

www.FirstRanker.com

www.FirstRanker.com

Roll No. Total No. of Pages : 01 Total No. of Questions : 08 M.Tech.(ECE) (Sem1) NEURAL NETWORK & FUZZY LOGIC Subject Code : EC-505 Paper ID : [E0497] Time : 3 Hrs. Max. Marks : 100	
 Attempt any FIVE questions out of EIGHT questions. Each question carries TWENTY marks. 	
Q1.	a) What are the main characteristics of neural networks? Give the historical development of neural network principles.
	b) Draw and explain the basic model of artificial neuron.
Q2.	a) Give discrete and continuous versions of Hopfield networks.
	b) State and prove perception convergence theorem.
Q3.	a) Why a single layer perception cannot simulate a simple exclusive-or function? Explain.
	b) Explain the operation of K-means clustering algorithm.
Q4.	Develop a perception for the AND function with binary inputs and bipolar targets without bias up to 2 epochs. (Take first with $(0, 0)$ and next without $(0, 0)$).
Q5.	a) Differentiate between fuzziness and probability. Explain neural fuzzy systems, fuzzy neural networks fuzzy hybrid systems.
	b) Explain neural network based fuzzy systems.
Q6.	a) List the main components of fuzzy logic controller. Explain each of them in detail.
	b) Explain the defuzzification methods.
Q7.	a) Explain the steps in solution of general optimization problem by a neural network.
	b) List various applications of the neural networks. Explain pattern recognition in detail.
Q8.	Write notes on :
	a) Advantages of fuzzy logic over the artificial neural networks.
	b) PID control.
	c) Limitation of recurrent back propagation algorithm.