

Enrollment No./Seat No.:

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

Subject Code: N114AT01

Date: 03-12-2025

Subject Name: Introduction to Data Science

Time: 02:30 PM TO 05:00 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 is the role of python in Data Science.?	03
(b) List and Explain different sectors of Data science.	04
(c) Draw and Explain Data science LifeCycle.	07
Q.2 (a) List and Explain advantages & disadvantages of Python in the context of Data Science.	03
(b) Write Difference between Predictive and Prescriptive analytics techniques.	04
(c) Explain Quantitative Technique for Exploratory Data Analysis in detail.	07
OR	
(c) Explain Graphical Technique for Exploratory Data Analysis in detail.	07
Q.3 (a) What is Data Analysis? List Application of Data Analysis	03
(b) Write a program to check whether the given number is odd or even.	04
(c) What is Feature Generation? Explain in brief.	07
OR	
(a) Explain data types and scales in descriptive analytics.	03
(b) Write a python program to display the Fibonacci series.	04
(c) What is Feature Selection? Explain in brief.	07
Q.4 (a) What makes data visualization effective?	03
(b) Write a Python program to create and print a NumPy 2D and 3D Array.	04
(c) Explain Data Visualization with basic ideas and tools used for data visualization.	07
OR	
(a) Write difference between List and Tuple in Python.	03
(b) Write a python program to read data from CSV files using pandas.	04
(c) Explain Data Analytics Conclusion and Predictions.	07

- Q.5** (a) How can you create a Pandas DataFrame? **03**
- (b) Define the Role of a Data Scientist. **04**
- (c) Determine the suitable model used for performing data analytics on Stock market prediction and provide justification for the selected model. **07**

OR

- (a) Write a Python program to create a filter array. **03**
- (b) List out applications of Data science explain any one in detail. **04**
- (c) Explain any one application of data analytics with its detailed process and suitable dataset. **07**
