Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY be - semester-viii (new) - examination – summer 2017					
Subject Code: 2181912 Date: 04/05/2017					
Subject Name: Optimization(Department Elective II)Time: 10:30 AM to 01:00 PMInstructions:			Total Marks: 7	70	
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.			
Q.1	(a)	List out Application of Optimization. & define 1. Design Vector Constraints, 3. Constraint Surface, 4. Objective Function	tor, 2. Design	07	
	(b)	Differentiate Simple Algorithm & Simplex Method.		07	
Q.2 (a)		Describe Lagrange's method of multipliers for solving n optimization Problems.	ulti variable	07	
	(b)	State Kuhn-Tucker condition for multi variable optimization w constraint.	ith inequality	07	
		OR			
	(b)	Find the dimension of a box of largest volume that can be in scr of unit Radius by Direct Substitution method.	ibed in sphere	07	
Q.3	(a)	Enlist Minimization methods & Explain Fibonacci method in de	tail.	07	
-	(b)	Short note on Golden Section method.		07	
		OR			
Q.3	(a)	Compare Newton-Raphson and Quasi- Newton method.		07	
	(b)	Find the minimum of $f = x (x - 1.5)$ in the interval (0.0, 1.0) to v the exact value by Interval Halving method.	within 10% of	07	
Q.4	(a)	Classify Unconstrained Optimization Techniques. & Explain method.	Grid Search	07	
	(b)	What are the roles of Exploratory and Pattern moves in the method?	Hooke-Jeeves	07	
		OR			
Q.4	(a)	Explain in detail Random Search methods.		07	
	(b)	Discuss Powell's Method for nonlinear programming in detail.		07	
Q.5	(a)	Write Short note on Genetic Algorithms.		07	
	(b)	What do you mean by Neural Network? Discuss in detail.		07	
		OR			
Q.5	(a)	Explain optimization of Fuzzy System in detail.		07	
	(b)	Discuss application of Linear Programming.		07	
