25U273S (Pages: 2) Name: .....

Reg.No: .....

SECOND SEMESTER B.Voc. DEGREE EXAMINATION, APRIL 2026

(CBCSS - UG)

CC21USDC2DS06 - DATA SCIENCE WITH PYTHON

(Information Technology)

(2021 to 2023 Admissions - Supplementary/Improvement)

Time : 2.5 Hours Maximum : 80 Marks

Credit : 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 2 marks.

1. List the basic tools of EDA.
2. What is Purposive or judgmental sampling?
3. List the major uses of Regression Analysis.
4. What is joint distribution?
5. Why NumPy is used in python?
6. What is a Numpy Array?
7. What is the difference between np.argsort() and np.argpartition()?
8. List all aggregate functions in Pandas.
9. How will you create a series from dict in Pandas?
10. What is the use of how parameter?
11. What is the use of Numexpr library?
12. What is the use of pad(), wrap() string methods?
13. Define savefig() command.
14. What is a scatter plot?
15. What is the difference between plt.scatter and plt.plot?

(Ceiling: 25 Marks)

Part B (Paragraph questions)

Answer ***all*** questions. Each question carries 5 marks.

16. Explain statistical modeling.
17. What is K-means partitioning algorithm.

18. Explain k-Nearest Neighbors (k-NN) with example.
19. Explain the array indexing and slicing.
20. Explain comparison operators in Numpy arrays.
21. What are the different rules of broadcasting in python? Explain.
22. How to concatenate two or more pandas' series? Explain.
23. Explain about the different categories of joins.

(Ceiling: 35 Marks)

Part C (Essay questions)

Answer any ***two*** questions. Each question carries 10 marks.

24. What is data science and explain the data science process?
25. Explain the differences between univariate, bivariate and multivariate analysis with suitable example.
26. Explain pandas data indexing and selection operation.
27. How to make a multi-index in pandas? Explain.

(2 × 10 = 20 Marks)

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