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Roll No. : .....

**C022514(022)**

**B. Tech. (Fifth Semester) Examination,  
April-May 2022**

**(AICTE Scheme)**

**(CSE Engg. Branch)**

**DATA ANALYTICS with PYTHON**

***Time Allowed : Three hours***

***Maximum Marks : 100***

***Minimum Pass Marks : 35***

***Note : Attempt any two parts from each unit. Every unit carry equal (20) marks. (10 marks each part).***

**Unit-I**

1. (a) Explain membership operator in Python and write a suitable program using it.

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- (b) Define List and explain its characteristics. Write a python program to calculate sum of all the integers of the list given by user.
- (c) Differentiate between Tuple and Set with an example.

### Unit-II

- 2. (a) Explain about the various Python Libraries used for Data Analysis.
- (b) Define Data Analytics. Explain the process used for Data Analytics in Python.
- (c) Differentiate between Qualitative VS Quantitative approaches.

### Unit-III

- 3. (a) Explain various NumPy Narray properties and library functions with example in detail.
- (b) Define Broadcast in NumPy along with its rules and example.
- (c) Write a program to show Slicing, and Iterating operations on Narray elements using python.

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### Unit-IV

- 4. (a) Explain DataFrame and Series with suitable example.
- (b) Describe the Categorical data in detail with example using Pandas library.
- (c) Write a program to read and write Data into file using Pandas library.

### Unit-V

- 5. (a) How to generate the Bar Graph using matplotlib? Explain with suitable example.
- (b) Describe step by step for generation of scatter plot with suitable example.
- (c) Write a program to visualize a file data through pie chart using matplotlib library.