

Registration Number:

Date & Session



**ST. JOSEPH'S COLLEGE (AUTONOMOUS), BENGALURU -27**  
**BCA(DATA ANALYTICS) – V SEMESTER**  
**SEMESTER EXAMINATION: OCTOBER 2022**  
(Examination conducted in December 2022)  
**BCADA5122: MACHINE LEARNING**

**Time: 2 ½ Hours**

**Max Marks: 70**

**This paper contains three printed pages and three parts**

**PART-A**

**Answer ALL the questions**

**10 x 1 = 10**

1. .... is a widely used and effective machine learning algorithm based on the idea of bagging
  - a. Regression
  - b. Classification
  - c. Random forest
  - d. Logistic regression
  
2. Machine learning algorithms build a model based on sample data, known as
  - a. Test data
  - b. Training data
  - c. Raw data
  - d. None
  
3. Machine learning is a subset of .....
  - a. Deep Learning
  - b. Artificial Intelligence
  - c. Boosting
  - d. Bagging
  
4. Real-Time decisions, Game AI, Learning Tasks, Skill acquisition, and Robot Navigation are applications of .....
  - a. Supervised Learning
  - b. Unsupervised Learning
  - c. Reinforcement Learning
  - d. None
  
5. Analysis of Machine Learning algorithm needs .....
  - a. Statistical learning theory
  - b. Computational learning theory
  - c. Both Statistical & Computational learning theory
  - d. None

6. What is the most common issue when using Machine Learning?
  - a. Poor data quality
  - b. Lack of skilled resources
  - c. Inadequate infrastructure
  - d. All the above
  
7. Regression trees are used to model \_\_\_\_\_ data.
  - a. Linear data
  - b. Non linear data
  - c. Categorical data
  - d. Continuous data
  
8. What does dimensionality reduction reduce?
  - a. Stochastics
  - b. Collinearity
  - c. Performance
  - d. Entropy
  
9. The problem of finding hidden structure in unlabeled data is called...
  - a. Supervised Learning
  - b. Unsupervised Learning
  - c. Reinforcement Learning
  - d. None
  
10. You are given reviews of few Netflix series marked as positive, negative and neutral. Classifying reviews of a new Netflix series is an example of
  - a. Supervised Learning
  - b. Unsupervised Learning
  - c. Reinforcement Learning
  - d. None

**PART - B**

**Answer any SIX questions**

**6 x 5 = 30**

11. What is Artificial Neural Network? Explain appropriate problem for Neural Network Learning with its characteristics.
  
12. What is a decision tree? Discuss the use of decision tree for classification purpose with an example.
  
13. Write short notes on:
  - I. Support vector machine
  - II. Multi layered Perceptron
  
14. Distinguish supervised learning from unsupervised learning

15. Write short notes on Radial basis function.
16. Explain about ranking and its concepts.
17. Draw Azure blocks and connections for any one of the regression problems.
18. Write short notes on Voice recognition with suitable example.

**PART C**

**Answer any THREE questions**

**3 x 10 = 30**

19. Explain in detail about recommendation system with an illustrative example.
20. Group the below data into two using k means clustering algorithm.

Income	Spending
40	20
50	15
60	25
20	35
65	35
80	19

21. Design a model for motor insurance fraud.
22. How will you use machine learning for medical diagnosis? Explain with a suitable diagram.