

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
Bachelor of Engineering - SEMESTER - VI EXAMINATION - SUMMER 2025

Subject Code: 3164803

Date: 02-06-2025

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.**

	Marks
Q.1 (a) Give applications of machine learning.	03
(b) Differentiate human learning and machine	04
(c) Write importance of dimension reduction. Explain various techniques of it.	07
Q.2 (a) Differentiate supervised and unsupervised learning.	03
(b) Explain entropy and information gain. What is use of entropy?	04
(c) Explain PCA algorithm.	07
OR	
(c) Describe linear regression	07
Q.3 (a) What is naïve property?	03
(b) Explain reinforcement learning.	04
(c) Describe random forest algorithm	07
OR	
(a) List out the advantages and disadvantages of decision tree.	03
(b) What is the use of support vectors in SVM? How they are identified?	04
(c) Describe logistic regression.	07
Q.4 (a) What is outlier? Why they are important?	03
(b) Describe Hierarchical Clustering.	04
(c) Explain K-means algorithm.	07
OR	
(a) Explain confusion matrix.	03
(b) Write the steps of training machine learning model.	04
(c) Explain possible solution of anomalies detection.	07
Q.5 (a) Explain significance of precision and recall with their suitable use cases.	03

- (b)** Explain k-fold cross validation technique. **04**
- (c)** Explain various methods involved in data pre-processing. **07**

OR

- (a)** Write about Bias-variance tradeoff. **03**
- (b)** What is hyper parameter tuning? Explain. **04**
- (c)** Describe ensemble learning with its importance and suitable example. **07**
