Paper / Subject Code: 89353 / Deep Learning (DLOC - III)

BE Sem VII (R2019, C Scheme) "ECS" Dec'2023

12/2023

Max. Marks 80

Duration:03 Hrs.

Instructions:

(1) Question 1 is compulsory, solve any three from remaining questions
(2) Assume suitable data if necessary.
(3) Diagrams to be drawn neatly.

Q1(A)	Define regularization? Explain L1,L2 regularization in deep learning?	05
Q1(B)	What Is the Role of Activation Functions in a Neural Network?	05
	Explain RELU activation function used in deep learning.	05
Q1(C)	Compare CNN and RNN.	05
Q1(D)	Explain perceptron learning rule.	
Q2(A)	Explain the working of stochastic gradient descent algorithm. How it is different from minibatch gradient descent algorithm?	10
Q2(B)	What are auto encoders ?How they are classified? Explain the operation of de noising autoencoder?	10
Q3(A)	Draw block diagram and explain Generative adversarial network (GAN) architecture. State its advantages and disadvantages	10
Q3(B)	What is Recurrent Neural Network (RNN)?Explain its working? State its advantages, disadvantages and applications.	10
Q4(A)	Explain architecture of CNN?What are its advantages, disadvantages and applications.	10
Q4(B)	Explain concept of over fitting in deep learning? Explain early stopping regularizations in detail.	10
Q5(A)	Explain architecture of ZF Net..	10
Q5(B)	With neat diagram explain the architecture of long short term memory.(LSTM)?	10

Solve any **TWO** of the following.

Q6(A)	Explain concept of biological neuron with neat diagram? Differentiate between linearly separable and non separable classes.	10
Q6(B)	Explain applications of deep learning in image compression.	10
Q6(C)	Explain Momentum Based GD, Nesterov Accelerated GD algorithms.	10

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