H.T.No: | | | | | | | | | | |

Course Code No:

VISHNU INSTITUTE OF TECHNOLOGY::BHIMAVARAM (AUTONOMOUS)

III B. Tech II Semester (R20) - Regular Examinations, July – 2023

Deep Learning

(AI&DS)

Time: 3 Hours **Max. Marks: 70M**

Note: 1. Answer all the 5 Questions

2. Each Question carries 14 Marks

UNIT – I

1	a	Discuss the XOR problem and suggest a solution using Neural Network.	L3	CO1	[7M]
	b	Consider a unit with the following input vector, weight vector, and bias and compute the output by applying sigmoid, relu and tanh activation functions. a. w = [0.2,0.3,0.9] b. b = 0.5 c. x = [0.5,0.6,0.1]	L2	CO1	[7M]

(OR)

2	a	Explain the Perspectives, and Issues in the deep learning framework.	L1	CO1	[7M]
	b	List and explain the various activation functions used in modeling of artificial neuron. Also explain their suitability with respect to applications.	L2	CO1	[7M]

UNIT – II

3	a	Illustrate RMSprop optimization technique.	L2	CO2	[7M]
	b	Explain back propagation algorithm for neural networks	L3	CO2	[7M]

(OR)

4	a	What is dropout? How dropout regularization is applied on neural network.	L3	CO2	[7M]
	b	Explain in detail about the concept of gradient based learning.	L2	CO2	[7M]

UNIT – III

5	a	Explain the basic Building Blocks of Convolutional Neural Networks.	L2	CO3	[14M]

(OR)

6	a	Illustrate variants of basic convolution function in detail.	L2	CO3	[7M]

	b	Explain the concept of pooling. What is the importance of pooling in Convolutional Neural Networks? Determine the shape of output matrix of an image of size 19 x 19 that uses a 3 padding size 2, stride size 2, and a 5 x 5 filter	L3	CO3	[7M]

UNIT – IV

7	a	Describe the concept of Long Short-Term Memory Networks.	L2	CO3	[7M]
	b	List the applications of Recurrent neural network	L2	CO3	[7M]
		(OR)			
8	a	Explain Recurrent neural network in details.	L1	CO3	[4M]
	b	Build a Recurrent neural network for text classification problem.	L3	CO3	[10M]

UNIT – V

9	a	Describe any one problem on Natural Language Processing domain and provide a solution using LSTM.	L1	CO4	[7M]
	b	What are the advantages of Torch over TensorFlow tool	L2	CO4	[7M]
		(OR)			
10	a	Explain the concept of Computer Vision and its applications.	L1	CO4	[7M]
	b	Describe the TensorFlow tool in detail	L1	CO4	[7M]

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