

PRIYADARSHINI COLLEGE OF ENGINEERING, NAGPUR

Department: CT

Semester: VII
CAT-II (2023-24)

Section: A/B

Subject: Data Visualization

Duration: 1.5 Hrs

Note:

- 1) All questions are compulsory.
- 2) All questions carry marks as indicated.

Subject Code: BTCT702T-3

Max. Marks: 35

Q.No.	Questions	Marks	CO	BL
1	<p>a. i) Amongst which of the following is a correct syntax for panda's dataframe?</p> <p>a) Pandas.DataFrame(data, index, dtype, copy)</p> <p>b) pandas.DataFrame(data, index, columns, dtype, copy)</p> <p>c) pandas.DataFrame(data, index, dtype, copy)</p> <p>d) pandas.DataFrame(data, index, rows, dtype, copy)</p> <p>ii) What is a cell in Jupyter Notebook?</p> <p>a) A unit of code that can be executed</p> <p>b) A paragraph of narrative text</p> <p>c) A mathematical equation</p> <p>d) A visual representation of data</p> <p>b. What is a dictionary? Explain the method available in the dictionary.</p>	1	3	1
OR				
2	<p>a. i) What is the difference between %matplotlib inline and %matplotlib notebook magic commands in Jupyter Notebook?</p> <p>a) %matplotlib inline displays static visualizations, while %matplotlib notebook displays interactive visualizations</p> <p>b) %matplotlib inline displays interactive visualizations, while %matplotlib notebook displays static visualizations</p> <p>c) %matplotlib inline is used for data manipulation, while %matplotlib notebook is used for data visualization</p> <p>d) There is no difference between %matplotlib inline and %matplotlib notebook</p> <p>ii) Which library is used to create visualizations in Jupyter Notebook?</p> <p>a) pandas b) matplotlib c) NumPy d) scikit-learn</p> <p>b. Compare the difference between Numpy and Pandas</p>	1	3	2
3	<p>a. i) Which method shows hierarchical data in a nested format?</p> <p>a) Treemaps b) Scatter plots c) Area charts d) Population pyramids</p> <p>ii) Which of the following is not a type of Matplotlib plot?</p> <p>a) Line plot b) Scatter plot c) Pie chart d) Bar chart</p> <p>b. How to manually add a legend with a color box on a Matplotlib figure?</p> <p>c. How to Generate a Waffle chart? write a script to plot a waffle chart. *Assume data frame as follow- data ={'printer': ['Nokia', 'Samsung', 'canon', 'Epson', 'hp'], 'stock': [24, 12, 8, 15, 3]}</p>	1	4	2
OR				
4	<p>a. i) Statement to plot a line chart for data stored in a DataFrame 'df' is _____</p> <p>a) df.plot(line) b) plot(df, line) c) df.plot(kind = <line=) d) None of the above</p> <p>ii) What is Visualization?</p> <p>a) It is the graphical representation of information and data</p> <p>b) It is the numerical representation of information and data</p> <p>c) It is the character representation of information and data</p> <p>d) None of the above</p> <p>b. Create a list of nested dictionaries into pandas dataframe.</p> <p>c. Explain the steps of Creating a Word Cloud in Python.</p>	1	4	3
		1	4	2
		5	4	3
		7	4	4
		5	4	4
		7	4	3

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|---|---|---|---|---|
| 5 | a. i) Which library is used to create statistical graphics in Python? | 1 | 5 | 2 |
| | a) Pandas b) Numpy <u>c) Seaborn</u> d) Matplotlib | | | |
| | ii) Which of the following is NOT a type of plot available in Seaborn? | 1 | 5 | 2 |
| | a) Line plot b) Scatter plot c) Bar plot <u>d) Tree plot</u> | | | |
| | b. Define following terms: i) Barplot, ii) Boxplot, iii) Stripplot | 5 | 5 | 2 |
| | c. How to create a Map with a Dataset? explain with their syntax and parameter use. | 7 | 5 | 4 |

OR

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|---|--|---|---|---|
| 6 | a. i) Which function is used to create a heatmap in Seaborn? | 1 | 5 | 2 |
| | <u>a) sns.heatmap()</u> b) sns.scatterplot() c) sns.lineplot() , d) sns.barplot() | | | |
| | ii) Which argument should be set to display percentage share of each pie on a pie chart? | 1 | 5 | 2 |
| | a) label <u>b) autopct</u> c) explode d) wedge | | | |
| | b. i) What is Seaborn? ii) Different categories of plot in Seaborn. | 5 | 5 | 2 |
| | c. Difference between Matplotlib and Seaborn with examples. | 7 | 5 | 3 |