

**CERTIFICATE IN MOBILE  
APPLICATION DEVELOPMENT  
(CMAD)**

**Term-End Examination**

**December, 2025**

**BCS-094 : PROGRAMMING USING PYTHON**

*Time : 3 Hours*

*Maximum Marks : 75*

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***Note :** Question No. 1 is compulsory. Attempt  
any **three** questions from the rest.*

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1. (a) Write a Python program which take marks of a class test of a student and display “Good” if marks are greater than 30 and display “Need improvement” otherwise. 6

- (b) What is Object Oriented Programming ? Explain the concept of object and class with example. Write code to explain how a class is defined in Python. 6
- (c) What is the need of software testing ? Explain the difference between functional and non-functional testing. 6
- (d) What is syntax error ? Explain how syntax error may be avoided in Python with the help of an example. 6
- (e) What is data encapsulation ? Compare public, private and protected access specifiers used in Python. 6
2. (a) What is unit test in Python ? Explain the concepts used in unit test framework. 7
- (b) What is exception ? Explain the difference between built-in exception and user defined exception. Also explain how exceptions are handled in Python the example code. 8

3. (a) Write Python code to create a database file and a table named "STUDENT" with three columns "Enrollment No", "Name" and "Programme". Write suitable comments in your code. 7
- (b) What is method overloading and method overriding ? Explain how these concepts are implemented in Python. 8
4. (a) Write a Python program which define Account class. Define appropriate constructor for this class. Also this class should have a method to display the account details. 5
- (b) Write a Python program using while loop to find the sum of first N numbers. 5
- (c) Explain operator overloading in Python with an example. 5

5. Briefly explain any *three* of the following using suitable example/diagram :  $3 \times 5 = 15$
- (a) Kivy Architecture
  - (b) String Slices
  - (c) Tuples and List
  - (d) Mobile application development platforms

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