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| Q. No | Statement | CO mapping |
| Section A 5 x 2 = 10 marks | | |
| 1 | Differentiate a missing value with an outlier | CO2 |
| 2 | Define Ensemble Learning | CO2 |
| 3 | List out various advantages of using Decision Trees | CO2 |
| 4 | Differentiate Unsupervised Learning and Reinforcement Learning | CO3 |
| 5 | Define any problems using Naive Bayes for Classification | CO3 |
| Section B 4 x 5 = 20 marks | | |
| 6 | Compare SVM and Logistic Regression in handling outliers | CO2 |
| 7 | Is Feature Scaling required for the KNN Algorithm? Explain with proper justification. | CO3 |
| 8 | Explain how the Random Forests give output for Classification and Regression problems | CO2 |
| 9 | Differentiate Manhattan Distance and Euclidean Distance in Clustering with an example | CO3 |
| Section C 3 x 10 = 30 marks | | |
| 10 | Given the data in Table, reduce the dimension from 2 to 1 using the Principal Component Analysis (PCA) algorithm.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Feature | Example 1 | Example 2 | Example 3 | Example 4 | | X1 | 4 | 8 | 13 | 7 | | X2 | 11 | 4 | 5 | 14 | | CO3 |
| 11 | Find the frequent itemsets and generate the association rules using the Apriori algorithm using given dataset which has various transactions.  Apriori Algorithm in Machine Learning | CO4 |
| 12 | Justify with elaboration the following statement:  The k-means algorithm is based on the strong initial condition to decide the Number of clusters through the assignment of ‘k’ initial centroids or means. | CO4 |