

A-0834

Total Pages : 3

Roll No.

CDSA-102

**Programming for Data Science
Examination 2026 (Feb.)**

Time: 02:00 hrs

Max. Marks: 100

Note : This paper is of Hundred (100) marks divided in to two (02) Section A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

Section-“A”

(Long Answer - type Questions)

Note:- Section ‘A’ contains Five (05) long-answer-type questions of twenty six (26) marks each. Learners are required to answer any two (02) questions only.

(2x26=52)

P.T.O

A-0834

1. Discuss the major types of programming language and their evolution. Discuss the salient features of Python. Explain the steps to download, install, and run a basic Python program along with code examples.
2. Explain iteration in Python. Compare while and for loops with examples of counting and summing loops.
3. Explain tuples in Python and discuss how they differ from lists. Write examples of tuple assignment and usage as dictionary keys.
4. Explain quantitative variable handling in R. Include hypothesis testing, visualizing data and distribution fitting examples.
5. Explain the handling of bivariate data in R. Discuss analysis methods for qualitative and quantitative variable combinations.

Section-“B”

(Short -answer - type questions)

Note:- Section ‘B’ contains eight (08) short-answer type questions of twelve (12) marks each. Learners are required to answer any Four (04) questions only.

(4x12=48)

1. Differentiate between Interpreter and Compiler.
Explain any three essential elements of a programming language with examples.
2. Write a Python program to calculate the factorial of a number using a loop.
3. Write a Python function to check whether a given number is prime or not.
4. Write a Python program to find the sum of elements in a list.
5. Explain “Why use R for data analysis?”
6. What is the use of the terminal in R programming?
7. Define a data frame in R and explain its importance.
8. What are the key tools for working with multivariate data in R?
