using machining process such as rolling, drawing, turning, shaping, drilling and milling.
CO 3	The students become make the gears using gear making machines and analyze the defects in the cast and machined components

GE3361 Professional Development

	On successful completion the students will be able to
CO 1	Use MS Word to create quality documents, by structuring and organizing content for their day to day technical and academic requirements
CO 2	Use MS EXCEL to perform data operations and analytics, record, retrieve data as per requirements and visualize data for ease of understanding
CO 3	Use MS PowerPoint to create high quality academic presentations by including common tables, charts, graphs, interlinking other elements, and using media objects.