Roll No: | | | | | | | | | | | |

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

PRESIDENCY UNIVERSITY

Presidency University Act, 2013 of the Karnataka Act No. 41 of 2013 | Established under Section 2(f) of UGC Act, 1956
Approved by AICTE, New Delhi | Approved By BCI
Bengaluru

Mid Term Examinations - October 2026

Date: 05/10/2026 **Time:** 11:45 AM - 01:15 PM

Course Code: IST3410 **Course Name:** Data Handling and Visualization Techniques

Semester: Seventh Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2
Marks	46	44

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	Define Data Acquisition. Mention any two methods of acquiring data as discussed in the course	2	CO1	BT1
2	List any two Python libraries used for data handling and mention one use of each.	2	CO1	BT1
3	Differentiate between structured and unstructured data with an example.	2	CO1	BT2
4	What is hierarchical indexing in Pandas?	2	CO2	BT1
5	Define data profiling. Name any one tool used for data profiling.	2	CO2	BT1

PART B : Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
6	Explain the data handling pipeline covering acquisition, cleaning, transformation, and storage, with a neat diagram.	10	CO1	BT2
7	Explain any two data cleaning techniques used for handling missing data, and describe how AI-assisted anomaly detection can improve this process.	10	CO1	BT2

PART C: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
8	Illustrate with an example how web scraping and REST APIs can be used to acquire data for analysis. Write the general steps involved.	10	CO1	BT3
9	Demonstrate how string operations and data preparation techniques (e.g., using Pandas) are applied to clean and prepare a raw dataset for analysis. Support with an example.	10	CO1	BT3

PART D: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
10	Explain hierarchical indexing and data merging in Pandas with suitable examples.	10	CO2	BT2
11	Describe the techniques used for reshaping datasets (pivoting, stacking and unstacking) in Pandas, with examples.	10	CO2	BT2

PART E: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
12	Apply appropriate memory optimization techniques to process a large dataset that does not fit into memory. Explain with reference to tools such as Polars and DuckDB.	10	CO2	BT3
13	Illustrate how predictive analysis and recommender systems can be built using a case study of your choice, applying appropriate data wrangling techniques.	10	CO2	BT3