

**ANURAG Engineering College**

(An Autonomous Institution)

IV B.Tech I Semester Supplementary Examinations, April – 2024

**NEURAL NETWORKS AND FUZZY LOGIC****(ELECTRICAL AND ELECTRONICS ENGINEERING)****Time: 3 Hours****Max. Marks: 75****Section – A (Short Answer type questions)****(25 Marks)****Answer All Questions**

	Course Outcome	B.T Level	Marks
1. Give some of the applications of ANN.	CO1	L1	2M
2. List the main components of the Artificial Neural Network.	CO1	L2	3M
3. What are feedforward strategies?	CO2	L1	2M
4. What Do You Understand by Back propagation?	CO2	L2	3M
5. Explain Hebb's learning in a concise manner.	CO3	L1	2M
6. Elaborate "BAM Energy Function".	CO3	L2	3M
7. Name some of the properties of fuzzy sets.	CO4	L1	2M
8. What is the role of membership function? Draw some membership functions.	CO4	L2	3M
9. Explain the concept of process identification.	CO5	L2	2M
10. What are some applications of fuzzy logic?	CO5	L1	3M

**Section B (Essay Questions)****Answer all questions, each question carries equal marks.****(5 X 10M = 50M)**

11. A) List various types of learning strategies present in Artificial Neural Networks and Differentiate among them.	CO1	L3	10M
<b>OR</b>			
B) Explain what is an artificial neural network and show how a basic ANN is constructed from a biological neuron concept	CO1	L3	10M
12. A) Explain step by step procedure of single discrete perception training algorithm (SDPTA).	CO2	L3	10M
<b>OR</b>			
B) Give the architecture and explain the algorithm of back propagation network	CO2	L3	10M
13. A) Explain the general concept of associate memory. Define associate matrix and associate Rules.	CO3	L3	10M
<b>OR</b>			
B) Draw and explain the architecture of discrete Hopfield network.	CO3	L3	10M
14. A) Distinguish between fuzzy logic and crisp logic	CO4	L3	10M
<b>OR</b>			
B) Explain the various Defuzzification Techniques.	CO4	L3	10M
15. A) Draw a block diagram of a possible fuzzy logic control system. Explain briefly about each block.	CO5	L3	10M
<b>OR</b>			
B) Discuss any one application of ANN.	CO5	L3	10M