CBCS SCHEME

USN ☐☐☐☐☐☐☐☐☐☐   **18MCA32**

Third Semester MCA Degree Examination, July/August 2022
Programming using Python

Time: 3 hrs.   Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1   a.   Explain the memory management and representation of variables in python.   **(06 Marks)**
    b.   What is string slicing? Discuss the types of string indexing in python.   **(06 Marks)**
    c.   Develop a python program to find the middle number i.e. other than maximum and minimum number out of three numbers.   **(04 Marks)**
    d.   Predict the output of the following:
       (i) help ("modules")   (ii) dir (_ _ builtins _ _)
       (iii) 5 + 9 // 2 ** 3   (iv) −39 % 4   **(04 Marks)**

OR

2   a.   What is indentation error? Give an example.   **(04 Marks)**
    b.   Design a python user-defined function named addComplex( ) to find sum of two complex numbers that are passed as arguments.   **(08 Marks)**
    c.   Explain join( ) and split( ) methods with relevant examples.   **(08 Marks)**

Module-2

3   a.   Discuss if…..elif…….else statement along with syntax and example.   **(06 Marks)**
    b.   In what situation we need to reload a module? How do you reload a module? Explain.   **(06 Marks)**
    c.   Develop a python program to input length of three sides of a triangle and check whether a triangle can be formed or not. Also display the type of the triangle if it can be formed.   **(08 Marks)**

OR

4   a.   What is docstring? With an example, explain semi-automation testing using docstring.   **(06 Marks)**
    b.   State the rules while combining operators in python.   **(06 Marks)**
    c.   Write the difference between equality operator and identity operator. Illustrate the use of membership operator.   **(08 Marks)**

Module-3

5   a.   Justify the output of the following:
       (i)   ['H', 'He', "Li"] + 'Be'
       (ii)   ['Fe', 'Ni'] * 3
       (iii)   n, m = 3, 4
            X = [[0 for j in range (n)]
                 for i in range (m)]
          print (X)   **(04 Marks)**
    b.   Write a python program to print all prime numbers between the range 10 to 50.   **(08 Marks)**

c. Use the for loop statement for the following instances:
   (i) Loop over every character in a string
   (ii) Loop over every element of a list
   (iii) Loop over a range of numbers
   (iv) Loop over list of lists (08 Marks)

OR

6 a. What is a ragged list? Write a code snippet to loop over a ragged list. (04 Marks)
  b. Develop a python program to reverse characters in each word, in a line of text.
     Example:
     Input : "The quick brown fox jumps over the lazy dog"
     Output: "ehT kciuq nworb xof spmuj revo eht yzal god" (08 Marks)
  c. How do you use break and continue statements in loops? Explain. (08 Marks)

Module-4

7 a. What do you mean by inverting a dictionary? Write a python program to invert a dictionary. (06 Marks)
  b. Mention the differences between List and Set. (06 Marks)
  c. Design a python program to count and print all palindrome words in a text file. (08 Marks)

OR

8 a. How do you access a file over Internet? Explain. (06 Marks)
  b. Store the following data pairs in a list, a tuple, a set, and a dictionary.

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(08 Marks)
  c. Write a python program to find the sum of elements in a set of integers. (06 Marks)

Module-5

9 a. State the purpose of operator overloading methods and their respective operators. (06 Marks)
  b. Discuss MVC pattern in Python GUI program. (06 Marks)
  c. Design a python program to evaluate an arithmetic expression using stack class. (08 Marks)

OR

10 a. Discuss the phases that involve in solving a problem using Object Oriented Programming in Python. (04 Marks)
   b. Explain any four tkinter widgets. (08 Marks)
   c. Define a class named Time with integer attributes hour, minutes and seconds. Design a method addTime( ) that takes two Time objects as arguments and returns their sum. (08 Marks)

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