

PANJAB UNIVERSITY, CHANDIGARH M.Sc. (Mathematics)

SEMESTER-II

MATH 624S : COMPLEX ANALYSIS-II

Total Marks	: 100
Theory	: 80 Marks
Internal Assessment	: 20 Marks
Time	: 3 hrs

- Note :**
1. The question paper will consist of 9 questions. Candidates will attempt total five questions.
 2. Question No. 1 is compulsory and will consist of short answer type questions covering the whole syllabus.
 3. There will be four questions from each Unit and the candidates will be required to attempt two questions from each Unit.
 4. All questions carry equal marks.

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.