GUJARAT TECHNOLOGICAL UNIVERSITY
M.E. Semester: III
Wireless Communication Systems and Networks (EC)

Subject Name: **Optimization Techniques (Major Elective-IV)**
Subject Code: **730403**

Sr. No	Course content
1.	Motivation. Mathematical review, matrix factorization, sets and sequences, convex sets and functions.
2.	Linear programming and simplex methods, Weierstrass' Theorem, Karush Kuhn Tucker optimality conditions, algorithms, convergence.
3.	Unconstrained optimization, Line search methods, method of multidimensional search, method of multi dimensional search, steepest descent methods, Newton's method, trust region methods, conjugate gradient methods, quasi-Newton's methods.
4.	Constrained optimization, penalty and barrier function methods, augmented Lagrangian methods, Polynomial time algorithm for linear programming.
5.	Successive linear programming, successive quadratic programming.

Reference Book:

1. M.S.Bazaraa, H.D.Sherali and C. Shetty, Nonlinear Programming theory and Algorithms, John Wiley and Sons, New York.