Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER– IV• EXAMINATION – WINTER - 2017

Subject Code: 2640009 **Date: 06-01-2018**

Subject Name: Soft Computing

Time: 02:30 pm to 05:00 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)**	Explain any two real life applications of neural networks, fuzzy logic and genetic algorithm each.	**07**
	(b)	Explain McCulloch-Pitts Neuron giving example.	**07**
Q.2	**(a)**	What is Hebb Network?	**07**
	(b)	State the similarities and differences between Back Propagation Network and Radial Basis Function Network.	**07**
		OR	
	(b)	What is Auto associative Memory Network?	**07**
Q.3	**(a)**	Explain Bidirectional Associative Memory.	**07**
	(b)	What is meant by Fixed Weight Competitive Nets?	**07**
		OR	
Q.3	**(a)**	Explain Kohonen Self-Organizing Motor Maps with real life example.	**07**
	(b)	Explain Adaptive Resonance Theory Network with an example.	**07**
Q.4	**(a)**	Explain Simulated Annealing Network & Boltzmann Machine.	**07**
	(b)	Explain Crisp login, predicate logic and fuzzy logic.	**07**
		OR	
Q.4	**(a)**	Explain fuzzy rule based system with an example.	**07**
	(b)	State and explain the different defuzzification methods for a fuzzy logic control systems.	**07**
Q.5	**(a)**	Explain architecture and Operation of FLC System.	**07**
	(b)	Explain the working principle of Genetic Algorithm.	**07**
		OR	
Q.5	**(a)**	Explain different crossover operators and mutation operators in genetic algorithm.	**07**
	(b)	Explain difference between a. Fuzzy Set and Crisp Set b. Fuzzy Relations and Crisp Relations	**07**

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