

011601

May 2023

**B.Tech(IT/CSE/(AIML)) VI SEMESTER
Data Analysis using Python (PCC-IT-601)**

Time: 3 Hours

Max. Marks:75

- Instructions:**
1. It is compulsory to answer all the questions (1.5 marks each) of Part -A in short.
 2. Answer any four questions from Part -B in detail.
 3. Different sub-parts of a question are to be attempted adjacent to each other

PART -A

- Q1 (a) What is zip and enumerate in Python? (1.5)
(b) Mention the use of the split and join function in Python. (1.5)
(c) What are *args and **kwargs? (1.5)
(d) What are magic methods in python? (1.5)
(e) Differentiate *remove*, *del* and *pop* in lists? (1.5)
(f) Explain the difference between map, filter and reduce. (1.5)
(g) Explain reindexing and fancy indexing. (1.5)
(h) Differentiate shallow copy and deep copy. (1.5)
(i) Differentiate series and dataframes? (1.5)
(j) What are numpy attributes? (1.5)

PART -B

- Q2 (a) Describe multiple Inheritance and the use of constructors. (7.5)
(b) How stacks and queues are implemented in python? (7.5)
- Q3 (a) What are iterators and generators? Explain. (7.5)
(b) What are the techniques to handle missing data. Explain with example. (7.5)
- Q4 (a) Differentiate decorators and closures? How are higher order functions used? (7.5)
(b) How will you create a dataframe from numpy arrays, list of lists, dictionary? (7.5)
- Q5 (a) Define the term Data wrangling. Explain the steps needed to perform data wrangling. (7.5)
(b) How packing and unpacking is performed on tuples and dictionaries? (7.5)

- Q6 (a) Compare bar graph, box-plot and histogram with respect to their (7.5) applicability in data visualization?
- (b) What are list comprehensions? How are these different from generators? (7.5) Which one is faster between these two?
- Q7 Discuss the following methods associated with the file object (15)
a) pickle b) dump c)strip d)split e)with..open. Write a program to copy all the content of one file to another file in uppercase.
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