DEPARTMENT OF MATHEMATICS 2022 Scheme	
I SEMESTER	
Course Code	**BMATC101 – MATHEMATICS-I (CIVIL STREAM)**
CO1	Apply the knowledge of calculus to solve problems related to polar curves.
CO2	Learn the notion of partial differentiation to compute rate of change of multivariate functions.
CO3	Analyze the solution of linear and nonlinear ordinary differential equations
CO4	Make use of matrix theory for solving for system of linear equations and compute Eigen values and eigenvectors
CO5	Familiarize with modern mathematical tools namely MATHEMATICA/ MATLAB/ PYTHON/SCILAB.
Course Code	**BMATS101– MATHEMATICS -I (CSE STREAM)**
CO1	Apply the knowledge of calculus to solve problems related to polar curves and learn the notion of partial differentiation to compute rate of change of multivariate functions
CO2	Analyze the solution of linear and nonlinear ordinary differential equations
CO3	Get acquainted and to apply modular arithmetic to computer algorithms.
CO4	Make use of matrix theory for solving for system of linear equations and compute Eigen values and eigenvectors
CO5	Familiarize with modern mathematical tools namely MATHEMATICA/MATLAB/ PYTHON/ SCILAB
Course Code	**BMATE101 – MATHEMATICS-I (EC & EEE STREAM)**
CO1	Apply the knowledge of calculus to solve problems related to polar curves and learn the notion of partial differentiation to compute rate of change of multivariate functions
CO2	Analyze the solution of linear and nonlinear ordinary differential equations
CO3	Apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing area and volume
CO4	: Make use of matrix theory for solving for system of linear equations and compute Eigen values and eigenvectors
CO5	Familiarize with modern mathematical tools namely MATHEMATICA/ MATLAB/ PYTHON/SCILAB..
Course Code	**BMATM101 – MATHEMATICS-I (MECHANICAL STREAM)**
CO1	Apply the knowledge of calculus to solve problems related to polar curves.
CO2	Learn the notion of partial differentiation to compute rate of change of multivariate functions.
CO3	Analyze the solution of linear and non-linear ordinary differential equations.
CO4	Make use of matrix theory for solving for system of linear equations and compute Eigen values and eigenvectors
CO5	Familiarize with modern mathematical tools namely MATHEMATICA/ MATLAB/ PYTHON/SCILAB

II SEMESTER	
Course Code	BMATC201 – MATHEMATICS - II FOR CIVIL STREAM
CO1	Apply the knowledge of multiple integrals to compute area and volume
CO2	Understand the applications of vector calculus refer to solenoidal, irrotational vectors, line integral and surface integral.
CO3	Demonstrate partial differential equations and their solutions for physical interpretations.
CO4	Apply the knowledge of numerical methods in solving physical and engineering phenomena.
CO5	Get familiarize with modern mathematical tools namely MATHEMATICA/MATLAB/PYTHON/SCILAB.
Course Code	BMATS201 - MATHEMATICS - II FOR CSE STREAM
CO1	Apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing area and volume
CO2	Understand the applications of vector calculus refer to solenoidal, and irrotational vectors. Orthogonal curvilinear coordinates
CO3	Demonstrate the idea of Linear dependence and independence of sets in the vector space, and linear transformation
CO4	Apply the knowledge of numerical methods in analysing the discrete data and solving the physical and engineering problems.
CO5	Get familiarize with modern mathematical tools namely MATHEMATICA/ MATLAB /PYTHON/ SCILAB.
Course Code	BMATE201 - MATHEMATICS - II FOR EC & EEE STREAM
CO1	Understand the applications of vector calculus refer to solenoidal, irrotational vectors, Line integral and surface integral
CO2	Demonstrate the idea of Linear dependence and independence of sets in the vector space, and linear transformation
CO3	To understand the concept of Laplace transform and to solve initial value problems.
CO4	Apply the knowledge of numerical methods in solving physical and engineering phenomena
CO5	Get familiarize with modern mathematical tools namely MATHEMATICA/MATLAB/PYTHON/ SCILAB
Course Code	BMATM201 - MATHEMATICS - II FOR MECHANICAL STREAM
CO1	Apply the knowledge of multiple integrals to compute area and volume.
CO2	Understand the applications of vector calculus refer to solenoidal, irrotational vectors, line integral and surface integral.
CO3	Demonstrate partial differential equations and their solutions for physical interpretations.
CO4	Apply the knowledge of numerical methods in solving physical and engineering phenomena.
CO5	Get familiarize with modern mathematical tools namely Mathematics/MatLab/Python/Scilab
III SEMESTER	
Course Code	**BCS301 - MATHEMATICS FOR COMPUTER SCIENCE**
CO1	Explain the basic concepts of probability, random variables, probability distribution
CO2	Apply suitable probability distribution models for the given scenario.

CO3	Apply the notion of a discrete-time Markov chain and n-step transition probabilities to solve the given problem
CO4	Use statistical methodology and tools in the engineering problem-solving process.
CO5	Compute the confidence intervals for the mean of the population.
CO6	Apply the ANOVA test related to engineering problems.
Course Code	**BMATEC301 - AV Mathematics-III for EC Engineering**
CO1	Demonstrate the Fourier series to study the behavior of periodic functions and their applications in system communications, digital signal processing, and field theory.
CO2	To use Fourier transforms to analyze problems involving continuous-time signals
CO3	To apply Z-Transform techniques to solve difference equations
CO4	Understand that physical systems can be described by differential equations and solve such equations
CO5	Make use of correlation and regression analysis to fit a suitable mathematical model for statistical data
Course Code	**BMATE301 - MATHEMATICS-III FOR EE ENGINEERING**
CO1	Understand that physical systems can be described by differential equations and solve such equations
CO2	Make use of correlation and regression analysis to fit a suitable mathematical model for statistical data
CO3	Demonstrate the Fourier series to study the behavior of periodic functions and their applications in system communications, digital signal processing, and field theory.
CO4	To use Fourier transforms to analyze problems involving continuous-time signals and to apply Z-Transform techniques to solve difference equations
CO5	Apply discrete and continuous probability distributions in analyzing the probability models arising in the engineering field. Demonstrate the validity of testing the hypothesis.

PRINCIPAL
S.J.M.I.T., Chitradurga.