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| **P.V.P Siddhartha Institute of Technology(Autonomous)** | **Signature of Invigilator with date:** | **Marks Obtained:** |
| **Department of Computer Science and Engineering** |
| **Course: B. Tech** | **Year: III** | **Semester -II** | **Objective-I** |  |  |
| **Regulation: PVP20** | **Maximum Marks: 10M** | **Session: F.N** |
| **A.Y: 2024-25** | **Date:21-01-2025** | **Duration: 20 min** |
| **Subject Code: 20CS3602** | **Subject Name: Machine Learning** |
| **Registered Number:** | **Name:** |
| **Answer all the Questions. Each Question carries ½ Mark 20×½ M =10M** |
| **S. No** | **Question** | **CO** | **Level** | **Answer** |
| **1.** | **Machine learning is a subset of which of the following?** | **CO1** | **L2** |  |
| a) Artificial Intelligence | b) Deep Learning |
| c) Data Science | d) Data Learning |
| **2.** | **Which of the factors affect the performance of learner system does not include?** | **CO1** | **L2** |  |
| a) Representation scheme used | b) Training Scenario |
| c) Type of Feedback | d) Good Data Structure |
| **3.** | In what type of learning labeled training data is used as\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ . | **CO1** | **L2** |  |
| a) Supervised Learning | b) Unsupervised Learning |
| c) Active Learning | d) Reinforcement Learning |
| **4.** | **What is Machine Learning (ML)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **CO1** | **L2** |  |
| a) Machine learning is the science of getting computers to act without being explicitly programmed.a) Machine learning is the science of getting computers to act without being  explicitly programmed. |
| b) Machine Learning is a Form of AI that Enables a System to Learn from Data. |
| c) Both (a) and (b) |
| d) None of the Above |
| **5.** | **Designing a machine learning approach involve\_\_\_\_\_\_\_\_\_\_\_** | **CO1** | **L2** |  |
| a) Choosing the type of training experience |
| b) Choosing the target function to be learned |
| c) Choosing a representation for the target function |
| d) Choosing a function approximation algorithm |
| e) All the above |
| **6.** | In Classification, What does the term “ Class Label “ refers to  | **CO1** | **L2** |  |
| a) The name of the Model | b) The output of the Regression Model |
| c) The prediction category of an Input | d) The input features of a Model |
| **7.** | **If machine learning model output involves target variable then that model is called as** | **CO1** | **L2** |  |
| a) Descriptive Model | b) Predictive Model |
| c) Logical Model | d) Geometric Model |
| **8.** | Suppose, your target variable is the price of a house using Decision Tree. What type of tree do you need to predict the target variable? | **CO1** | **L2** |  |
| a) Classification Tree | b) Regression Tree |
| c) Clustering Tree | d) Dimensionality Reduction Tree |

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| **9.** | Decision tree can be used for \_\_\_\_\_\_. | **CO1** | **L2** |  |
| a) Classification  | b) Regression |
| c) Both | d) None of these |
| **10.** | Below are the 8 actual values of target variable in the train file: [0,0,0, 0, 1, 1,1,1,1,1], What is the entropy of the target variable? | **CO1** | **L2** |  |
| a) -6/10 log(6/10) - 4/10 log(4/10) | b) 6/10 log(6/10) + 4/10 log(4/10) |
| c) 4/10 log(6/10) + 6/10 log(4/10) | d) 6/10 log(4/10) – 4/10 log(6/10) |
| **11.** | ****In a decision tree algorithm, entropy helps to determine a feature or attribute that gives maximum information about a class which is called\_\_**** | **CO1** | **L2** |  |
| **a) Pruning** | **b) Information Gain** |
| **c) Maximum Depth** | **d) Gini Impurity** |
| **12.** | **Which of the following is not found in a typical neural network structure?**  | **CO1** | **L2** |  |
| **a)Processing Layer** | **b)Input Layer** | **c) Output Layer** | **d) Hidden Layer** |
| **13.** | **Clustering is an Example of\_\_\_\_\_\_\_\_** | **CO1** | **L2** |  |
| a) Supervised Learning | b) Unsupervised Learning |
| c) Active Learning | d) Reinforcement Learning |
| **14.** | **In a Neural Network, What is the role of the Activation Function?** | **CO1** | **L2** |  |
| a) Defines the Learning Rate | b) Controls the initialization of Weights |
| c) Set the No of Neurons in each Layer | d) Introduces Non- Linearity of the Model |
| **15.** | **Input applied in ANN passed on to layers hidden to produce output is referred to as \_\_\_\_\_\_\_\_\_\_?** | **CO1** | **L2** |  |
| a)Signal Propagation | b) Forward Propagation |
| c) Backward Propagation | d) Channel Propagation |
| **16.** | **Which Boolean operation on two variables can be represented by a Single Perceptron Layer?****A)** X1 AND X2 **B)** X1 OR X2 **C)** X 1 NOR X2 **D)** X1 XOR X2 | **CO1** | **L2** |  |
| a) C and D Only | b) D Only | c) A,B and C Only | d) A,B,C and D Only |
| **17.** | **Back propagation work with \_\_\_\_\_\_\_\_\_\_\_\_\_\_neural networks?** | **CO1** | **L2** |  |
| a)Single Layered Networks | * b) Multi Layered Networks
 |
| c) Fixed Layered Networks | * c) Dynamic Layered Networks
 |
| **18.** | **Which rule is followed by the Back propagation algorithm?** | **CO1** | **L2** |  |
| a) Static Rule  | b) Dynamic Rule | c) Chain Rule | d) Sigma Rule |
| **19.** | **Method in which the previously calculated probabilities are revised with values of new probability is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.** | **CO1** | **L2** |  |
| a) Revision theorem | * b) Bayes theorem
 |
| c) Dependent theorem | * c) Updation theorem
 |
| **20.** | **State the formula for conditional probability P(A|B) is \_\_\_\_\_\_\_** | **CO1** | **L2** |  |
| a) P(A|B)= P(A∩B)/P(B) | b) P(A|B)= P(A∩B)/P(A) |
| c) P(A|B)= P(A)/P(B) | d) P(A|B) = P(B/)P(A) |