



	2.6 Residue's theorem, application to evaluate real integral of type $\int_0^{2\pi} f(\cos \theta, \sin \theta) d\theta$ , & $\int_{-\infty}^{\infty} f(x) dx$	05
3	<b>Mathematical Programming</b> 3.1 Linear optimization problem, standard and canonical form of LPP, basic and feasible solutions, primal simplex method (more than two variables). 3.2 Artificial variables, Big-M method (method of plenty) 3.3 Dual problem, duality principle Dual simplex method, degeneracy and alternative optima. Unbounded solution. 3.4 Nonlinear Programming. Unconstrained optimization, problem with equality constraints Lagrange Multiplier Method, Problem with inequality constraints Kuhn-Tucker conditions.	06 03 07 07

#### Term Work:

1. Based on above syllabus at least 10 tests assessed papers (10 marks)
2. One term test of 100 marks like university pattern must be conducted and scaled to 10 marks.
3. Attendance 05 marks.

#### Reference Books:

1. Complex Variables: Churchill, Mc-Graw Hill
2. Elements of Applied mathematics, P N & J N Wartikar, Pune Vidarthi Gruha Prakashan.
3. Higher engineering Mathematics, Dr B. S. Grewal, Khanna Publication
4. Advanced Engineering Mathematics, E Kreyszing, Wiley Eastern Limited.
5. Operations Research, Kantiswearup, Manmohan, P K Gupta, S. Chand & Co.
6. Operations Research, S D Sharma, S. Chand & Co.
7. Matrices, A. R. Vasishtha, Krishna Prakashan.