

21U258

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Name: .....

Reg.No: .....

**SECOND SEMESTER B.Voc. DEGREE EXAMINATION, APRIL 2022**

(CBCSS - UG)

**CC21U SDC2 DS06 - DATA SCIENCE WITH PYTHON**

(Information Technology - Core Course)

(2021 Admission - Regular)

Time : 2.5 Hours

Maximum : 80 Marks

Credit : 4

**Part A** (Short answer questions)

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

1. What is Model?
2. What are the two operations to combine information from different data sets?
3. How can you select k for k-Means?
4. List the major uses of Regression Analysis.
5. What is probability distribution?
6. List the NumPy standard data types.
7. How to count non-zeros in a Python array?
8. What is broadcasting for Numpy arrays?
9. List the categories of joins in pandas.
10. Create a DataFrame using list.
11. What is the use of stack() and unstack()?
12. List the pandas str 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 k-Nearest Neighbors (k-NN) with example.
17. Define universal functions in Numpy.
18. Define sorting of arrays.
19. Explain the different aggregate functions in pandas.
20. How to concatenate two data frames with different column names? Explain.
21. Explain Data Selection in Data frames.
22. How to fill in missing data using python pandas?
23. What are the operations supported by pd.eval()?

**(Ceiling: 35 Marks)**

**Part C** (Essay questions)

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

24. Explain Exploratory Data Analysis.
25. What is data visualization and explain the different tools for data visualization?
26. Explain the skill set needed for a data scientist.
27. What is array and explain the different ways to create a numpy array?

**(2 × 10 = 20 Marks)**

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