No. of Printed Pages : 4   **BCS-094**

CERTIFICATE IN MOBILE APPLICATION DEVELOPMENT (CMAD)

Term-End Examination

December, 2021

BCS-094 : PROGRAMMING USING PYTHON

Time : 3 Hours   *Maximum Marks : 75*

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

1. (a) Briefly discuss the syntax errors, runtime errors and semantic errors, giving suitable example of each.   6

   (b) Briefly discuss the phases of writing a computer program. Compare the interactive mode and script mode of writing a Python program. Give example of each mode.   6

   (c) Explain the use of keyword argument and variable-length argument in writing Python Code. Include suitable python code in the explanation.   6

   (d) Compare lambda functions and built-in-functions. Discuss the functionality of the following built-in-functions abs (x), div mod (a, b), chr (i) and bool ([X]).   6

   (e) What is Operator Overloading ? Discuss the concept of operator overloading with suitable example code in Python. Support your code with suitable comments.   6

2. (a) Explain Data Encapsulation. How public, private and protected access specifiers are defined in any Python Program ? Also compare these access specifiers.   7

   (b) Briefly discuss any **four** of the following types of testing :   8

   (i) Acceptance testing

   (ii) Alpha testing

(iii) Beta testing

(iv) Installation testing

(v) Testing during use

3. (a) Discuss the term profilers in Python. How profiling is performed for a function that takes single argument ? List and explain the meaning of all the columns, produced in the profile results.   8

(b) Write Python code to create a database file and a table named "Training Details" with three columns 'Training-Id', 'Training-Type', 'Training-Date'. Support your code with suitable comments.   7

4. (a) What is Tkinter ? Develop a GUI using Tkinter in Python, that displays a message "Hello word" in message box, when the "Press" button is pressed. Discuss the execution of each statement involved in your program.   7

(b) Write short notes on the following :   8

     (i) Kivy Launcher

     (ii) Buildozer

     (iii) WXPython

     (iv) Dictionaries

5. Briefly discuss any *three* of the following with suitable example for each :   3×5=15

(a) Polymorphism in Python

(b) Boundary Value Analysis

(c) SQL CRUD Statements

(d) Integrity Constraints and its types