

Government Engineering College-Bhuj

Semester-3, Branch: Mechanical,

Subject: Mathematics-3(BE03000211)

Syllabus for Mid semester examination

Sr.No	Content
1	Fourier Series: Periodic functions, Fourier series of functions of 2π or any other period, Dirichlet's condition for convergence of Fourier, series, Fourier series of even and odd functions, Half-range Fourier series
2	Partial Differential Equations (PDEs): Formation of partial differential equations, solution of first order linear and non-linear partial differential equations, Charpit's method. Solution of homogeneous and non homogeneous linear partial differential equations of second and higher order by complementary function and particular integral method, classification of second order linear partial differential equations, method of separation of variables, one-dimensional wave equation and heat equation.
3	Laplace Transforms: Laplace transform and Inverse Laplace transform, linearity, first shifting theorem (s-shifting), transforms of derivatives and integrals Laplace transform of periodic functions, short impulses, Dirac's delta function, convolution, integral equations, differentiation and integration of transforms, ODEs with variable coefficients, systems of ODEs