Model Question Paper-1 with effect from 2021-22 (CBCS Scheme)

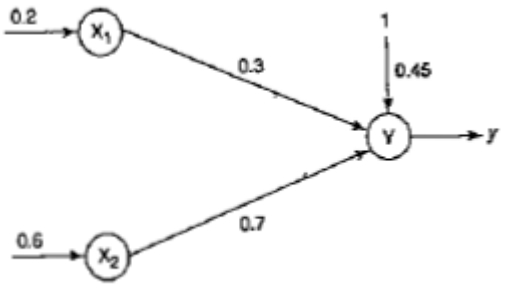
USN | | | | | | | | | | |

Sixth Semester B.E. Degree Examination

Artificial Neural Network

TIME: 03 Hours **Max. Marks: 100**

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

		Module -1	*Bloom's Taxonomy Level	Marks
Q.01	a	Explain architecture of a simple artificial neuron net.	L2	6
	b	Calculate the net input for the network shown in Figure 2 with bias included in the network.  **Figure 2** Simple neural net.	L3	4
	c	What are the basic types of neuron connection architectures? Explain any three architectures.	L2	10
		OR		
Q.02	a	Explain the different types of learning in ANN	L2	10
	b	Mention the types of activation functions used in ANN. Explain any four activation functions.	L2	10
		Module-2		
Q. 03	a	Discuss perceptron learning rule.	L2	6
	b	Define delta rule.	L1	4
	c	With a neat flowchart, explain the training process of perceptron network with single output.	L3	10
		OR		
Q.04	a	Explain Adaline model.	L2	4
	b	Explain the Adaline network training algorithm	L2	6
	c	With a neat flowchart, explain the training process of Madaline network.	L3	10
		Module-3		
Q. 05	a	With a neat flowchart, explain the training process of BPN network.	L3	10
	b	What are the factors that improve the convergence of learning in BPN network.	L2	10
		OR		
Q. 06	a	Explain the training algorithm of radial basis function network.	L2	10
	b	By what means can an IIR and an FIR filter be formed in neural network?	L2	5

	c	What is the importance of functional link network? Explain the model.	L2	5
		Module-4		
Q. 07	a	With a neat flowchart, explain Hebb rule.	L3	6
	b	Write the architecture of autoassociative memory network and explain.	L2	6
	c	Explain the architecture of heteroassociative memory network and discuss the testing of network.	L2	8
		OR		
Q. 08	a	What are the two types of Bidirectional associative memory (BAM)? Explain the architecture of BAM.	L2	6
	b	Explain the steps involved in testing of discrete BAM.	L2	6
	c	Explain the architecture of Hopfield network and discuss the training and testing of discrete Hopfield net.	L2	8
		Module-5		
Q. 09	a	Explain maxnet structure with a diagram.	L2	5
	b	Discuss the steps involved in testing maxnet.	L2	5
	c	Explain the architecture of Mexican hat net and write the flowchart to depict the process performed by the net.	L3	10
		OR		
Q. 10	a	With neat architecture, explain the training algorithm of Kohonen self-organizing feature maps.	L2	10
	b	Explain the architecture of Learning vector Quantization.	L2	10

*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.