

Roll.No.

25UDACT1001

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.DS and AI - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - I

25UDACT1001 - Python Programming for Data Science

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

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

1. Elaborate on selection, iteration and sequence control statements with example.
2. Mention the features of Lists in python.
3. Predict aggregation functions in NumPy? Illustrate with code to find mean, median and Standard deviation.
4. Demonstrate how to filter rows based on column values using Pandas.
5. What is Module and Package in Python? Illustrate Package creation in Python.
6. Write a short note on sorting arrays in NumPy. How does sorting differ along rows and columns?
7. Show how to split strings and What function is used to perform that operation.
8. Outline the role of colorbars in plots and the situations where they are necessary.

Section C

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

9. What is Data Science? Describe Types of data used in Data Science with an example.
10. Define Tuple Differentiate List out the built-in functions that are used in Tuple. Is Tuple comparison possible? Explain with an example.
11. Construct a Python program that demonstrates reshaping, stacking, and splitting arrays for matrix manipulation.
12. Critically assess the use of Pandas for operating on dataframes.
13. Compare and contrast the creation and interpretation of density plots, contour plots, and 2D histograms for a bivariate dataset.
