Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) EXAMINATION – WINTER 2018

Subject Code: 2172009 **Date: 03/12/2018**

Subject Name: Soft Computing Applications

Time: 10:30 AM TO 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.**

			MARKS
Q.1	**(a)**	Explain Mamdani Architecture in detail.	**03**
	(b)	Define characteristics of neural networks.	**04**
	(c)	Explain Mc Culloch and Pitt's model.	**07**
Q.2	**(a)**	Discuss the Value Encoding.	**03**
	(b)	Define and explain the unsupervised learning.	**04**
	(c)	Define Soft Computing. Explain its importance. How is Soft Computing different from Hard Computing?	**07**
		OR	
	(c)	Discuss Kohonen's self organizing networks in detail.	**07**
Q.3	**(a)**	Discuss the Tree Encoding	**03**
	(b)	Explain sugeno Architecture in detail.	**04**
	(c)	Explain Adaptive Resonance Theory.	**07**
		OR	
Q.3	**(a)**	Discuss the Permutation Encoding.	**03**
	(b)	Enlist and explain different of defuzzification in brief.	**04**
	(c)	Explain MLP problem with linear activation function.	**07**
Q.4	**(a)**	Explain the working of artificial neuron.	**03**
	(b)	Differentiate between classical relations vs Fuzzy relation.	**04**
	(c)	Write short note on MEDALINE and ADALINE.	**07**
		OR	
Q.4	**(a)**	What is NETTALK?	**03**
	(b)	State the features of membership functions	**04**
	(c)	What are hybrid systems? Explain various hybrid systems.	**07**
Q.5	**(a)**	Give the advantages of Neural Network.	**03**
	(b)	What are the applications of genetic algorithm?	**04**
	(c)	With a suitable case explain application of soft computing in detail.	**07**
		OR	
Q.5	**(a)**	What is Neocognitron?	**03**
	(b)	Explain the working principle of genetic algorithm.	**04**
	(c)	Write short note on AI vs ANN.	**07**

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