MA2002: MATHEMATICS IV

Pre-requisite: MA 1001 Mathematics I, MA 1002 Mathematics II

Total Hours: 56 Hrs

Module 1: Series Solutions and Special Functions (15 Hours)

Module 2: Partial differential Equations (16 Hours)

Module 3: Complex Numbers and Functions (13 Hours)
Complex functions, Derivative, Analytic function, Cauchy- Reimann equations, Laplace’s equation, Geometry of Analytic functions: Conformal mapping, Linear fractional Transformations, Schwarz - Christoffel transformation, Transformation by other functions.

Module 4: Complex Integration (12 Hours)
Line integral in the Complex plane, Cauchy’s Integral Theorem, Cauchy’s Integral formula, Derivatives of analytic functions, Power series, Functions given by power series, Taylor series and Maclaurin’s series. Laurent’s series, Singularities and Zeros, Residue integration method, Evaluation of real Integrals.

References: