

SEVENTH SEMESTER B. TECH (ELECTRONICS AND INSTRUMENTATION) PROCTORED ONLINE END SEMESTER EXAMINATION Dec. 21/Jan. 22

SUBJECT: Neural Network and Fuzzy Logic (ICE 4014)

TIME: 2-5

DATE: 17-12-2021 MAX MARKS 20

Note: Answer All questions.

1	A	Implement XOR function using McCulloch-Pitts neuron by considering binary data	3
	В	Implement NOR function using perceptron network for bipolar inputs and targets	3
	С	Construct a Kohonen self-organizing map to cluster the four given vectors $[0\ 0\ 1\ 1]$, $[1\ 0\ 0\ 0]$, $[0\ 1\ 1\ 0]$ and $[0\ 0\ 0\ 1]$. The number of clusters to be formed is two. Assume an initial learning rate of 0.5.	4
2	A	Explain in detail the inference method adopted for assigning membership values.	3
	В	What is defuzzification? List different defuzzification methods. Find the defuzzified value using centroid method for the figure shown in Fig.Q2B.	4
	С	 What is fuzzy proposition? Give an example for the following propositional principles Fuzzy truth qualification Fuzzy possibility qualification Fuzzy probability qualification Fuzzy usuality qualification 	3