To Lib. 30.5.22

Regular Paper

GURU NANAK INSTITUTE OF TECHNOLOGY
An Autonomous Institute under MAKAUT
2022
DEEP LEARNING
IT802D

IT/8th sem.

TIME ALLOTTED: 3 HOURS **FULL MARKS: 70**

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable

GROUP – A
(Multiple Choice Type Questions)

Answer any ***ten*** from the following, choosing the correct alternative of each question: **10×1=10**

			Marks	CO No
1.	(i)	Which of the following is a subset of machine learning? (a) Numpy (b) SciPy (c) Deep Learning (d) All of the above	1	CO1
	(ii)	How many layers Deep learning algorithms are constructed? (a) 2 (b) 3 (c) 4 (d) 5	1	CO1
	(iii)	The first layer is called the? (a) inner layer (b) outer layer (c) hidden layer (d) None of the above	1	CO1
	(iv)	CNN is mostly used when there is an? (a) structured data (b) unstructured data (c) Both A and B (d) None of the above	1	CO3
	(v)	Which of the following is/are Common uses of RNNs? (a) Businesses Help securities traders to generate analytic reports (b) Detect fraudulent credit-card transaction (c) Provide a caption for images (d) All of the above	1	CO2
	(vi)	Which neural network has only one hidden layer between the input and output? (a) Shallow neural network (b) Deep neural network (c) Feed-forward neural networks (d) Recurrent neural networks	1	CO2

(vii)	RNNs stands for? (a) Receives neural networks (b) Receives neural networks (c) Recording neural networks (d) Recurrent neural networks	1	CO2
(viii)	What is deep in deep learning? (a) The deep in deep learning is a reference to any kind of deeper understanding achieved by the approach (b) It stands for the idea of successive layers of representations in deep learning (c) Answers A & B (d) None of the above	1	CO3
(ix)	What is depth in deep learning? (a) How many layers contribute to a model of the data is called the depth of the mode (b) No. of successive layers of representations (c) Answers (a) and (b) (d) None of the above	1	CO3
(x)	Which statement is true? (a) Deep learning is a mathematical framework for learning representations from data (b) Deep learning is a biological framework for learning representations from brain Data (c) Deep learning is an analogue framework for learning representations from data (d) Deep learning is a digital framework for learning representations from data	1	CO3
(xi)	What are layers in deep learning? (a) Deep neural networks do this input-to-target mapping via a deep sequence of simple data transformations called layers and that these data transformations are learned by exposure to examples (b) It is a sort of membrane in brain (c) None of the above (d) All of the above	1	CO2
(xii)	The specification of what a layer does to its input data is stored in the layer's weights, which in essence are a bunch of numbers. In technical terms, we would say that the transformation implemented by a layer is parameterized by its weights. Weights are also sometimes called the parameters of a layer. (a) True (b) False	1	CO3

GROUP – B
(Short Answer Type Questions)

Answer any ***three*** from the following: **3×5=15**

		Marks	CO No
2.	What is Convolutional Neural Network?	5	CO1
3.	What is deep learning? Discuss with diagrams.	5	CO2
4.	What are the disadvantages of Back Propagation?	5	CO1

5.		Explain Principal Component Analysis method.	5	CO1
6.		What is recurrent neural network?	5	CO3

GROUP – C
(Long Answer Type Questions)

Answer any ***three*** from the following: **3×15=45**

			Marks	CO No
7.	(a)	Explain Back propagation with its algorithm	8	CO3
	(b)	Applications of Principal Component Analysis	7	CO3
8.	(a)	What is deep learning , Explain its uses and application and history.	10	CO2
	(b)	Write the difference between Deep and Shallow Network.	5	CO3
9.	(a)	Explain LSTM (Long Short Term Memory)	5	CO2
	(b)	What are the applications of Machine Learning?	10	CO2
10.	(a)	Draw and explain the architecture of convolutional network.	15	CO3
11.		Write short notes on any three of the followings:	3x5=15	
	(a)	Deep Reinforcement Learning	5	CO3
	(b)	Auto Encoder Architecture	5	CO3
	(c)	Visual Geometry Group	5	CO2
	(d)	Face Recognition Algorithm	5	CO2