Subject Title: Machine Learning
Subject Code: 20CST-316
Semester: V

Time: 3 Hours **Maximum Marks: 60**

Instructions: Attempt all questions

Q. No	Statement	CO mapping
Section A 5 x 2 = 10 marks		
1	Define hypothesis testing and Normal Distribution.	CO2
2	Define possibility of conversion for Regression into Classification and vice versa.	CO2
3	Differentiate KNN and K-means Clustering	CO2
4	Define dendrogram in Hierarchical Clustering Algorithm	CO3
5	Listout different algorithms to solve a problem in Reinforcement Learning	CO3
Section B 4 x 5 = 20 marks		
6	Differentiate Root Mean Squared Error (RMSE) with Mean Squared Error (MSE) for Linear Regression?	CO2
7	Describe over fitting with comparison to underfitting? Give any one method to avoid over fitting.	CO3
8	Elaborate Apriori algorithm using confidence, support, and lift with an appropriate example.	CO2
9	Compare Naive Bayes with Logistic Regression to solve classification problems	CO3
Section C 3 x 10 = 30 marks		
10	Differentiate Random Forest with Decision Tree and Explain how is it possible to perform Unsupervised Learning with Random Forest?	CO3
11	Can PCA be used for regression-based problem statements? If yes, then explain the scenario where we can use it.	CO4
12	Compare Feature Extraction and Feature Selection techniques. Explain how dimensionality can be reduced using subset selection procedure.	CO4