(6 Pages)

Reg. No. : ....

Code No. : 30586 E   Sub. Code : AACS 41

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 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. Machine learning is a subset of which of the following ————

    (a) Deep learning

    (b) Data learning

    (c) Artificial intelligence

    (d) None

2. Which of the following is the best machine learning method?

    (a) Scalable   (b) Accuracy

    (c) Fast   (d) All the above

3. Identify the type of learning in which labled training data is used ———————— learning.

    (a) Semi unsupervised

    (b) Unsupervised

    (c) Reinforcement

    (d) Supervised

4. Following are the types of supervised learning ————————

    (a) Classification   (b) Regression

    (c) Both (a) and (b)   (d) None

5. 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

6. KNN stands for —————

   (a) K-Nearest Neighbor

   (b) K-Network Neighbor

   (c) K-Nonlinear Network

   (d) None

7. ————— classifier is one of the simple and most effective classification algorithms which helps in building the fast machine learning models that can make quick predictions.

   (a) Logistic regression

   (b) Naïve bayes

   (c) Both (a) and (b)

   (d) None

8. ————— are a type of supervised machine learning where the data is continuously split according to a certain parameter.

   (a) Decision tree   (b) AI

   (c) KNN   (d) None

9. Clustering is a ————— learning method.

   (a) Supervised   (b) Unsupervised

   (c) Both (a) and (b) (d) None

10. ————— can work with raw, structure and unstructured data.

    (a) Machine learning (b) Data science

    (c) Both (a) and (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) Write short note on Pandas data frame.

    Or

    (b) What do you mean by artificial intelligence?

12. (a) What is gradient descent optimization?

    Or

    (b) Give a brief note on classification algorithm.

13. (a) What is data normalization?

    Or

    (b) List out the popular algorithms available in machine learning.

14. (a) What is decision tree algorithm?

    Or

    (b) Differentiate heuristic for rule learning versus decision trees.

15. (a) Where is machine learning used in data science?

Or

(b) List out the difference between K-mean and KNN.

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 the use of Matplotlib is machine learning? Explain.

Or

(b) What is machine learning? Explain it in detail.

17. (a) Discuss in detail about linear regression and logistic regression.

Or

(b) What is supervised learning? What do you mean by test data and training data?

18. (a) What is SVM and how it works?

Or

(b) How does K-nearest neighbor algorithm work?

19. (a) Explain Naïve Bayes algorithm in detail.

Or

(b) What is classification algorithm? Explain any one of the classification algorithm.

20. (a) Discuss in detail about ethical, moral issues and challenges.

Or

(b) What is K-means clustering? Give a brief note on it.

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