Content:

Infinite series and expansion of functions

Ordinary differential equations: first order Separable, homogeneous, Exact, and linear Equations. nth order D.E with constant coefficients. (homogeneous and non-homogeneous)

Functions of several variables: Partial differentiation, maximum and minimum values, Lagrange's multipliers and conditional extrema, envelopes

Vectors analysis: gradient of scalar fields, divergence and curl of vector fields,

Multiple integrals: double integral, triple integral, line integral and surface integral- Green's - Gauss's - Stoke's theorems

Functions of complex variable: analytic functions, Cauchy theorem, bilinear transformations, conformal mapping complex differentiation, Complex integrals, Cauchy integral formula, Taylor's and Laurent's series, singular points poles, residue, complex integrals Contour integration.