

Enrolment No./Seat No_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE(MINOR)- SEMESTER-I&II EXAMINATION – SUMMER 2025

Subject Code:N114AT01

Date:03-06-2025

Subject Name:Introduction to Data Science

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

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|-----|-----|---|----|
| Q.1 | (a) | What is Data science? | 03 |
| | (b) | Data science is used in which different sectors? Explain in brief. | 04 |
| | (c) | Explain Data analytics process in detail. | 07 |
| Q.2 | (a) | Write the difference between NumPy and Pandas. | 03 |
| | (b) | What is Python in Data Science? Define Components of Python. | 04 |
| | (c) | Explain Exploratory Data Analysis (EDA) Graphical Techniques in detail. | 07 |
| | | OR | |
| | (c) | Explain Exploratory Data Analysis (EDA) Quantitative Techniques in detail | 07 |
| Q.3 | (a) | What is Prediction in data analysis? | 03 |
| | (b) | Write a program to check whether the given number is Armstrong or not. | 04 |
| | (c) | Explain Data Visualization with basic ideas and tools used for data visualization. | 07 |
| | | OR | |
| Q.3 | (a) | Explain Python bitwise operator with an example. | 03 |
| | (b) | Write a program to check whether the given number is prime or not. | 04 |
| | (c) | Explain Feature Selection in detail. | 07 |
| Q.4 | (a) | Write the applications of Data science. | 03 |
| | (b) | Discuss the use of Data science in the agricultural field. | 04 |
| | (c) | List various Predictive and Prescriptive analytics techniques. Explain each in brief. | 07 |
| | | OR | |
| Q.4 | (a) | Write a Python program to create a filter array. | 03 |
| | (b) | What is Feature Generation? Explain in brief. | 04 |
| | (c) | Explain Data Analytics Conclusion and Predictions. | 07 |
| Q.5 | (a) | What is Data Frame in Panda? | 03 |
| | (b) | Write a python program to read data from CSV files using pandas. | 04 |
| | (c) | Explain Data science with different ethical issues in detail. | 07 |
| | | OR | |
| Q.5 | (a) | Differentiate quantitative data and qualitative data with an example. | 03 |
| | (b) | Write a Python program to create and print a NumPy 2D and 3D Array. | 04 |
| | (c) | Write a program to check whether a given number is odd or even. | 07 |
