



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 II – October 2025
III SEMESTER

Class : II UG
Major : B.Voc (AI&ML)

Time: 2 hours
Maximum Marks: 60

23VAIC11 Fundamentals of Machine Learning

Course Outcomes:

At the end of the course, students will:

1. Distinguish between, supervised, unsupervised and semi-supervised learning.
2. Apply the apt machine learning strategy for any given problem.
3. Suggest supervised, unsupervised or semi-supervised learning algorithms for any given problem.
4. Design systems that uses the appropriate graph models machine learning.
5. Modify existing machine learning algorithms to improve classification efficiency.

Part-A

6x1=6

Choose the correct answer

1. Machine learning is an application of _____. CO1K3
a. Blockchain b. Artificial Intelligence c. Sentiment Analysis d. Unsupervised learning
2. The machine learning algorithms that can be used with labeled data. CO1K2
a. Regression algorithms b. Clustering algorithms c. Association algorithms
d. None of the above
3. Which among the following algorithms are used in machine learning? CO2K1
a. Naïve Bayes b. Support Vector Machine c. K-Nearest Neighbors d. All the above
4. The mean, median and mode are the same in _____. CO2K2
a. Statistics b. Support Vector Machine c. Machine Learning d. Gaussian Distribution
5. A _____ algorithm that automatically orders data into one or more of a set of classes CO2K2
a. Regression b. A Double layer auto-associative neural Network c. An associative Neural
Network d. Classifier
6. Clustering and Prediction is a _____ learning algorithm. CO2K1
a. Supervised b. Unsupervised c. Reinforcement d. None of the above

Part- B

3x6=18

Answer ALL Questions

Each answer should not exceed 400 words or two pages

- 7.a. Write about Classifier with example. (or) CO1K3
7.b. How to Find a Probability in Data? CO1K2
- 8.a. Write a note on ISOMAP. (or) CO1K2
8.b. Brief about Dimensionality Reduction with example. CO2K3
- 9.a. Write a note on Genetic Algorithm. (or) CO2K2
9.b. Brief about Graphical models. CO2K2

Part-C

3x12=36

Answer ALL questions

Each answer should not exceed 800 words or four pages

- 10.a. Write about Gaussian Model with neat diagram?. (or) CO1K1
10.b. Discuss Self Organizing Feature Map. CO1K3
- 11.a. Explain Linear Discriminant Analysis, Principal Component Analysis. (or) CO2K1
11.b. Describe about Markov Decision Process? CO2K3
- 12.a. Discuss Markov chain Monte carlo with example. (or) CO2K4
12.b. Explain about Bayesian Networks. CO2K1