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PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – October 2025

Date: 11-10-2025

Time: 02.00pm to 03.30pm

School: SOCSE	Program: Computer Science and Technology	
Course Code : CSD2017	Course Name: Introduction to Neural Networks and fuzzy Logic	
Semester: V	Max Marks: 50	Weightage: 25%

CO - Levels	CO1	CO2	CO3	CO4	CO5
Marks	26	24			

Instructions:

- (i) *Read all questions carefully and answer accordingly.*
- (ii) *Do not write anything on the question paper other than roll number.*

Part A

Answer ALL the Questions. Each question carries 2marks.

5Q x 2M=10M

1	What is the key difference between a biological neuron and an artificial neuron?	2 Marks	L1	CO1
2	What is the main limitation of a single-layer perceptron?	2 Marks	L1	CO1
3	What is the purpose of the backpropagation algorithm in training neural networks?	2 Marks	L1	CO1
4	What is the main role of a convolutional layer in a CNN?	2 Marks	L1	CO2
5	What is a key feature that distinguishes RNNs from feedforward networks?	2 Marks	L1	CO2

Part B

Answer the Questions.

Total Marks 40M

6.		Compare and contrast biological neurons with artificial neurons.	10 Marks	L2	CO1
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Or

7.		Discuss the structure of a single-layer perceptron with formulas.	10 Marks	L2	CO1
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8.		Describe different types of activation functions used in neural networks.	10 Marks	L2	CO1
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Or

9.		Describe the backpropagation algorithm with formulas.	10 Marks	L2	CO1
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10.		Explain the architecture and working of a Multilayer Perceptron with formulas (MLP).	10 Marks	L2	CO2
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Or

11.		Describe the architecture of a Convolutional Neural Network with Layers with formulas.	10 Marks	L2	CO2
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12.		What are Recurrent Neural Networks (RNNs)? Explain their architecture and applications with layers and formulas.	10 Marks	L2	CO2
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Or

13.		Explain Computer vision and Speech processing.	10 Marks	L2	CO2
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