



Time:

S.NO	Answer All Questions	Max.Marks: 100					
		Choice	Options	Marks	CO	CO BTL	COI BTL
1.	Illustrate the perceptron learning algorithm and explain the Convergence of Perceptron Learning algorithm	choice Q-2		10Marks	CO1	2	1
2.	Explain about SVD and its importance in feature selection or reduction			10Marks	CO1	2	2
3.	Answer A and B	choice Q-4		15Marks	CO1	2	2
3.A.	Differentiate between the McCulloch Pitts Neuron model threshold logic and perceptron threshold logic.			8Marks	CO1	2	2
3.B.	Given the correlation matrix $R = [1 \ 0.9 \ 0.9 \ 1]$ Compute the eigenvalues Lambda 1 and Lambda 2 of R and the corresponding eigenvectors 1 and 2 of R			7Marks	CO1	2	2
4.	Answer A and B			15Marks	CO1	2	2
4.A.	Evaluate Back Propagation algorithm for XOR function with two hidden layers and show all the error calculations			8Marks	CO1	2	2
4.B.	Let a dataset described by the two attributes is: $x_1 \ x_2 \ 10 \ 3 \ 3 \ 6 \ 5 \ 6$ find the co variance matrix and explain how it is used to find eigen vectors			7Marks	CO1	2	2
5.	What is overfitting in deep learning problems? How 'Early stopping' regularization technique is used to solve the overfitting problem.	choice Q-6		10Marks	CO2	3	1
6.	Explain different Layers in CNN. model and compare it with machine learning model			10Marks	CO2	3	2
7.	Answer A and B	choice Q-8		15Marks	CO2	3	2
7.A.	How pooling is used for feature reduction? What are the various types of Pooling methods.			8Marks	CO2	3	3
7.B.	Distinguish auto encoder and variationally autoencoder.			7Marks	CO2	3	2
8.	Answer A and B			15Marks	CO2	3	2
8.A.	Illustrate L2 Regularization and Ridge Regularization			8Marks	CO2	3	2
8.B.	Explain the significance of the RELU Activation function in Convolution Neural Network.			7Marks	CO2	3	2
9.	Illustrate Deep dream application and Explain Loss function in Deep dream	choice Q-10		10Marks	CO3	3	2
10.	How does LSTM solve the vanishing gradient challenge?			10Marks	CO3	3	3
11.	Answer A and B	choice Q-12		15Marks	CO3	3	2
11.A.	Explain how Long Short-Term Memory Networks (LSTMs) can be an effective solution to this problem by explain the following modules of LSTMs network: (a) Decision on amount of past data remembering module (b) Decision on the current state module			8Marks	CO3	3	2
11.B.	What is Data Augmentation in Deep Learning?			7Marks	CO3	3	1
12.	Answer A and B			15Marks	CO3	3	2
12.A.	How VAE can be used for dimension reduction of features and how new data is generated using VAE			8Marks	CO3	3	3
12.B.	Illustrate Architectural difference between feed-forward network (FNN) and RNN in detail			7Marks	CO3	3	2
13.	Discuss in detail about DCGAN	choice Q-14		10Marks	CO4	3	1
14.	Illustrate the 3 components in RBM in detail with diagram			10Marks	CO4	3	2
15.	Answer A and B	choice Q-16		15Marks	CO4	3	2
15.A.	How does Generator and Discriminator works in GAN model			8Marks	CO4	3	3
15.B.	What are the main issues of hidden Markov model?			7Marks	CO4	3	1
16.	Answer A and B			15Marks	CO4	3	2
16.A.	Describe how to find the Hidden state in GRU			8Marks	CO4	3	2
16.B.	What type of problems can be implemented through RNN?			7Marks	CO4	3	2