GUJARAT TECHNOLOGICAL UNIVERSITY
MCA– SEMESTER III- EXAMINATION –SUMMER-2024

Subject Code: 639402   **Date: 16/05/2024**

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.
     4. Use of simple calculators and non-programmable scientific calculators are permitted.

Q.1	(a)	Explain following terms. 1) F1 score 2) Conditional probability 3) Confusion matrix 4) kappa value 5) DBSCAN 6) Accuracy 7) Recall	07
	(b)	Differentiate the following 1. Lazy Learner and Eagar Learner 2. Machine Learning and Human Learning	07
Q.2	(a)	What is Machine Learning ? Explain Different types of Machine learning.	07
	(b)	Discuss Data type in context of Machine learning.	07
		OR	
	(b)	What are activities involved in machine learning?	07
Q.3	(a)	What is feature transformation? Explain feature construction process in detail.	07
	(b)	Explain PCA with appropriate example.	07
		OR	
Q.3	(a)	Define outliers. Can we handle outliers and missing values in data? Explain in brief.	07
	(b)	Explain the different types of regression lines based on the type of slope.	07
Q.4	(a)	Explain Data preprocessing in machine learning.	07
	(b)	Discuss the KNN algorithm with Example.	07
		OR	
Q.4	(a)	What is clustering? Explain application areas in which clustering used	07
	(b)	What is over fitting and under fitting explain with an appropriate example.	07
Q.5	(a)	Explain Decision Tree algorithm.	07
	(b)	Explain K-means algorithms with an appropriate example.	07
		OR	
Q.5	(a)	Explain Association Rules and how it help to grow sales?	07
	(b)	What is Naïve Bayes classifier? Narrate Principle of Naive Bayes Classifier	07

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