

END TERM EXAMINATION**FOURTH SEMESTER [BCA] JUNE 2024****Paper Code: BCAT -212****Subjects: Introduction to data Science****(Batch -2021 Onwards)****Time: 3 Hours****Maximum Marks: 75****Note: Attempt five questions in all including Q. No.1 which is Compulsory. Select one Question from each Unit.****Q1 Answer the Following****5x5=25**

- (a) What are different Python Libraries?
- (b) Explain the concept of slicing array with suitable example.
- (c) What are different data security issues in data science?
- (d) How linear regression helps in data science?
- (e) How data frames are created from dictionary of series?

UNIT -I

- Q2 (a) What are different data pre-processing steps? [8.5]
(b) Explain different applications of data science. [4]
- Q3 (a) Explain different data collection strategies. [8.5]
(b) What are different data science roles? [4]

UNIT -II

- Q4 What is role of descriptive statistics in Data Science? Explain with suitable examples. [12.5]
- Q5 (a) Here are the runs scored by a Cricket team in a league of 12 matches – 110,120,100,150,110,140,130,180,120,250,140,110. Construct box plot for the same. [8.5]
(b) What is difference between skewness and kurtosis? [4]

UNIT -III

- Q6 (a) Write a code to implement different statistical function in Pandas. [6.5]
(b) What is pivoting? Write a Python code to implement pivot() and Pivot- table() on data frame. [6]
- Q7 (a) Explain the concept of broadcasting array in NumPy with suitable examples. [6]
(b) What are different data types available in NumPy? How negative indexing is implemented in Numpy? [6.5]

UNIT -IV

- Q8 What is a role of data science in investigating clinical data? Explain with suitable examples. [12.5]
- Q9 What is use of data science in forecasting demands? Explain with suitable examples. [12.5]

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