

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech IV Year I Semester Supplementary Examinations June-2024

NEURAL NETWORK AND FUZZY LOGIC

(Electrical & Electronics Engineering)

Time: 3 Hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

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|---|--|-----|----|----|
| 1 | a How artificial neuron is inspired from the biological neuron? Explain | CO1 | L2 | 6M |
| | b Explain the basic architecture of McCulloch – Pitts neuron model and also realize 3-input NAND gate using McCulloch – Pitts model. | CO1 | L3 | 6M |

OR

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| 2 | Discuss different learning mechanisms used in artificial neural networks. | CO1 | L2 | 12M |
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UNIT-II

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| 3 | Give the perceptron weight updating rule and the learning algorithm. | CO2 | L3 | 12M |
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OR

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| 4 | a How the hidden layer neurons influence representation of neural network? | CO2 | L3 | 6M |
| | b Explain how to choose number of hidden layer neurons. | CO2 | L3 | 6M |

UNIT-III

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| 5 | Briefly explain the working principle of hetero correlators. | CO3 | L2 | 12M |
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| 6 | Explain how pattern pair is recalled in BAM with an example. | CO4 | L2 | 12M |
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UNIT-IV

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| 7 | a Explain Cartesian product on fuzzy sets. | CO5 | L2 | 6M |
| | b Discuss how fuzzy relations are formed based on Cartesian product. | CO5 | L2 | 6M |

OR

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|---|---|-----|----|----|
| 8 | a What is fuzzy logic? | CO5 | L3 | 6M |
| | b What are the sources fuzzy information? and explain each. | CO5 | L2 | 6M |

UNIT-V

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|---|---|-----|----|-----|
| 9 | Explain importance of defuzzification in fuzzy logic. | CO6 | L3 | 12M |
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OR

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| 10 | Discuss any one fuzzy logic application in electrical engineering. | CO6 | L5 | 12M |
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