(NO. OF PAGES: 3)

(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2022 ONLY) **REG.NO.** 22UAI620

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI
END-OF-SEMESTER EXAMINATIONS : MAY 2025

B.Sc.CS with AI & ML (SF) **MAXIMUM MARKS: 50**
SEMESTER-VI **TIME : 3 HOURS**

PART – III

22UAI620- DEEP LEARNING

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

1. Which activation function is commonly used in the hidden layers of a deep neural network?
   a) ReLU (Rectified Linear Unit)
   b) Sigmoid
   c) Tanh
   d) Softmax
2. What is a session in TensorFlow?
   a) A computation graph that represents a neural network
   b) A tool for visualizing the structure of a neural network
   c) A way to debug a computation graph in TensorFlow
   d) A module on neural network
3. Which neural network architecture is commonly used for image classification tasks?
   a) Feedforward Neural Network (FNN)
   b) Convolutional Neural Network (CNN)
   c) Recurrent Neural Network (RNN)
   d) Radial Basis Function Network (RBFN)
4. Which type of RNN architecture is used to address the vanishing gradient problem?
   a) Long Short-Term Memory (LSTM)
   b) Gated Recurrent Unit (GRU)
   c) Simple RNN
   d) Bidirectional RNN
5. Which deep learning technique is used for learning from delayed rewards?
   a) Reinforcement Learning
   b) Supervised Learning
   c) Unsupervised Learning
   d) Transfer Learning

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6. Define FNN.
7. What is dtype on Tensorflow?
8. What is feature selection?
9. Define sequence analysis.
10. What is Episodes in qlearning?

Ethical paper

(CONT…2)

SECTION – B (5 X 3 = 15 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Write the limitations of Traditional Computing.

(OR)

b) Describe the types of neurons in detail.

12. a) What is session in Tensor Flow? How is it handled?

(OR)

b) What is the importance of Placeholder? Write an example.

13. a)Analyse the importance of ReLU function.

(OR)

b)Sketch the importance of applying pooling in CNN.

14. a) Explain how memory cells are stored in Neural Network.

(OR)

b) Discuss NTM with an example.

15. a) Why do we need reinforcement learning?

(OR)

b) Explain Q learning.

SECTION – C (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4 (Or) K5)

16. a)How does biological neural network work? Explain.

(OR)

b)Describe the characteristics of artificial neural networks.

17. a) How to implement visualization in Tensor Flow? Give example.

(OR)

b) How to share variables in Tensor Flow? Write an example.

18. a) Describe the Filters, and Feature maps in CNN.

(OR)

b) Illustrate the architecture of CNN with neat diagram.

19. a) Describe LSTM in detail.

(OR)

b) Explain about the Memory augmented Neural Networks.

20. a) Explain Markov Decision Process in detail.

(OR)

b) Describe the Monte Carlo methods and Dynamic Programming.

****

Ethical paper