

Roll.No.

25UCSET5EC1

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.

B.Sc CS - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - V

25UCSET5EC1 - Data Science and Predictive Analytics - I

Total Duration : 1 Hrs.30 Mins.

Total Marks : 40

Section B

Answer any **TEN** questions ($10 \times 2 = 20$ Marks)

1. Define Data Science.
2. Mention one real-life example where Data Science is used.
3. Differentiate between structured and unstructured data with examples.
4. List the three main types of data.
5. Why is feature scaling important in data preprocessing?
6. Name one Python library used for data cleaning.
7. Define Mean and Median in statistics.
8. Use a heatmap to visualize correlation between variables.
9. State Bayes' Theorem.
10. Differentiate between Normal and Poisson distribution.
11. Explain the importance of correlation analysis in EDA.
12. Explain conditional probability with a simple example.

Section C

Answer any **FOUR** questions ($4 \times 5 = 20$ Marks)

13. Illustrate the application of Data Science in any one real-life scenario such as Netflix, healthcare, or finance.
14. Analyze the characteristics of structured, semi-structured, and unstructured data with relevant examples.
15. Evaluate the importance of feature engineering in improving the accuracy of machine learning models.
16. Analyze the role of correlation analysis in identifying relationships between numerical variables.
17. Evaluate the significance of hypothesis testing in validating assumptions made in data analysis.
18. Analyze the impact of outliers and improper scaling on the performance of data-driven models.
