Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD)
Re-accredited with 'A++' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Continuous Internal Assessment Test I – August 2025
SEMESTER V

Class : III B.Voc. **Time: 2 hours**
Major : Artificial Intelligence and Machine Learning **Maximum Marks: 60**

23VAIC15 Deep Learning

Course Outcomes:

1. Learning different techniques to train the Neural Networks
2. Introducing and providing Hands-on training on Keras.
3. Dramatically improve performance of Neural Networks by exploring CNNs
4. Implementing Deep Convolution GAN to generate realistic faces.
5. Learning basics of Reinforcement Learning and OpenAI Gym.

Part-A **6x1=6**

Choose the correct answer

1. Which is commonly used as an activation function in ANN? CO1K1
   a. Softmax Regression b. ReLU c. Gradient Descent d. Loss Function

2. What does backpropagation update? CO1K2
   a. Neurons b. Weights c. Inputs d. Outputs

3. What is the main advantage of deep neural networks? CO2K1
   a. Speed b. Simplicity c. Accuracy d. Size

4. Which of the following best describes the main function of TensorBoard? CO2K2
   a. Debugging b. Visualization c. Training d. Deployment

5. Which task benefits most from CNNs' ability to extract spatial features automatically? CO3K2
   a. Segmentation b. Classification c. Regression d. Clustering

6. What is the main function of pooling layers in CNNs? CO3K1
   a. Downsampling b. Activation c. Padding d. Normalization

Part- B **3x6=18**

Answer ALL Questions

Each answer should not exceed 400 words or two pages

7. a. Describe about the softmax layer of a fast food-classifying Networks. CO1K3

(or)

7. b. Write short notes on tuning hidden layer count and Neuron count. CO1K2

8. a. Write a short notes on weight initialization. CO2K2

(or)

8. b. Elaborate on TensorBoard. CO2K3

9. a. List the applications of Convolutional neural networks. CO3K2

(or)

9. b. Explain about the LeNet-5 in Keras. CO3K2

Part-C **3x12=36**

Answer ALL questions

Each answer should not exceed 800 words or four pages

10. a. Describe about Artifical neural networks with the input and dense layers. CO1K2

(or)

10. b. Enumerate on cost functions. CO1K3

11. a. Explain the concept of fancy optimizers. CO2K2

(or)

11. b. Explain about the unstable gradients. CO2K3

12. a. Outline the concepts of Convolutional neural networks in detail. CO3K2

(or)

12. b. Explain the concept of Pooling Layers in detail. CO3K2

No. of Copies : 55 ********** **Staff in-charge: Ms. N. Vaishnavi**