CERTIFICATE IN MOBILE APPLICATION DEVELOPMENT (CMAD)

Term-End Examination

June, 2022

BCS-094 : PROGRAMMING USING PYTHON

Time : 3 hours   *Maximum Marks : 75*

Note :   *Question number* **1** *is* **compulsory**. *Attempt any* **three** *questions from the rest of the questions.*

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1. (a) Compare Python and Java. Briefly discuss the features of Python programming.   *6*

     (b) Discuss the usage of break, continue and pass statements in Python. Give suitable example code for each.   *6*

     (c) What are Lambda functions ? Write a Lambda function to print the average of two numbers. Also, write the program to print the average of two numbers, without using Lambda functions.   *6*

(d) How do mutable data types differ from immutable data types in Python ? List the immutable and mutable data types, separately. Briefly discuss one mutable and one immutable data type. *6*

(e) Differentiate between Overriding and Overloading in Python. Give suitable code for each. *6*

2. (a) What is Software Testing ? How does it relate to software reliability ? Compare Functional testing and Non-functional testing. *8*

(b) Differentiate between Black box and White box testing. Discuss the term "Boundary Value Analysis" in the context of software testing. *7*

3. (a) Write a Python code to create a database file and a table named 'EmployeeDetails' with three columns, 'EmpID', 'EmpName' and 'Department'. Support your code with suitable comments. *7*

(b) What is Kivy ? Draw the block diagram for the architecture of Kivy. Discuss the core provider, input provider and graphics components in the Kivy architecture. *8*

4. (a) What is wxPython ? Create a GUI using wxPython that displays "Hello World" message in the window. Discuss the execution of lines of code written by you. 7

(b) Write short notes on the following : *2×4=8*

    (i) Integrity Constraints and its types

    (ii) SQL CRUD Statements

5. Briefly discuss any ***three*** of the following : *3×5=15*

(a) Programming language translators and their types

(b) Looping constructs in Python

(c) _init_ method of a class and its utility

(d) Testing at various stages of software life cycle

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