A–0835

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MCS-E5/MCA-E5

PYTHON PROGRAMMING

(MCA)

Examination, June 2025

Time : 2:00 Hrs. Max. Marks : 70

Note* :–** This paper is of Seventy (70) marks divided into Two (02) Sections '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 2×19=38

***Note* :–** Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. Discuss the concept of atoms and identifiers in Python. Write a Python program to calculate the area of a circle using identifiers.

2. What are the Package in Python ? Explain the process of creating and using a package with an example.

3. What is a constructor in Python, and how is it defined ? Write a Python code snippet to create a class with a constructor that initializes attributes.

4. What is client-server programming ? Explain the client-server model with examples. Write a Python program to demonstrate a basic client-server communication using the socket module, where the server sent a message to the client.

5. Write a Python program that demonstrates the use of exception handling to handle runtime errors. The program should include a try block, an except block, and a finally block.

Section–B

Short Answer Type Questions 4×8=32

***Note* :–** Section 'B' contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Explain the concept of inheritance in object-oriented programming. Provide an example of a parent class and a child class in Python.

2. Describe the difference between a list and a tuple in Python. Provide an example of when to use each data structure.

3. Write a Python program to implement a simple banking system. The program should allow users to deposit, withdraw, and check their account balance.

4. Discuss the different symbols used in a flowchart, including rectangles, diamonds, and ovals. Provide examples of how each symbol can be used to represent a different type of programming construct.

5. What is an algorithm ? Describe its characteristics.

6. Describe the importance of documentation in programming. Explain how documentation can help improve program maintainability and readability.

7. Describe the steps involved in the debugging process. Explain how these steps are applied in the context of computer programming.

8. Define what a literal is in Python programming. Provide examples of different types of literals, including integer literals, float literals, and string literals.

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