QP Code: RN21BTECH563 | Reg. No | | | | | | | | | | | AR 21

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

B. Tech (Seventh Semester - Regular) Examinations, November – 2024

21BCDE47011-Deep Learning

(CSE(DS))

Time: 3 hrs | Maximum: 70 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. What are the Applications of Deep Learning?	CO1	K1
b. What is Linear Perceptron?	CO1	K1
c. Define the term early stopping.	CO2	K1
d. What are the Challenges in Sequence Modelling?	CO3	K1
e. Briefly define what an autoencoder is and explain its main objective in the field of neural networks.	CO4	K1

PART – B **(15 x 4=60 Marks)**

Answer ***All*** the questions	Marks	CO #	Blooms Level
2. a. Describe the working mechanism of McCulloch-Pitts units neuron	8	CO1	K2
b. What are the difficulties and challenges of training Deep Neural Networks?	7	CO1	K1
(OR)			
c. Illustrate about different types of activation functions explain with suitable diagrams and mathematical equations.	8	CO2	K3
d. Explain Multilayer Perceptron its architecture and Working.	7	CO1	K2
3.a. Explain the use case and key features of Deep Feed Forward neural network.	8	CO2	K2
b. Describe the importance of five different types of neural networks.	7	CO1	K3
(OR)			
c. Describe the importance of gradient learning method in deep learning.	8	CO2	K2
d. Explain pooling, padding and convolution operation with the help of example.	7	CO3	K2
4.a. What are the optimization methods in deep learning? Explain about Adam and Adagrad optimizers.	8	CO2	K2
b. Compare the working mechanism of under complete Autoencoder and Denoising Autoencoder?	7	CO4	K3
(OR)			
c. Write a short note on ImageNet, VGGNet and LeNet.	8	CO3	K2
d. What is Convolution Neural Network? Draw and Explain the Architecture of CNN?	7	CO3	K3
5.a. Discuss the role of the encoder and decoder in an autoencoder, and explain how they contribute to the overall learning process.	8	CO4	K2
b. What is Image Segmentation and How it can be done with Autoencoder?	7	CO4	K2
(OR)			
c. Difference between Long Short Term Memory and Recurrent Neural Network?	8	CO3	K2
d. How does an autoencoder differ from traditional feedforward neural networks in terms of architecture and functionality?	7	CO4	K2

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