



RAN-2411000607040002

M.Sc. (I.T) (Sem. - VII) Examination November - 2025

Data Analysis using Python

Time: 3 Hours]

[Total Marks: 70

સૂચના : / Instructions

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book
- (2) All questions are compulsory
- (3) Give examples wherever applicable

Seat No.:

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Student's Signature

- Q. 1** a) Differentiate User define functions and Lambda expression in Python. Also explain Positional, Keyword and Variable length parameters of user define function with example in Python. **07**
- Or**
- a) Explain about any 7 IDEs of Python in brief. **05**
- b) Explain about membership and identity operators with example in Python. **02**
- c) Define Floor Division with example in Python. **02**
- Q. 2** a) Discuss different flavors of Dictionary in Python. Also explain get(), pop(), popitem() and items() with example. **07**
- Or**
- a) Define List comprehension with example in Python. Also explain List indexing and slicing. **05**
- b) Define array in Python. Also explain various in built methods of it with example. **02**
- c) How to convert Tuple into dictionary in Python. **02**
- Q. 3** a) What is NumPy? What are its advantages over Lists? Explain different ways to create Numpy array with example. **07**
- Or**
- a) How to merge two Data Frames in Pandas? Explain different types merge operations with suitable example. **05**
- b) Why Pandas is very popular library? Explain Series and Data Frame with example. **02**
- c) How to get frequency count of unique items in a Pandas Data Frame? **02**
- Q. 4** a) What is Box Plot? What are its main parts? Also explain left skewed, right skewed and no skewed. **07**
- Or**
- a) Differentiate Histogram and Bar chart. Write Python program to plot vertical stacked Bar chart by assuming your own data **05**
- b) Identify outlier from the given data set using box plot technique. Data set: [10, 12, 14, 15,16,18,20,22,24,26,105]. **02**
- c) How is important information highlighted to the line chart? **02**

- Q. 5** a) What is Python module? Explain about datetime and random module. **07**
b) What is the purpose of init() in Python? Explain with example. **05**
Or
b) Explain various file modes.
c) What is the importance of pass statement in working with OOPs in Python. **02**
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