

IV SEM Course Outcomes	
Subject: ENGINEERING MATHS IV Code: 15MAT41	
CO1	Use appropriate single-step and multi-step numerical methods to solve first and second order ordinary differential equations.
CO2	Use Power Series method and Frobenius method to find the solution of second order differential equations such as Legendre and Bessel differential equations.
CO3	Apply the idea of analyticity and the calculus of residues to evaluate real and complex integrals and to describe conformal transformations.
CO4	Describe random variables and probability distributions using rigorous statistical methods and translate real-world problems into probability models.
CO5	Explain and successfully apply parametric testing techniques including single and multi-sample tests for mean and proportion.
CO6	Estimate the nature and strength of relationship between two variables of interest using joint probability distribution and describe a discrete time Markov chain in terms of a transition matrix.
Subject: Kinematics of Machines Code: 15ME42	
CO1:	Demonstrate the concepts of machines, mechanisms and related terminologies. Determine the mobility (number of degrees-of-freedom) and enumerate rigid links and types of joints within mechanisms.
CO2:	Analyze the velocity and acceleration of mechanisms using analytical and graphical methods.
CO3:	Illustrate the gear mechanism classification and associated concepts.
CO4:	Summarize the importance gear trains and relate to their practical applications.
CO5:	Understand various cam and follower mechanism, their classification and cam profiles based on the prescribed follower motion.
Subject: Applied Thermodynamics Code: 15ME43	
CO1	Apply thermodynamic concepts to analyze the performance of gas power cycles including propulsion systems.
CO2	Evaluate the performance of steam turbine components.
CO3	Understand combustion of fuels and combustion processes in I C engines including alternate fuels and pollution effect on environment.
CO4	Apply thermodynamic concepts to analyze turbo machines
CO5	Determine performance parameters of refrigeration and air-conditioning systems.
CO6	Understand the principles and applications of refrigeration systems.
Subject: Fluid Mechanics Code: 15ME44	
CO1	Identify and calculate the key fluid properties used in the analysis of fluid behavior.
CO2	Understand and apply the principles of pressure, buoyancy and floatation

CO3	Apply the knowledge of fluid statics, kinematics and dynamics while addressing problems of mechanical and chemical engineering.
CO4	Understand and apply the principles of fluid kinematics and dynamics.
CO5	Understand the concept of boundary layer in fluid flow and apply dimensional analysis to form dimensionless numbers in terms of input output variables.
CO6	Understand the basic concept of compressible flow and CFD
Subject: MACHINE TOOLS & OPERATIONS	
Code: 15ME45B	
CO1	Explain the construction & specification of various machine tools.
CO2	Describe various machining processes pertaining to relative motions between tool & work piece.
CO3	Discuss different cutting tool materials, tool nomenclature & surface finish.
CO4	Apply mechanics of machining process to evaluate machining time.
CO5	Analyze tool wear mechanisms and equations to enhance tool life and minimize machining cost