

SYLLABUS

COMPLEX ANALYSIS-II

MSc. (MATHEMATICS)

UNIT - I

Maximum Modulus principle, Schwarz' Lemma, Taylor series and Laurent series. Singularities, Cauchy's residue theorem. Calculus of residues, bilinear transformations. Zeros and poles of meromorphic functions, Rouché's theorem, Argument Principle.

UNIT - II

Definitions and examples of conformal mappings. Infinite products, Weierstrass theorem, Mittag-Leffler's theorem, Canonical product, Analytic Continuation through power series (basic ideas), Natural boundary, the Gamma function and Riemann Zeta function.