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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-II** |  | |  | |
| **Regulation: PVP20** | | **Maximum Marks: 10M** | | | **Session: F.N** |
| **A.Y: 2024-25** | | **Date:25-03-2025** | | | **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.** | **The error rate of hypothesis over a sample of data is called\_\_\_\_\_** | | | | | | **CO1** | **L2** |  |
| a) Sampling Error | | b) True Error | | | |
| c) Frame Error | | d) Probability Error | | | |
| **2.** | **The confusion matrix visualizes the \_\_\_\_ of a classifier by comparing the actual and predicted classes.** | | | | | | **CO1** | **L2** |  |
| a)Accuracy | | b) Connectivity | | | |
| c) Stability | | d) Comparativity | | | |
| **3.** | **During the Treatment of Cancer Patients, the doctor needs to be very careful about which patients needs to be given chemotherapy which metric should we use in order to decide the patients who should give chemotherapy?** | | | | | | **CO1** | **L2** |  |
| a) Recall | | b) Precision | | | |
| c) Call | | d) Score | | | |
| **4.** | **Boosting Means\_\_\_\_\_\_\_\_\_\_\_** | | | | | | **CO1** | **L2** |  |
| a) New models are affected by the performance of the previously developed  model | | | | | |
| b) Every Model is constructed independently | | | | | |
| c) Not dependent on the model | | | | | |
| d) None of the above | | | | | |
| **5.** | Which of the following is a widely used and effective machine learning algorithm based on the idea of bagging? | | | | | | **CO1** | **L2** |  |
| a) Decision Tree | | | b) Linear Regression | | |
| c) Classification | | | d) Random Forest | | |
| **6.** | **Choose the Instance based Learner** | | | | | | **CO1** | **L2** |  |
| a) Eager Learner | | | b) Lazy Learner | | |
| c) Both A & B | | | d) None of the Above | | |
| **7.** | In SVM, the dimension of the hyperplane depends upon which one? | | | | | | **CO1** | **L2** |  |
| a) No of Samples | | | b) No of Features | | |
| c) No of Target Variables | | | d) All of the Above | | |
| **8.** | In SVM, The Linear Separator Hyper plane formulae is | | | | | | **CO1** | **L2** |  |
| a) f(x)=sign(w/x+b) | | | b) f(x)=sign(w+x+b) | | |
| c) f(x)=sign(w.x+b) | | | d) f(x)=sign(w-x+b) | | |
| **9.** | **Which among the following is the most appropriate kernel the that can be used with SVM to separate the classes.** | | | | | | **CO1** | **L2** |  |
| a) Linear Kernel | | | b) Sigmoid Function | | |
| c) Polynomial Kernel | | | d) Radial Basis Kernel | | |

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| **10.** | **In k-NN what will happen when you increase/decrease the value of k?** | | | | | | | | | **CO1** | **L2** |  |
| a) The boundary becomes smoother with increasing value of K | | | | | | | | |
| b) The boundary becomes smoother with decreasing value of K | | | | | | | | |
| c) Smoothness of boundary doesn’t dependent on value of K | | | | | | | | |
| d) None of these | | | | | | | | |
| **11.** | **Which of the following is an Application of Case Based Reasoning** | | | | | | | | | **CO1** | **L2** |  |
| a) Diagnosis | | b) Planning | | | | c) Design | d) Analysis | |
| **12.** | **Instances are represented by symbols not values are called\_\_\_\_\_\_** | | | | | | | | | **CO1** | **L2** |  |
| a)Neural Network | | | | | | b) KNN Algorithm | | |
| c) Support Vector Machine | | | | | | d) Case Based Reasoning | | |
| **13.** | \_\_\_\_\_\_\_\_\_\_ is the machine learning algorithms that  can be used with unlabeled data.  \_\_\_\_\_\_\_\_\_\_ is the machine learning algorithms that  can be used with unlabeled data. \_\_\_\_\_\_\_\_\_\_ is the machine learning algorithms that can be used with unlabeled data. | | | | | | | | | **CO1** | **L2** |  |
| a) Regression Algorithms | | | b) Clustering Algorithms | | | | | |
| c) Instance based Algorithms | | | d) Classification Algorithms | | | | | |
| **14.** | Which metric is commonly used to measure cluster quality in K-Means? | | | | | | | | | **CO1** | **L2** |  |
| a) Silhouette Score | | | | | b) Information Gain | | | |
| c) Gini Index | | | | | d) Log-Loss | | | |
| **15.** | Which technique is used to determine the optimal number of clusters in K-Means? | | | | | | | | | **CO1** | **L2** |  |
| a) Euclidean Method | | | | | b) Manhattan Distance | | | |
| c) Silhouette method | | | | | d) Elbow Method | | | |
| **16.** | \_\_\_\_\_\_\_\_\_\_clusters formed in this method forms a tree-type structure based on the hierarchy. | | | | | | | | | **CO1** | **L2** |  |
| a) Density Based | | | | | b) Hierarchical Based | | | |
| c) Grid Based | | | | | d) Partitioning Based | | | |
| **17.** | **Aggloramative Hierarchical Cluster follows the \_\_\_\_\_\_ Approach** | | | | | | | | | **CO1** | **L2** |  |
| a) Top Down | b) Bottom Up | | | | c) Dawn Up | | | d) None |
| **18.** | **\_\_\_\_\_\_\_ stands for Statistical Information Grid.** | | | | | | | | | **CO1** | **L2** |  |
| a) SIG | b) STIG | | | | c) STING | | d) SNG | |
| **19.** | **\_\_\_\_\_\_\_\_\_\_consider the clusters as the dense region having some similarity and different from the lower dense region of the space** | | | | | | | | | **CO1** | **L2** |  |
| a) Project Based | | | | | b) Hierarchical Based | | | |
| c) Grid Based | | | | | d) Density Based | | | |
| **20.** | **The points with in the cluster are more close to each other is called\_\_\_\_\_\_\_\_\_** | | | | | | | | | **CO1** | **L2** |  |
| a) Cohesion | | | | b) Forward Propagation | | | | |
| c) Separation | | | | d) Coupling | | | | |