

Q1. Which of the following is NOT a type of Machine Learning?

- a. Supervised Learning
- b. Unsupervised Learning
- c. Semi-Supervised Learning
- d. Deterministic Learning

Correct: Deterministic Learning

Reason: Deterministic Learning is not a standard category of machine learning; the others are well-defined approaches.

Q2. What is the primary purpose of data preprocessing in machine learning?

- a. To reduce the amount of data required for training.
- b. To improve the performance and accuracy of machine learning models.
- c. To select the best machine learning algorithm.
- d. To convert data into a human-readable format.

Correct: To improve the performance and accuracy of machine learning models.

Reason: Data preprocessing cleans, transforms, and reduces data, leading to better model performance.

Q3. Which of the following is a supervised learning algorithm?

- a. K-means
- b. Apriori
- c. Decision Tree
- d. Hierarchical Clustering

Correct: Decision Tree

Reason: Decision Tree is a supervised learning algorithm, while K-means, Apriori, and Hierarchical Clustering are unsupervised.

Q4. Which of the following is a key characteristic of unsupervised learning?

- a. Labeled data is used for training.
- b. The algorithm predicts a specific output variable.
- c. The algorithm learns patterns and structures from unlabeled data.
- d. The algorithm requires human intervention to guide the learning process.

Correct: The algorithm learns patterns and structures from unlabeled data.

Reason: Unsupervised learning deals with unlabeled data to discover hidden patterns and structures.

Q5. Which data preprocessing technique is used for reducing the number of features in a dataset?

- a. Data Quality Remediation
- b. Feature Engineering
- c. Dimensionality Reduction
- d. Feature Transformation

Correct: Dimensionality Reduction

Reason: Dimensionality Reduction aims to reduce the number of features, simplifying the model and potentially improving performance.