GUJARAT TECHNOLOGICAL UNIVERSITY
MCA – SEMESTER -III EXAMINATION –WINTER-2021

Subject Code: 639402   **Date: 28/12/2021**
Subject Name: Machine Learning
Time: 10:30 AM TO 01:00 PM   **Total Marks: 70**
Instructions:

    1. Attempt all questions.
    2. Make Suitable assumptions wherever necessary.
    3. Figures to the right indicate full marks.

Q.1	**(a)**	Explain following terms.	**07**
		1) F1 score	
		2) Root mean square error	
		3) Confusion matrix	
		4) AUC	
		5) ROC	
		6) Accuracy	
		7) Recall	
	(b)	List the tools for Machine Learning application development with detail.	**07**
Q.2	**(a)**	Explain Different types of Machine learning.	**07**
	(b)	How to find Nearest Neighbors in KNN algorithm.	**07**
		OR	
	(b)	Discuss Data type in context of Machine learning.	**07**
Q.3	**(a)**	Explain PCA with appropriate example.	**07**
	(b)	Write short note on Data pre-processing.	**07**
		OR	
Q.3	**(a)**	State difference between cross validation and k-fold.	**07**
	(b)	Explain Data preprocessing in machine learning.	**07**
Q.4	**(a)**	What is over fitting and under fitting explain with an appropriate example and figure.	**07**
	(b)	Explain Decision Tree algorithm.	**07**
		OR	
Q.4	**(a)**	Explain Artificial Neural Network with suitable example.	**07**
	(b)	Explain SVM algorithm with appropriate example.	**07**
Q.5	**(a)**	Explain Association Rules and how it help to grow sales?	**07**
	(b)	Explain K-means algorithms with an appropriate example.	**07**
		OR	
Q.5	**(a)**	What is Naïve Bayes classifier? Narrate Principle of Naive Bayes Classifier.	**07**
	(b)	What is Regression? Explain its types in details.	**07**

****