

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI EXAMINATION – SUMMER 2025****Subject Code: 3164205****Date: 26-05-2025****Subject Name: Predictive Analytics****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) Differentiate Stratified Sampling and Cluster Sampling.	03
	(b) Explain the measures of shape- Skewness and Kurtosis.	04
	(c) List Machine Learning Algorithms and explain any two in brief.	07
Q.2	(a) What is the difference between Dimensionality reduction and Feature subset selection?	03
	(b) What is categorical data? Explain its types with examples.	04
	(c) What is principal component analysis? How does it work? Explain.	07
	OR	
	(c) Draw and explain the flow diagram of machine learning procedure.	07
Q.3	(a) Discuss the various measures used to validate the simple linear regression.	03
	(b) What is data sampling? Explain data sampling methods?	04
	(c) What are the Techniques Provided in Data Preprocessing? Explain in brief.	07
	OR	
Q.3	(a) Explain the process of feature subset selection in detail.	03
	(b) Explain LDA with example.	04
	(c) Explain KNN method with example.	07
Q.4	(a) Define continuous random variable and discrete random variable with example.	03
	(b) List Classification algorithms. Explain Decision Tree as classification method.	04
	(c) Explain CART Algorithm in Detail.	07
	OR	
Q.4	(a) Explain the training of Predictive Model.	03
	(b) Write a note on Random Forest.	04
	(c) What is Clustering? Explain K-mean clustering algorithm.	07
Q.5	(a) Briefly explain K-Medoids.	03
	(b) Explain Binomial Distribution with an example.	04
	(c) Explain Principle Component Analysis (PCA) With Suitable Example.	07
	OR	
Q.5	(a) What are the strengths and weaknesses of SVM?	03
	(b) Write a short note on feed forward neural network	04
	(c) Explain Naïve Bayes' theorem in details.	07
