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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2022 ONLY)

22UAI413

REG.NO.:

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER IV EXAMINATIONS : MAY 2024

B.Sc. Computer Science with AI & ML(SF) **MAXIMUM MARKS: 50**

SEMESTER IV **TIME : 3 HOURS**

PART - III

22UAI413 - INTRODUCTION TO MACHINE LEARNING

Section - A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.
MULTIPLE CHOICE QUESTIONS.

1) Which of the following is not a supervised machine learning algorithm? **(K1)**
a) K-means b) Naïve Bayes c) SVM for classification problems d) Decision tree

2) Which one of the following models is a generative model used in machine learning? **(K1)**
a) Support vector machines b) Naïve Bayes
c) Logistic Regression d) Linear Regression

3) What kind of algorithm is logistic regression? **(K1)**
a) Cost function minimization b) Ranking c) Regression d) Classification

4) The learner is trying to predict housing prices based on the size of each house. What type of regression is this? **(K1)**
a) Multivariate Logistic Regression b) Logistic Regression
c) Linear Regression d) Multivariate Linear Regression

5) Which of the following is a widely used and effective machine learning algorithm based on the idea of bagging? **(K1)**
a) Decision Tree b) Regression c) Classification d) Random Forest

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

6) Explain the applications of machine learning. **(K2)**

7) Illustrate the purpose of bagging. **(K2)**

8) Define "Logistic Regression". **(K2)**

9) Relate the concept of unsupervised learning with supervised learning **(K2)**

10) Write a note on Eclat algorithm. **(K2)**

SECTION – B (5 X 3 = 15 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

11) a) Discover the design of a learning system. **(K3)**

(or)

b) Examine the classification with supervised learning. **(K3)**

(CONT….2)

12) a) Determine the basic method of multiple linear regression. **(K3)**

(or)

b) Evaluate the polynomial regression technique in supervised learning. **(K3)**

13) a) Summarize the logistic regression of supervised learning . **(K3)**

(or)

b) Estimate the purpose of decision tree regression. **(K3)**

14) a) Show the steps involved in K-Means clustering. **(K3)**

(or)

b) Outline the need of dimensionality reduction. **(K3)**

15) a) Illustrate the advantages of Association Rule Learning. **(K3)**

(or)

b) Describe the concept related to ARL Algorithms. **(K3)**

SECTION-C (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

16) a) Elaborate the different types of machine learning. **(K4)**

(or)

b) Analyze the discovering clusters in unsupervised learning. **(K5)**

17) a) Compare and construct ridge regression and lasso regression. **(K4)**

(or)

b) Assess the implementation of evaluating regression models. **(K5)**

18) a) Identify the classification of random forest regression. **(K5)**

(or)

b) Elucidate the main functions of Support Vector Machine. **(K4)**

19) a) Formulate the collaborative filtering in unsupervised learning. **(K4)**

(or)

b) Demonstrate the primary features of Density-Based Clustering. **(K5)**

20) a) Integrate the Apriori algorithm for association rule learning. **(K4)**

(or)

b) Analyse the basic concepts and algorithms of Eclat. **(K5)**

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