Exam.Code:0932
Sub. Code: 33704

2015

B.E. (Electronics and Communication Engineering)

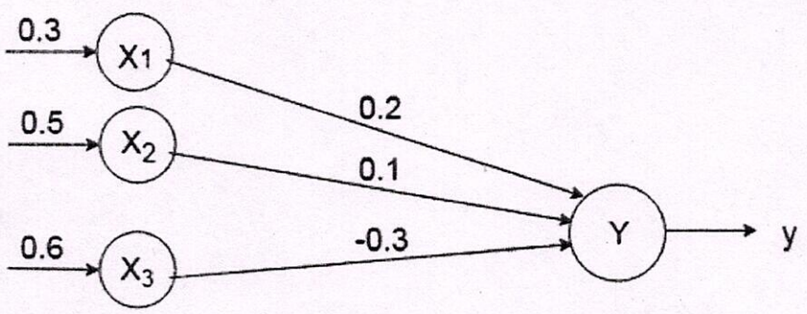
Eighth Semester

EC-810: Neural Networks and Fuzzy Logic

Time allowed: 3 Hours | Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.*

x-x-x

Q.1a)	Differentiate supervised and unsupervised learning.	(5×2)
b)	Distinguish auto associative and hetero associative memories.	
c)	What is generalization? Explain.	
d)	Why we need Back propagation?	
e)	Compare and contrast Fuzzy vs Crisp.	
	UNIT - I	
Q.2a)	How artificial neuron is inspired from the biological neuron? Explain.	(4)
b)	Why thresholding function is not used as activation function in Multilayer Feed Forward Networks.	(3)
c)	Justify, why single layer perceptron network could not solve even XOR problem.	(3)
Q.3a)	Explain types of activation functions used in artificial neural network.	(5)
b)	For the network shown in figure, calculate the net input to the neuron? 	(5)
Q.4a)	Why BAM is required and discuss its limitation?	(5)
b)	What do you mean by Radial basis function network? Explain the regularization theory route to RBFNs.	(5)
	UNIT - II	
Q.5a)	Why reset mechanism is essential in ART networks. Sketch the architecture of ART 1 network.	(5)
b)	Consider two fuzzy sets of the set A = {(a1, 0.2), (a2, 0.7), (a3, 0.4)} B = {(b1, 0.5), (b2, 0.6)} Find the relation R (AxB).	(5)
Q.6	Discuss the salient features of KSOFM. Also, explain the training algorithm of KSOFM.	(10)
Q.7a)	Define membership function. What are the membership functions used in fuzzy designing?	(6)
b)	With an example, discuss centre of sums defuzzification method.	(4)

x-x-x