

SX-S 213
ANDHRA UNIVERSITY
DEPT. OF MATHEMATICS
M.Sc. Mathematics

W.e.f. 2003-2004 AB

ML 204. COMPLEX ANALYSIS - I

UNIT - I

Elementary properties and examples of analytic functions: Power series - Analytic functions - Analytic functions as mappings, mobius transformations.

(§ 1, §2, §3 of chapter - III of prescribed text book)

UNIT - II

Complex integration: Riemann - stieljes integrals - Power series representation of analytic functions - zeros of an analytic functions - The index of a closed curve

(§ 1, §2, §3, § 4 of chapter -IV of prescribed text book)

UNIT - III

Cauchy's theorem and integral formula - The homotopic version of cauchy's theorem and simple connectivity - Counting zeros; the open mapping theorem.

(§5, §6 §7 of chapter -IV of prescribed text book)

UNIT - IV

Singularities: Classifications of singularities - Residues - The argument principle.

(§ 1, §2, §3 of chapter - V of prescribed text book)

Prescribed text book:

Functions of one complex variables by J.B. Conway : Second edition , Springer International Student Edition, Narosa Publishing House , NEW DELHI.