Semester VIII (B.Tech.)

Er. No. 20183213

Academic Year: 2023-24

Jaypee University of Engineering & Technology, Guna

Mid Term Examination VIII Semester-Project At Industry (2024)

18B14CI741 - Soft Computing

Maximum Duration: 1 Hour 30 Minutes

Maximum Marks: 25

Notes:

1. This question paper has 5 questions.
2. Write relevant answers only.
3. Do not write anything on question paper (Except your Er. No.).
4. Assume suitable numerical data for providing the examples.

			Marks	CO No.
Q1.	**(a)**	What do you mean by Soft Computing? Explain its characteristics with help of suitable examples.	**[05]**	**CO1**
Q2.	**(a)**	Obtain the output of the neuron for a network with inputs are given as [x1, x2] =[0.7, 0.8] and the weights are [w1, w2] = [0.2, 0.3] with bias = 0.9. Use (i) Binary sigmoid activation function (ii) Bipolar sigmoid activation function	**[05]**	**CO4**
Q3.	**(a)**	Train the auto-associative network for input vectors [-1, 1, -1, 1]. Also test the network for the following case: (i) For the same input vector. (ii) For the noisy input vector [1, 1, 1, 1]	**[05]**	**CO2**
Q4.	**(a)**	What do you mean by Adaptive Resonance Theory? Explain its use in Neural Networks.	**[03]**	**CO3**
	(b)	Implement NAND function using McCulloch-Pitts neuron model.	**[02]**	**CO2**
Q5.	**(a)**	Bidirectional hetero-associative network stores the given bipolar input vectors A= (A1, A2, A3) with associated output vector B=(B1, B2, B3). Compute the weight matrix also check the performance of the network by using any given input pattern. A1 = (1 -1 -1 -1 -1 1) B1 = (1 1 -1 -1 -1) A2 = (-1 1 1 -1 -1 -1) B2 = (1 -1 1 -1 -1) A3 = (-1 -1 1 -1 1 1) B3 = (-1 1 1 1 -1)	**[05]**	**CO4**