Reg. No.															

Question Paper Code	13560

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2025

Fifth Semester

Artificial Intelligence and Data Science

(Common to Fourth Semester - Computer Science and Engineering (AIML))

20AIPC502 - DEEP LEARNING

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (MCQ) (10 × 1 = 10 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Which of the following is not a popular deep learning framework? (a) TensorFlow (b) PyTorch (c) Keras (d) Scikit-learn	1	K1	CO1
2.	What is the purpose of dropout regularization in deep learning? (a) To reduce overfitting (b) To increase the model's capacity (c) To improve the training speed (d) To handle imbalanced datasets	1	K1	CO1
3.	The kind of neural network is most frequently applied for image classification is? (a) RNN (b) CNN (c) FNN (d) LSTM	1	K1	CO2
4.	Which deep learning system is known for its dynamic computation graph and was created by facebook? (a) Tensorflow (b) Pytorch (c) keras (d) Theano	1	K2	CO2
5.	Which layer type is typically used to extract local features in a CNN? a) Convolutional layer (b) Pooling layer (c) Fully connected layer (d) Activation layer	1	K1	CO3
6.	Which layer type is used to reduce the spatial dimensions in a CNN? (a) Convolutional layer (b) Pooling layer (c) Fully connected layer (d) Activation layer.	1	K1	CO3
7.	In the context of RNNs, what does "timestep" refer to? (a) The duration of training (b) The number of layers in the network (c) The number of iterations during backpropagation (d) The number of times output is used as input	1	K1	CO4
8.	Which type of RNN architecture is suitable for tasks where sequential inputs produce a sequence of outputs, such as machine translation? (a) One to One (b) One to Many (c) Many to One (d) Many to Many	1	K1	CO4
9.	What is the primary purpose of tokenization in natural language processing tasks? (a) Data encryption (b) Text classification (c) Converting text to numerical data (d) Data augmentation	1	K1	CO5
10.	Which type of data is Recurrent Neural Networks (RNNs) particularly effective at handling? (a) Tabular data (b) images (c) Sequential data (d) Audio data	1	K1	CO6

PART - B (12 × 2 = 24 Marks)

Answer ALL Questions

		Marks	K – Level	CO
11.	What is the role of activation function in neural network?	2	K2	CO1
12.	Infer back propagation.	2	K2	CO1
13.	List out the types of auto encoders.	2	K2	CO2
14.	Enlist the advantages of ReLU Function.	2	K2	CO2
15.	Define Data Augmentation.	2	K2	CO3
16.	How dense layer Regularization is occurred?	2	K2	CO3

17.	Infer Encoder in CNN.		2	*K2*	*CO4*
18.	Define RNN Unfolding.		2	*K2*	*CO4*
19.	State unit state probability.		2	*K1*	*CO5*
20.	Describe how deep fake technology is working.		2	*K2*	*CO5*
21.	Infer multilayer perceptron.		2	*K2*	*CO6*
22.	State the role of ridge regression.		2	*K2*	*CO6*

PART - C (6 × 11 = 66 Marks)

Answer ALL Questions

23.	a)	Compare and contrast single layered model and multi layered perception model.	*11*	*K3*	*CO1*
		OR			
	b)	Elaborate the architecture of a Neural network with neat diagram.	*11*	*K3*	*CO1*
24.	a)	Demonstrate the basic framework of Representation Learning in detail.	*11*	*K3*	*CO2*
		OR			
	b)	Illustrate the activations and operations performed in LRELU and ERELU.	*11*	*K3*	*CO2*
25.	a)	Summarize in detail about the architecture CNN Models.	*11*	*K2*	*CO3*
		OR			
	b)	Explain the concepts of striding and pooling in detail.	*11*	*K2*	*CO3*
26.	a)	Analyze the concept about Deep Recurrent Networks.	*11*	*K3*	*CO4*
		OR			
	b)	Demonstrate the concept of Bidirectional RNNs.	*11*	*K3*	*CO4*
27.	a)	Describe Encoder-Decoder sequence to sequence architecture.	*11*	*K2*	*CO5*
		OR			
	b)	Explain the concept of motivation layers and parameter sharing in detail.	*11*	*K2*	*CO5*
28.	a)	Elaborate & Analyze the Generative Adversarial Network with a neat sketch. Explain its various classifications with necessary examples.	*11*	*K3*	*CO6*
		OR			
	b)	Illustrate the concept Unfolding computational graphs in detail.	*11*	*K3*	*CO6*