

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
Bachelor of Engineering - SEMESTER - V EXAMINATION - WINTER 2025

Subject Code: N115AG01

Date: 06-12-2025

Subject Name: Introduction to Data 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) What are the main objectives of data science?	03
(b) How does EDA help in identifying patterns and anomalies?	04
(c) What are the types of data visualizations? What Python libraries are commonly used for data visualization?	07
Q.2 (a) What are irrelevant, redundant, and informative features?	03
(b) What are the main steps in the data science life cycle?	04
(c) What are the main categories of feature selection methods? Explain filter-based feature selection.	07
OR	
(c) What is correlation? How can correlation be used in feature selection?	07
Q.3 (a) How are box plots used to detect outliers?	03
(b) How do you handle missing values using python?	04
(c) How can ethical considerations impact data science applications?	07
OR	
(a) What is feature importance, and how can it be analyzed in EDA?	03
(b) How can you visualize feature importance in Python?	04
(c) What are common challenges in deploying data science applications?	07
Q.4 (a) How do heatmaps help in data analysis?	03
(b) How is feature selection different from dimensionality reduction?	04
(c) What are some common applications of data science in everyday life?	07
OR	
(a) What is the difference between exploratory and explanatory visualization?	03
(b) What is the difference between filter, wrapper, and embedded methods?	04
(c) What are some applications of data science in education?	07

- Q.5** (a) How does feature selection impact overfitting and underfitting? **03**
- (b) What is the role of visualization in EDA? **04**
- (c) What are the main types of data in data science? Define structured, unstructured, and semi-structured data. **07**

OR

- (a) How is feature selection different from feature extraction? **03**
- (b) What are the main goals of EDA? **04**
- (c) What are some real-world applications of data science? What is the role of a data scientist? **07**
