

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2022

Subject Code:3154203

Date:09-01-2023

Subject Name:Machine Learning Essentials

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. Simple and non-programmable scientific calculators are allowed.

MARKS

Q.1 (a) What are possible reasons for Model overfitting? **03**

(b) Define Machine learning? Briefly explain the types of learning. **04**

(c) Explain Key elements of Machine Learning. Explain various function approximation methods **07**

Q.2 (a) What is K-fold cross validation? **03**

(b) List different Techniques for Feature subset selection. Explain any One. **04**

(c) Difference between Scatter plot, Histogram and Box plot. **07**

OR

(c) Explain PCA Algorithm with examples. **07**

Q.3 (a) Define issues in machine Learning. **03**

(b) Explain the training of Predictive Model. **04**

(c) List Descriptive statistics in ML Explain with proper example. **07**

OR

Q.3 (a) What do you mean by measure of feature redundancy? **03**

(b) Give the difference between supervised learning and unsupervised learning **04**

(c) Draw and explain the flow diagram of machine learning procedure. **07**

Q.4	(a)	What is Bagging and Boosting?	03
	(b)	Difference between Linear Regression and Logistic Regression.	04
	(c)	What is Clustering? Explain K-mean clustering algorithm.	07

OR

Q.4	(a)	What are the conditions of a negative slope in linear regression?	03
	(b)	Explain in brief: Anomaly detection	04
	(c)	Discuss about Support Vector Machine with proper diagram.	07

Q.5	(a)	Explain dependent variable and an independent variable in a linear equation with example.	03
	(b)	Explain Performance evaluation of Machine Learning models	04
	(c)	Discuss the error rate and validation error in the kNN algorithm	07

OR

Q.5	(a)	Discuss Apriori algorithm for association rule learning.	03
	(b)	Write a short note on feed forward neural network.	04
	(c)	Explain Random Forest Classifier along with its Parameters.	07
