Reg. No. : | | | | | | | | | | |

Question Paper Code: 95R13

M.E. DEGREE EXAMINATION, JAN 2020

Elective

Computer Science and Engineering

19PCS513– DEEP LEARNING TECHNIQUES

(Regulation 2019)

Duration: One hour Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. Which of the following sentence is FALSE regarding regression? CO1- R

   (a) It relates inputs to outputs (b) It is used for prediction

   (c) It may be used for interpretation (d) It discovers causal relationships

2. Father of Machine Learning (ML) CO1- R

   (a) Geoffrey Chaucer

   (b) Geoffrey Hill

   (c) Geoffrey Everest Hinton

   (d) None of the above

3. How many layers Deep learning algorithms are constructed? CO2- R

   (a) 2 (b) 3 (c) 4 (d) 5

4. RNNs stands for? CO2- R

   (a) Receives neural networks (b) Report neural networks

   (c) Recording neural networks (d) Recurrent neural networks

5. Which of the following is NOT a way to increase generalization in autoencoder? CO3- R

   (a) Use larger code size

   (b) Use L1 and L2 regularization

   (c) Add some random noise to the input

   (d) Limit the number of nodes in the hidden layers

6. Which of the following is NOT a hyper-parameters in Autoencoders? CO3- R

(a) Batch size and Code size

(b) Number of code layers

(c) Number of nodes per layer

(d) Number of layers in encoder and decoder

7. Which of the following is FALSE about Restricted Boltzmann Machines (RBM)? CO4- R

(a) No node is connected to each other across the layers

(b) No two nodes of the same layer are linked in RBM

(c) It finds joint probability distribution that maximizes the log-likelihood function

(d) All of the above

8. Which of the following is NOT an application of Restricted Boltzmann Machines (RBM)? CO4- R

(a) Dimensionality reduction

(b) Feature learning and topic modelling

(c) Image captioning

(d) Collaborative filtering for recommender systems

9. How many Components of NLP are there? CO5- R

(a) 2 (b) 3 (c) 4 (d) 5

10. Which of the following would have a constant input in each epoch of training a Deep Learning model? CO5- R

(a) Weight between input and hidden layer

(b) Weight between hidden and output layer

(c) Biases of all hidden layer neurons

(d) Activation function of output layer

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11.	What are the best practices in dimensionality reduction? Explain the techniques of dimensionality reduction in support vector machines	CO1- U	(8)
12.	Explain the various design patterns for RNN and explain with example?	CO2- U	(8)
13.	Write about directed and undirected graph model and its applications	CO3- U	(8)
14.	Explain deep belief network and its types with examples	CO4- U	(8)
15.	Explain speech, audio and music processing in deep learning	CO5- U	(8)