M.A./M.Sc. (Final) Mathematics

MAMT-10   **Paper-V : Mathematical Programming**

Unit 1 : Separating and supporting hyper-plane convex function.

Unit 2 : Revised simplex method for linear programming problems. Bounded variable problem.

Unit 3 : Integer programming. Gomory's algorithm for all integer programming problem.

Unit 4 : Branch and bound technique is integer programming.

Unit 5 : Quadratic forms. Lagrangian function and Lagrangian multiplier.

Unit 6 : Non-linear programming problem and its fundamental ingredients. Saddle points. Necessary and sufficient condition for Saddle point in NLPP.

Unit 7 : Constrained optimizations in NLPP. Kuhn-Tucker conditions and Kuhn-Tucker theorem.

Unit 8 : Quadratic programming. Wolf's method and Beale's method in QPP.

Unit 9 : Quadratic programming and duality in quadratic programming.

Unit 10 : Convex Separable programming and algorithm.

Unit 11 : Dynamic programming. Bellaman's optimality principle.

Unit 12 : Solution of linear programming problems using Dynamic Programming.