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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) | | | | | |