

**MASTER OF COMPUTER APPLICATION
THIRD SEMESTER
MACHINE LEARNING WITH PYTHON
MCA-303.1**

**SET
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

(Objective)

Time: 30 mins.

Marks: 20

Choose the correct answer from the following:

1 × 20 = 20

1. Choose the most widely used mattress and tools to assess the classification models.
 - a. The area under the ROC curve
 - b. Confusion matrix
 - c. Cost-sensitive accuracy
 - d. All of these
2. Which among the following algorithms are used in Machine learning?
 - a. Naïve Bayes
 - b. Support Vector Machines
 - c. K-Nearest Neighbors
 - d. All of the above
3. The supervised learning problem can be grouped as.....
 - a. Regression problems
 - b. Classification problems
 - c. Both a and b
 - d. None of the above
4. Which is the most popular non-linear classifier?
 - a. Decision Tree
 - b. Naïve Bayes
 - c. Logistic Regression
 - d. Support Vector Machines
5. What is the disadvantage of decision tree?
 - a. Factor analysis
 - b. Decision trees are robust to outliers
 - c. Decision trees are prone to be overfit
 - d. All of the above
6. Logistic regression is a..... regression technique that is used to model data having aoutcome.
 - a. Linear, binary
 - b. Nonlinear, binary
 - c. Linear, numeric
 - d. Nonlinear, numeric
7. What is unsupervised learning?
 - a. Number of groups may be known
 - b. Features of group explicitly stated
 - c. Neither feature nor number of groups is known
 - d. None of the above
8.is also called Lazy learner algorithm.
 - a. Support Vector Machine
 - b. Decision Tree
 - c. Logistic Regression
 - d. K-Nearest Neighbor
9. SVM can be of..... types.
 - a. 2
 - b. 3
 - c. 4
 - d. 5
10. Following are the types of logistic regression.
 - a. Binary, Multidimensional, Ordinary
 - b. Binomial, Multinomial, Ordinal
 - c. Owner ,User ,Group
 - d. None of the above

11. Which of the following machine learning algorithm is based upon the idea of bagging?
 - a. Decision Tree
 - b. Random Forest
 - c. Classification
 - d. Regression
12. What is the term known as on which the machine learning algorithms build a model based on sample data?
 - a. Data Training
 - b. Transfer Data
 - c. Training Data
 - d. Testing Data
13. A Formula or rule used for estimating the parameter of interest is called:
 - a. Estimation
 - b. Estimate
 - c. Interval Estimate
 - d. Estimator
14. The Probability associated with confidence interval is called:
 - a. Confidence Level
 - b. Degrees of freedom
 - c. Confidence coefficient
 - d. Level of confidence
15. The fundamental unit of network is:
 - a. Brain
 - b. Nucleus
 - c. Neuron
 - d. Axon
16. The cell body of neuron can be analogous to what mathematical operation?
 - a. Summing
 - b. Differentiator
 - c. Integrator
 - d. None of the mentioned
17. Which machine Learning models are trained to make a series of decisions based on the rewards and feedback they receive for their actions?
 - a. Supervised learning
 - b. Unsupervised learning
 - c. Reinforcement learning
 - d. All of the above
18. How many layers Deep learning algorithms are constructed?
 - a. 2
 - b. 3
 - c. 4
 - d. 5
19. The Bayes rule can be used in.....
 - a. Solving queries
 - b. Increase complexity
 - c. Decrease complexity
 - d. Answering probabilistic query
20. The regression lines always intersect at their.....
 - a. Point of correlation
 - b. Median point
 - c. Regression coefficient
 - d. Mean point

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(Descriptive)

Time : 2 hr. 30 mins.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. Write about the applications of machine learning in different field. Define data. What are the different categories of data used in machine learning? Define Time series data with example. 10
2. a) Define Bayes Theorem. Explain Descriptive and predictive analysis. b) What is linear regression? Give the mathematical explanation with appropriate example. 2+3+2+3=10
3. An insurance company insured 2000 scooter drivers, 4000 car drivers, and 6000 truck drivers. The probability of an accident involving a scooter driver, car driver, and a truck is 0.01, 0.03, and 0.015 respectively. One of the insured persons meets with an accident. What is the probability that he is a scooter driver? 10
4. What are Neural networks? Explain its types. How an ANN can work & what are the advantages of Artificial Neural Networks? 3+2+2+3=10
5. a) Compare Linear and Non-Linear Classification. b) Why do we need a kernel? 6+4=10
6. Explain Perceptron Algorithm. How large margin classifier work for linearly separable data? 5+5=10
7. How does Decision Tree algorithm works? What are the advantages and disadvantages of Decision Tree algorithm? 5+5=10
8. Explain K-nearest neighbor algorithm. What are the types of SVM algorithm? 6+4=10

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