

VEER NARMAD SOUTH GUJARAT UNIVERSITY

M. Sc. (Part – I) (Tech)

Industrial Mathematics with Computer Applications w.e.f. July – August 2004

IMCA – 102 Complex Analysis

L	P	T	
Total			
4	0	0	4

- Analytic Functions
- Cauchy-Riemann Equations
- Multi-valued functions
- Complex Integration
- Cauchy's theorem, Cauchy Integral Formula
- Liouville's, Morera, Maximum Modulus theorems
- Power Series representation (Taylor and Laurent series)
- Singularities, Residue, Residue theorem
- Calculus of residues
- Conformal transformation
- Bilinear transformation
- Schwarz-Christoffel transformation.

References:

1. S. Lang, Complex Analysis, Addison Wesley, 1997.
2. S. Ponnuswamy, Foundations of Complex Analysis, Narosa Publishing House, 1997.
3. H. A. Priestly, Introduction to Complex Analysis, Clarendon Press, Oxford, 1990.
4. J. B. Conway, Functions of one Complex variable, Springer-Verlag, International Student Edition, Narosa Publishing House, 1980.
5. L. V. Ahlfors, Complex Analysis, McGraw-Hill, 1979.
6. Mark J. Ablowitz and A. S. Fokas, Complex Variables: Introduction and Applications, Cambridge University Press, South Asian Edition, 1998.
7. Walter Rudin, Real and Complex Analysis, McGraw-Hill Book Co., 1966.
8. W. A. Veech, A Second Course in Complex Analysis, W. A. Benjamin, 1967.