



C20-AIM-505

7692

**BOARD DIPLOMA EXAMINATION, (C-20)  
OCTOBER/NOVEMBER—2023  
DAIM - FIFTH SEMESTER EXAMINATION**

ARTIFICIAL NEURAL NETWORKS AND DEEP LEARNING

Time : 3 Hours ]

[ Total Marks : 80

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**PART—A**

3×10=30

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Define artificial neural network.
2. List any three activation functions in neural network.
3. Differentiate between perceptron and biological neuron.
4. List the training algorithms of perceptron.
5. Define associative memory network.
6. List any three applications of adaptive resonance theory.
7. Define deep learning.
8. List deep learning networks.
9. Define recurrent neural networks.
10. List any three limitations of recurrent neural network.

**PART—B**

8×5=40

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **eight** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

**11.** (a) Explain the model of artificial neural network.

**(OR)**

(b) Explain the architectures of neural network.

**12.** (a) Explain credit assignment problem.

**(OR)**

(b) Explain the process of analysing back propagation algorithm.

**13.** (a) Explain about competition based artificial neural network.

**(OR)**

(b) Explain Adaptive Resonance Theory (ART).

**14.** (a) Explain in detail about convolution neural network.

**(OR)**

(b) Explain the various issues in feed forward networks.

**15.** (a) Explain the structure of recurrent neural network.

**(OR)**

(b) Explain the long short-term memory.

**PART—C**

10×1=10

- Instructions :** (1) Answer the following question.  
(2) The question carries **ten** marks.  
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

**16.** Why is ReLU a good activation function? Justify your answer with a case study.

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