



Sapthagiri College of Engineering

14/5, Chikkasandra, Hesaraghatta main road, Bengaluru-560057
(Affiliated to Visvesvaraya Technological University, Belgaum & Approved by AICTE, New Delhi)
An ISO 9001:2015 and 14001:2015 Certified Institution

DEPARTMENT OF MATHEMATICS

COURSE OUTCOMES

21 SCHEME

Course Code	Course Name	Course Outcomes-On completion of this course the students will be able to
21MAT11	CALCULUS AND LINEAR ALGEBRA	<p>CO1: Apply the knowledge of calculus to solve problems related to polar curves and its applications in determining the bentness of a curve.</p> <p>CO2: Learn the notion of partial differentiation to calculate rate of change of multivariate functions and solve problems related to composite functions and Jacobian.</p> <p>CO3: Solve first-order linear/nonlinear ordinary differential equations analytically using standard methods.</p> <p>CO4: Demonstrate various models through higher order differential equations and solve such linear ordinary differential equations.</p> <p>CO5: Test the consistency of a system of linear equations and to solve them by direct and iterative methods .</p>
21MAT21	ADVANCED CALCULUS AND NUMERICAL METHODS	<p>CO1: Able to the concept of changes of order of integration and change of variables to evaluate multiple integrals and their usage in computing the area and volume.</p> <p>CO2: Illustrate the applications of multivariate calculus to understand the solenoidal and irroational vectors and also exhibit the inter dependence of line, surface and volume integrals.</p> <p>CO3: Formulate physical problems to partial differential equations and to obtain solution for standard practical PDE's.</p> <p>CO4: Apply the knowledge of numerical methods in</p>



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		<p>modeling of various physical and engineering phenomena.</p> <p>CO5: Solve first order ordinary differential equations arising in engineering problems.</p>
21MAT31	<p>TRANSFORM CALCULUS, FOURIER SERIES AND NUMERICAL TECHNIQUES</p>	<p>CO1: To solve ordinary differential equations using Laplace transform.</p> <p>CO2: Demonstrate the Fourier series to study the behaviour of periodic functions and their applications in system communications, digital signal processing and field theory.</p> <p>CO3: To use Fourier transforms to analyze problems involving continuous-time signals and to apply Z-Transform techniques to solve difference equations</p> <p>CO4: To solve mathematical models represented by initial or boundary value problems involving partial differential equations</p> <p>CO5: Determine the extremals of functionals using calculus of variations and solve problems arising in dynamics of rigid bodies and vibrational analysis.</p>



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		interpret the hypothesis for the given sampling distribution and to solve stochastic process problems.
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