

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - VII Computer Science & Engineering : WINTER: 2025
SUBJECT: DEEP LEARNING

Day : Monday
Date : 15/12/2025

W-25605-2025

Time : 02:30 PM-05:30 PM
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Use of non-programmable calculator is allowed.

Q.1 Define feed-forward Neural Network and how does it work? Explain in detail. (10)

OR

Explain perception model and compare single layered model and multi-layered perception model.

Q.2 What is gradient descent? Explain momentum based and Nesterov Accelerated Gradient Descent. (10)

OR

What is Regularization? Explain Regularization Techniques in Deep Learning.

Q.3 What is Activation function? Explain different types of activation functions. (10)

OR

What is Convolutional Neural Network? Explain Convolutional Neural Network Architecture in detail.

Q.4 What is Recurrent Neural Network (RNN)? Explain working of RNN with Architecture. (10)

OR

Define Recursive Neural Networks. Explain difference between feed forward Neural Network and Recurrent Neural Networks

Q.5 What are challenges in Neural Network Optimization? Explain Basic Algorithms for Deep Learning Optimizer. (10)

OR

Explain in detail optimization in deep learning.

Q.6 What are the following terms: (10)

- a) Natural Language Processing
- b) Computer vision

OR

Explain ChatGPT learning using both Supervised and Reinforcement learning techniques.

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