

CBCS SCHEME

USN

--	--	--	--	--	--	--	--	--	--

18AD72

Seventh Semester B.E. Degree Examination, Dec.2023/Jan.2024

Data Visualization

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain Data Visualization. Mention the importance of Data Visualization. Explain what are the advantages of pandas. (10 Marks)
- b. Explain what is Numpy. Explain advantages of Numpy with an example. (10 Marks)

OR

- 2 a. Write a program to perform Numpy operations : i) Creating an array ii) Indexing
iii) Splitting iv) Iterating v) Filtering vi) Slicing. (10 Marks)
- b. Explain Data Wrangling. Demonstrate with an example. (10 Marks)

Module-2

- 3 a. Explain the advantages of Relation plots. Draw Bubble plot. (10 Marks)
- b. Write a program code to generate a scatter plot to visualize the correlation between hours of study and exam scores for a group of students. (10 Marks)

OR

- 4 a. Define Matplotlib. Mention the advantages of Matplotlib. Plot a horizontal line in Matplotlib. (10 Marks)
- b. Explain Histogram. Plot a pie chart set a title, label and legend. (10 Marks)

Module-3

- 5 a. Define Seaborn. Mention the advantages of Seaborn. What is major difference between Seaborn and Matplotlib. (10 Marks)
- b. Write a code to demonstrate seaborn figure style and removing axes spines. (10 Marks)

OR

- 6 a. Explain Categorical and sequential color pallet and also mention the difference between categorical and sequential color pallet. Mention the advantages of color pallet. (10 Marks)
- b. Describe how to create a grid of subplots in seaborn. (10 Marks)

Module-4

- 7 a. Explain the advantages of Geoplotlib. Explain design principles of geoplotlib. (10 Marks)
- b. Justify how Geoplotlib is easy to create basic geographic visualization. What insights can be gained from visualizing different layers of geographic data? (10 Marks)

OR

- 8 a. Create a simple map using Geoplotlib and mark the locations of major cities in a Country. (10 Marks)
- b. Define Bokeh. How does Bokeh simplify the process of creating interactive line plots? (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

Module-5

- 9 a. Apply Urllib .request to fetch the content of a web page, print the first 100 characters of the HTML. (10 Marks)
b. Explain Web Scrapping. What is the role of Beautiful soup in parsing HTML? (10 Marks)

OR

- 10 a. Find and print all the hyperlinks [anchor tags] from a webpage using Beautiful soup. (10 Marks)
b. Write a code to read binary file using urllib. (10 Marks)

* * * * *