

**SET  
A**

**Full Marks: 70**

**Marks: 20**

$$1 \times 20 = 20$$

**Objective**

- 1

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. Is Python code compiled or interpreted?
  - a. Python code is both compiled and interpreted
  - b. Python code is neither compiled nor interpreted
  - c. Python code is only compiled
  - d. Python code is only interpreted
14. Let A and B be two events such that  $P(A)=0.4$  and  $P(A \cap B)=0.2$ . What is  $P(B | A)$ ?
  - a. 0.4
  - b. 0.5
  - c. 0.2
  - d. 0.8
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. What will be the output of the following Python code if x=1?

```
x<<2
```

a. 4

b. 2

c. 1

d. 8

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**( Descriptive )**

Time : 2 hrs. 30 min.

Marks : 50

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

1. a. Write about the applications of machine learning in different field. 5+5=10  
b. Define data? What are the different categories of data used in machine learning?
2. a. Explain Descriptive and predictive analysis. How ML differ from Statistical approaches? 3+3+4=10  
b. Explain K-nearest neighbor algorithm?
3. a. Define Bayes Theorem 3+7=10  
b. In a factory, 80% of the products are produced by Machine A and 20% by Machine B. Machine A produces 2% defective items, while Machine B produces 5% defective items. If a product is found to be defective, what is the probability that it was produced by Machine A?
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. Define heuristic search and Occam's Razor principle. 6+4=10  
b. write a python programming to find factorial of a number using function.
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. a. What are the types of SVM algorithm? 6+4=10  
b. Write about the different python libraries which are help in Data analysis.

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