CBCS SCHEME

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

21EC641

Sixth Semester B.E. Degree Examination, June/July 2024
Artificial Neural Networks

Time: 3 hrs. Max. Marks: 100

Note: ***Answer any FIVE full questions, choosing ONE full question from each module.***

Module-1

1 a. With neat schematic, explain mathematical model of artificial neuron with equation. **(07 Marks)**

b. Explain single layer and multilayer feed forward network of ANN with network. **(07 Marks)**

c. With neat model, explain McCulloch- Pitts artificial neural model with equation. **(06 Marks)**

OR

2 a. List and explain the activation function used in neural networks. **(07 Marks)**

b. Explain single layer and multilayer recurrent network of ANN with network. **(07 Marks)**

c. With neat model, explain linear separability neuron model with equation. **(06 Marks)**

Module-2

3 a. Explain the perceptron learning rule model with network. **(07 Marks)**

b. Explain the Adaptive linear Neuron model with network. **(07 Marks)**

c. Write an algorithm for training process for perceptron network with single output. **(06 Marks)**

OR

4 a. Mention the key points to be noted in a perceptron network. **(07 Marks)**

b. Explain the madalins layer architecture. **(07 Marks)**

c. Write an algorithm for training process of perceptron network for multiple outputs. **(06 Marks)**

Module-3

5 a. Write on algorithm for training error back-propagation learning model. **(10 Marks)**

b. Write on short note on the following:

i) Time Delay Neural Network

ii) Functional Link Network **(10 Marks)**

OR

6 a. Explain the learning factors of Back Propogation Network. **(10 Marks)**

b. Write an algorithm for the training process of Radial Basis function network. **(10 Marks)**

Module-4

7 a. Write on Flowchart and algorithm for training of pattern association using Hebb rule. **(10 Marks)**

b. Explain the Architecture of Hetero associative memory network and mention the testing procedure for it. **(10 Marks)**

OR

8 a. Write on Flowchart and algorithm for training process of Autoassociative Memory network. (10 Marks)

b. Explain the architecture of Discrete Hopfield network and mention the testing algorithm for it. (10 Marks)

Module-5

9 a. Explain the Architecture of Maxnet and write the testing algorithm for it. (10 Marks)

b. Write the flow and process performed in Mexicon hot network with the help of flowchart. (10 Marks)

OR

10 a. Explain indetail of one dimensional and two dimensional features Mapping Network. (10 Marks)

b. Explain the architecture of learning vector Quantization and Kohonen self organizing feature Map. (10 Marks)

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