Q.P. Code: **20CS0531**   **R20**

Reg. No: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular Examinations March-2023
SOFT COMPUTING
(Common to CSE & CSM)

Time: 3 hours   Max. Marks: 60

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

UNIT-I

1	a	Distinguish between Supervised Learning and Unsupervised Learning.	CO1	L4	6M
	b	Describe the different activation functions in Neural Networks.	CO1	L2	6M

OR

2	a	Explain the working principle of Artificial Neuron.	CO1	L2	8M
	b	Differentiate Biological Neuron and Artificial Neuron.	CO1	L4	4M

UNIT-II

3	a	Generalize the Adaptive Resonance Theory Neural Network.	CO2	L6	8M
	b	Identify some applications of ART Model.	CO2	L2	4M

OR

4	Explain Hamming neural network with neat diagram.	CO2	L2	12M

UNIT-III

5	a	Demonstrate the membership functions in fuzzy logic.	CO4	L3	6M
	b	Define Fuzzification and explain membership value assignment in fuzzy logic.	CO4	L2	6M

OR

6	a	Explain with neat block diagram the various components of a Fuzzy Logic System.	CO3	L2	8M
	b	Differentiate the fuzzy sets and classical sets.	CO3	L4	4M

UNIT-IV

7	a	List out the different reproduction and inheritance operators used in GA.	CO5	L2	6M
	b	Identify the Advantages and Disadvantages of Genetic Algorithm.	CO5	L2	6M

OR

8	Explain the Various Operators in genetic algorithm.	CO5	L2	12M

UNIT-V

9	With a neat Architecture, explain Fuzzy Back propagation network.	CO6	L2	12M

OR

10	a	Explain Genetic Algorithm based Back propagation network.	CO6	L1	5M
	b	Illustrate Neuro – Fuzzy hybrid system with neat diagram.	CO6	L3	7M

*** END ***

R20

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UNIT-I

1	a	Distinguish between Supervised Learning and Unsupervised Learning.	CO1	L4	6M
	b	Describe the different activation functions in Neural Networks.	CO1	L2	6M

OR

2	a	Explain the working principle of Artificial Neuron.	CO1	L2	8M
	b	Differentiate biological neuron and Artificial Neuron.	CO1	L4	4M

UNIT-II

3	a	Generalize the Adaptive Resonance Theory Neural Network.	CO2	L6	8M
	b	Identify with applications of ART Model.	CO2	L3	4M

OR

4		Explain Hamming neural network with neat diagram.	CO2	L2	12M

UNIT-III

5	a	Demonstrate the membership functions in fuzzy logic.	CO4	L3	6M
	b	Define classification and explain membership value assignment in fuzzy logic.	CO4	L2	6M

OR

6	a	Explain with neat block diagram the various components of a Fuzzy Logic System.	CO3	L2	8M
	b	Differentiate the fuzzy sets and classical sets.	CO3	L4	4M

UNIT-IV

7	a	List out the different reproduction and inheritance operators used in GA.	CO5	L2	6M
	b	Identify the Advantages and Disadvantages of Genetic Algorithm.	CO5	L2	6M

OR

8		Explain the Various Operators in genetic algorithm.	CO5	L2	12M

UNIT-V

9		With a neat Architecture, explain Fuzzy-back propagation network.	CO6	L2	12M

OR

10	a	Explain Reasoning based Back propagation network.	CO6	L2	8M
	b	Illustrate Neuro - fuzzy hybrid system with neat diagram.	CO6	L2	7M

*** END ***

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