Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER–IV • EXAMINATION – SUMMER • 2014

Subject Code: 2640009 Date: 03-06-2014

Subject Name: Soft Computing

Time: 10:30 am - 01:00 pm Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	1. State real life applications of Artificial Neural Network. 2. State real life applications of Genetic Algorithm. 3. State real life applications of Fuzzy Logic. 4. Artificial Neural Network tries to simulate human brain's learning ability – State whether this statement is true or false. 5. What are fuzzy relations? 6. What is Boltzmann machine? 7. What is Hopfield Network?	**07**
	(b)	Explain the various selection techniques in Genetic Algorithm.	**07**
Q.2	**(a)**	Explain Architecture & Operation of Fuzzy Logic Control System.	**07**
	(b)	Explain basic model of Artificial Neural Network.	**07**
		OR	
	(b)	What is Radial Basis Function Network.	**07**
Q.3	**(a)**	What is Time Delay Neural Network.	**07**
	(b)	Explain Simulated Annealing Network.	**07**
		OR	
Q.3	**(a)**	Explain Kohonen Self-Organizing Motor Maps with example.	**07**
	(b)	Explain Adaptive Resonance Theory Network.	**07**
Q.4	**(a)**	What is Mc Culloh – Pits Neuron model.	**07**
	(b)	Explain Fuzzy Rule Based System with example.	**07**
		OR	
Q.4	**(a)**	Explain Defuzzification methods in Fuzzy Logic Control System	**07**
	(b)	What is Fixed Weight Competitive Networks.	**07**
Q.5	**(a)**	Explain working principle of Genetic algorithm.	**07**
	(b)	State and explain different crossover techniques of Genetic Algorithm in detail.	**07**
		OR	
Q.5	**(a)**	State and explain mutation techniques of Genetic Algorithm in detail.	**07**
	(b)	State and explain different encoding methods of Genetic Algorithm.	**07**

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