

School of Computing Science and Engineering

Department of Computing Science and Engineering
Mid Term Examination

Exam Date: 27 Sep 2023

Time : 90 Minutes

Marks : 50

Sem III - MCSE2323 - Deep Learning Techniques

Your answer should be specific to the question asked

Draw neat labeled diagrams wherever necessary

- 1) Outline the significance of gradient-based optimization in machine learning. K2 (2)
- 2) Select the appropriate Keras loss function for a binary classification problem. K1 (3)
- 3) Compare the architecture of a Multilayer Perceptron with that of a single-layer perceptron. K2 (4)
- 4) Explain how Backpropagation is utilized to train the weights in a Multilayer Perceptron. K2 (6)
- 5) Identify the effect of changing the number of hidden layers on the complexity of an MLP model. K3 (6)
- 6) Apply your understanding of normalization by discussing its impact on training speed and the choice of learning rates. K3 (9)
- 7) Compare the Backpropagation Algorithm with the Gradient Descent Algorithm in terms of their roles in neural network training. K4 (8)
- 8) Compare feedforward neural networks with recurrent neural networks in terms of their typical use cases and advantages. K4 (12)

OR

Categorize different types of loss functions used for regression and classification tasks in neural networks. K4 (12)