May 2024

B.Tech. (IT/CSE(AIML)) (Sixth Semester)

Data Analysis Using Python (PCC-IT-601)

Time : 3 *Hours*] [*Maximum Marks* : 75

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

Part A

1. (a) What are python literals ? **1.5**

    (b) What are negative indexes in Python ? **1.5**

    (c) What are break and continue used for in a loop ? **1.5**

    (d) What is map function used for ? **1.5**

    (e) Explain membership operators in Python.

    1.5

    (f) What are list comprehensions in python ?

    1.5

(g) Differentiate between tuples and lists. 1.5

(h) What is Slicing ? Explain using Syntax. 1.5

(i) What is docstring in Python ? 1.5

(j) What are meta classes used for ? 1.5

Part B

2. (a) Explain, using syntax, various data types supported in Python. **10**

(b) Write a program to read two numbers (*m,n*) and calculate the sum of numbers. **5**

3. (a) What is an exception ? Explain three keywords associated with Exception handling mechanism. **10**

(b) Define File. Write a program to write a string in a binary file. **5**

4. What is a constructor ? How does it differ from an ordinary function ? Write a program to demonstrate the use of a constructor and a docstring in a class. **15**

5. (a) Explain various inheritance supported by Python. **10**

(b) What is dictionary used for ? Syntactically explain its four methods. **5**

6. (a) Write a program to find square of a number using lambda function. **5**

(b) What are the features of numpy ? List its advantages over Python lists. **10**

7. (a) Write a program to demonstrate operator overloading. **10**

(b) What is the use of Dataframes ? **5**