



**Avinashilingam Institute for Home Science and Higher Education for Women**  
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)  
Re-accredited with A+ Grade by NAAC. Recognised by UGC Under Section 12B  
Coimbatore - 641 043, Tamil Nadu, India  
**Continuous Internal Assessment –II- April 2025**  
**Semester-II**

**Class: I PG**

**Time: 2 Hours**

**Branch : Information Technology**

**Max. Marks: 60**

**23MITC08– DEEP LEARNING**

Course Outcomes:

CO1 :Identify the fundamentals of Deep Learning and Neurons

CO2 : Discover Feed Forward Neural Networks

CO3 : Apply Neural Networks in Tensorflow

CO4 : Estimate Convolution Networks

CO5 : Structure Markov Decision Processes

**Part A**

**6 x 1 = 6**

**Choose the Correct Answer**

- Which of the following is not a popular deep learning framework? CO3 K1  
a) TensorFlow b) PyTorch c) Keras d) Scikit-learn
- What is an epoch in deep learning? CO3 K1  
a) The number of layers in a neural network b) The number of training examples in a dataset  
c) The number of times the entire dataset is passed through the neural network during training  
d) The number of neurons in a layer
- Convolutional layer in a convolutional neural network (CNN) is used \_\_\_\_\_. CO4 K2  
a) To reduce the dimensionality of the input b) To extract spatial features from the input  
c) To classify the input data d) To apply non-linear transformations
- \_\_\_\_\_ activation function is used in the hidden layers of a deep neural network. CO4 K3  
a) ReLU b) Sigmoid c) Tanh d) Softmax
- \_\_\_\_\_ deep learning technique is used for learning from delayed rewards. CO5 K3  
a) Reinforcement Learning b) Supervised Learning c) Unsupervised Learning d) Transfer Learning
- \_\_\_\_\_ is the objective of a reinforcement learning agent CO5 K2  
a) To minimize errors b) To maximize accuracy  
c) To maximize rewards d) To minimize computational resources

**Part B 3 x 6 = 18**

**Answer ALL questions**

**Each answer should not exceed 400 words or two pages**

- a. What are the some competing frameworks or libraries to tensor flow and what are their strengths and weakness in comparison? (Or) CO3 K1  
b. What are neurons in human vision? Explain in detail. CO4 K2
- a. Illustrate feature selection in CNN. (Or) CO4 K3  
b. Discuss on max pooling with example. CO4 K2
- a. Compare exploration and exploitation in Reinforcement Learning (Or) CO5 K4  
b. Organize policy gradient main function. CO5 K3

**Part C**

**3 x 12 = 36**

**Answer ALL questions**

**Each answer should not exceed 800 words or four pages**

- a. Elaborate Logistic Regression Model in tensor flow (Or) CO3 K6  
b. Illustrate the tensor flow variables and operations with suitable examples. CO3 K2
- a. Demonstrate the image processing pipelines in CNN (Or) CO4 K2  
b. With suitable diagram, Explain the various types of layers in a convolutional neural networks. CO4 K4
- a. Explain Markov decision processes. (Or) CO5 K4  
b. Explain about creating an agent, building a model and optimizer in Reinforcement Learning. CO5 K4

**No of Copies: 13**

