

Roll.No.

25PCSCT1002

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

M.Sc.Computer Science - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - I

25PCSCT1002 - Data Science using Python

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Compare Data Cleaning and Data Integration.
2. What are the steps involved in Data Pre-processing?
3. Prepare a Python code to demonstrate vectorized computation in NumPy.
4. Explain how to handle date and time data in Pandas.
5. Explain the working of the K-Nearest Neighbors (KNN) algorithm.
6. Compute the probability value in Logistic Regression.
7. Explain Hierarchical Clustering techniques in detail.
8. Ascertain how YouTube data can reveal public sentiment or emerging trends through content analysis.

Section C

I - Answer any **TWO** questions ($2 \times 10 = 20$ Marks)

9. Explain about Data Discretization techniques.
10. Relate the role of Pandas with databases and web API.
11. Describe Random Forest and differentiate it with a Decision Tree.
12. Dissect a Matplotlib code example to explain how figures, subplots, and annotations interact.

II - Compulsory question ($1 \times 10 = 10$ Marks)

13. Examine the workflow of developing a data science application using Kaggle datasets.
