



# 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 (now MoE)  
Re-accredited with 'A++' Grade by NAAC. CGPA 3.65/4, Category I by UGC  
Coimbatore - 641 043, Tamil Nadu, India

## Continuous Internal Assessment Test II – October 2025 SEMESTER V

**Class : III B.Voc.**  
**Major : Artificial Intelligence and Machine Learning**

**Time: 2 hours**  
**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 of the following is an application of machine vision?  
a. Typing                      b. Face detection                      c. Speaking                      d. Translation                      CO3K1
2. What technique does AlexNet use to reduce overfitting?  
a. Max Pooling                      b. Dropout                      c. Batch Normalization                      d. L2 Regularization                      CO3K2
3. The discriminator and generator networks in GANs are trained:  
a. Separately                      b. Adversarially                      c. Sequentially                      d. Randomly                      CO4K1
4. In GANs, which loss function is commonly used to train both networks?  
a. Mean Squared Error                      b. Cross-Entropy Loss                      c. Hinge Loss                      d. L1 Loss                      CO4K2
5. In Reinforcement Learning, what does the 'agent' interact with?  
a. Dataset                      b. Environment                      c. Policy                      d. Reward                      CO5K2
6. What language is OpenAI Gym primarily implemented in?  
a. Java                      b. Python                      c. C++                      d. R                      CO5K1

#### Part- B

3x6=18

#### Answer ALL Questions

Each answer should not exceed 400 words or two pages

7. a. Describe VGGNet in keras.                      CO3K3  
(or)
7. b. Explain about residual networks.                      CO3K2
8. a. Describe about the generator network.                      CO4K2  
(or)
8. b. Explain about the quick, draw! dataset.                      CO4K3
9. a. Write short notes on essential theory of reinforcement learning.                      CO5K2  
(or)
9. b. Describe about open AI gym environment.                      CO5K2

#### Part-C

3x12=36

#### Answer ALL questions

Each answer should not exceed 800 words or four pages

10. a. Explain about the AlexNet in keras.                      CO3K2  
(or)
10. b. Enumerate the applications of machine vision.                      CO3K3
11. a. Explain about the essential GAN theory in detail.                      CO4K2  
(or)
11. b. Explain the adversarial network in detail.                      CO4K3
12. a. Explain about the agents beyond DQN.                      CO5K2  
(or)
12. b. Outline the essential theory of deep Q-learning networks.                      CO5K2

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