

2411000607040002
EXAMINATION NOVEMBER 2024
BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)
(MASTER OF SCIENCE (INFORMATION TECHNOLOGY) 5
YEAR INTEGRATED COURSE) (SEVENTH SEMESTER)
DATA ANALYSIS USING PYTHON - LEVEL 4

[Time: As Per Schedule]

[Max. Marks: 70]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination : **BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY) (MASTER OF SCIENCE (INFORMATION TECHNOLOGY) 5 YEAR INTEGRATED COURSE) (SEVENTH SEMESTER)**
 - b. Name of the Subject : **DATA ANALYSIS USING PYTHON - LEVEL 4**
 - c. Subject Code No : **2411000607040002**
2. Sketch neat and labelled diagram wherever necessary.
 3. Figures to the right indicate full marks of the question.
 4. All questions are compulsory.
 5. Give examples wherever applicable.

Seat No:

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Student's Signature

Q.1 Answer following questions:

14

- 1) List out applications of Python.
- 2) Explain membership operations on Booleans in Python.
- 3) Explain List comprehension with suitable example.
- 4) What is `__init__()` in Python?
- 5) Explain Numpy array comparisons with suitable example.
- 6) Explain with suitable example how to convert dictionary in to Pandas Data Frame?
- 7) Define covariance and correlation.

Q.2 Attempt any two:

14

- a) List and explain the significant features of Python.
- b) Explain def statements with parameters and suitable example.
- c) List and explain the different comparison and Boolean operators, along with examples.

Q.3 Attempt any two:

14

- a) How to format Date and Time in python. Explain it with example?
- b) What is function overloading? Explain runtime polymorphism in Python with suitable example.
- c) What is the lambda function? What are its limitation? Explain with an example to process the elements of a List.

Q.4 Attempt any two:

14

- a) List and explain Numpy features. Explain different ways to initialize Numpy array with example.
- b) Differentiate merge() and concat() with respect to Pandas? Explain different types merge operations with suitable example.
- c) What is Exploratory Data Analysis (EDA)? Explain in detail.

Q.5 Attempt any two:

14

- a) What are modules in Python? Explain any 2 built-in python modules in detail.
- b) Explain the modes for file opening in Python. Also explain read, write, and append the contents of a file.
- c) List different data Visualization charts? Write Python program to plot any 2 charts by assuming your own data
