

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

## 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. Bellman's optimality principle.
- Unit 12** : Solution of linear programming problems using Dynamic Programming.