

Roll.No.

25UAICT1003

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 with AI. - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - I

25UAICT1003 - Data Analytics

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

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

1. Differentiate between Structured, Unstructured, and Semi-Structured Data with examples.
2. Mention the key stages of the Data Analytics Lifecycle? Explain briefly.
3. What are Outliers? Describe any two methods for Outlier Detection and Treatment.
4. Differentiate Normalization and Standardization with suitable examples.
5. List the different Measures of Central Tendency and Dispersion used in data analytics.
6. What is Hypothesis Testing? Explain the significance of chi-square testing.
7. How Decision Trees are used in classification and prediction tasks?
8. Ascertain about Genetic Algorithms? Mention their major components.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Exemplify the Challenges and Ethical Considerations in Data Analytics. Discuss issues like data privacy, bias, and transparency with examples.
10. Describe the various Data Cleaning and Transformation techniques used to improve data quality. Explain how Missing Data, Outliers, and Encoding are handled in analytics.
11. Illustrate Correlation and Regression Analysis. How do Simple and Multiple Regression models help in predictive analytics?
12. Distinguish Factor Analysis and Principal Component Analysis (PCA) in detail. How do these techniques help in dimensionality reduction and pattern identification?

Contd...

13. Conclude the role of Reinforcement Learning in Decision Analytics. Provide examples of real-world applications in business optimization.
