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Reg. No. :

Code No. : 20322 E Sub. Code : AACCS 41

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

Fourth Semester

Computer Science — Allied

MACHINE LEARNING

(For those who joined in July 2020 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Identify the successful applications of Machine Language _____
 - (a) Learning to classify new astronomical structures
 - (b) Learning to recognize spoken words
 - (c) Learning to drive an autonomous vehicle
 - (d) All the above

2. Analysis of machine learning algorithm needs _____
 - (a) Statistical Learning Theory
 - (b) Computational Learning Theory
 - (c) Both (a) and (b)
 - (d) None
3. Linear regression is a machine learning algorithm based on _____ learning.
 - (a) Reinforcement
 - (b) Un supervised
 - (c) Supervised
 - (d) None
4. _____ data is the data we use to train an algorithm or machine learning model to predict the outcome we design our model to predict.
 - (a) Test (b) Train
 - (c) Both (a) and (b) (d) None
5. Identify the difficulties with the K-Nearest Neighbor algorithm _____
 - (a) Curse of Dimensionality
 - (b) Calculate the distance of the test case formal training cases
 - (c) Both (a) and (b)
 - (d) None

6. The objective of applying _____, to find the best line in two dimensions or the best hyperplane in more the two dimensions in order to help us separate our space into classes.
- (a) SVM
 - (b) K-Means clustering
 - (c) Both (a) and (b)
 - (d) None
7. Which one of the following performs well in multiclass prediction _____
- (a) Logistic Regression
 - (b) Naive Bayes Classifier
 - (c) Both (a) and (b)
 - (d) None
8. The decision tree can be explained using the entities _____
- (a) Nodes (b) Leaves
 - (c) Both (a) and (b) (d) None
9. _____ are two types of unsupervised learning
- (a) clustering (b) Association
 - (c) Both (a) and (b) (d) None

10. K-means clustering algorithm is used to solve the clustering problems in _____
- (a) Machine Learning
 - (b) Data Science
 - (c) Either (a) or (b)
 - (d) None

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is Machine Language?
- Or
- (b) Is Matplotlib used in Machine language?
12. (a) What is Supervised Learning?
- Or
- (b) Differentiate: Test Data Versus Training Data.
13. (a) What is Support Vector Machine?
- Or
- (b) What are the popular algorithms available in machine learning?

14. (a) What are the advantages of Naive Bays algorithm?

Or

(b) What is the difference between heuristic for rule learning and heuristics for decision trees?

15. (a) Differentiate K-Means and KNN.

Or

(b) List out the Ethical and Moral issues available in Machine Learning.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What is Data vizualization in Machine language? Why is it important?

Or

(b) Expand and explain about AI.

17. (a) Discuss in detail about Gradient Descent optimization.

Or

(b) Explain Linear Regression and Logistic Regression in detail.

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18. (a) How does K - Nearest Neighbor algorithm work?

Or

(b) Why is data normalization used in Machine Learning?

19. (a) Explain Decision Tree algorithm in detail.

Or

(b) What is classification algorithm? List out and explain any one algorithm in detail.

20. (a) What do you mean by clustering? Explain it in detail.

Or

(b) Compare Machine Learning and Data Science.

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