Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – III • EXAMINATION – WINTER • 2014

Subject code: 730205 **Date: 27-11-2014**

Subject Name: Fuzzy Logic and Neural Networks

Time: 02:30 pm - 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 Fuzzy c-means algorithms with example.	**07**
	(b)	Explain Single Layer Perceptrons for neurons.	**07**
Q.2	**(a)**	Explain technique used for process of classification of membership function.	**07**
	(b)	Describe fuzzy associative memory with example.	**07**
		OR	
	(b)	Explain multi objective decision making.	**07**
Q.3	**(a)**	Explain crisp sets, fuzzy sets with respects to similarity and differences.	**07**
	(b)	Explain fuzzy relation with example.	**07**
		OR	
Q.3	**(a)**	Explain Bidirectional Associative Memory proposed by Wang.	**07**
	(b)	Explain Hopfield neural network with the concept of local minima of energy function.	**07**
Q.4	**(a)**	Explain self organizing networks.	**07**
	(b)	Explain supervised and unsupervised learning with example.	**07**
		OR	
Q.4	**(a)**	Explain Radial Basis function.	**07**
	(b)	Explain swam intelligence.	**07**
Q.5	**(a)**	What is feed forward network? Explain its working with suitable example.	**07**
	(b)	Explain working of back propagation learning algorithms.	**07**
		OR	
Q.5	**(a)**	Explain usefulness of neural networks in face reorganization.	**07**
	(b)	Explain Hebbian learning rule and delta learning rule.	**07**

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