CBCS SCHEME

USN | | | | | | | | | | |

18MCA32

Third Semester MCA Degree Examination, Jan./Feb. 2021
Programming using Python

Time: 3 hrs. Max. Marks: 100

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

Module-1

1 a. Explain any string functions with examples. **(10 Marks)**

b. Give the output of the following:

i) (-(-(-5)))
ii) 5 * 2 * * 3 – 15
iii) -9 % 2
iv) 9 % -2
v) -17/10 **(10 Marks)**

OR

2 a. Explain the two ways to use python interpreter. What are error that can be detected by Python? Differentiate between them with one example each. **(10 Marks)**

b. Write a python program to find sum of all odd and even numbers from n1 to n2 where n1 and n2 are positive integers. **(10 Marks)**

Module-2

3 a. Explain how code in python is tested semi-automatically. **(10 Marks)**

b. Describe briefly the process of designing your own module with clear example. **(10 Marks)**

OR

4 a. Trace the function call and explain the memory model of the following code:

```
def fn(x):
    x = 2 * x
    return x
x = 1
x = fn(x+1) + fn(x+2)
```

(10 Marks)

b. Write a python function to find the average of two bigger numbers of given three numbers. **(10 Marks)**

Module-3

5 a. Write a python program to search an element using binary search (Recursive). **(08 Marks)**

b. Compare list and string in python. **(04 Marks)**

c. Explain any five list methods with example. **(08 Marks)**

OR

6 a. Write a python program to compute sum of diagonals of 3 × 3 square matrix. **(10 Marks)**

b. What do you mean by slicing of lists? List and explain the various operations that can be applied on lists. **(10 Marks)**

Module-4

7 a. Write a program to read a word and print the number of letters, vowels and percentage of vowels in the word using a dictionary. **(10 Marks)**

b. Demonstrate any 6 set operations with examples. **(10 Marks)**

OR

8 a. Write a python program to read contents of a text file and write into another. **(10 Marks)**

b. Write a function to create a dictionary where the keys are numbers between 1 and N (both included N is taken as input) and the values are square of keys. Print the contents of the dictionary. **(10 Marks)**

Module-5

9 a. Explain MVC design with the help of Tkinter program. **(10 Marks)**

b. Write a python class named square constructed by a side and two methods which will compute the area and perimeter of a square. **(10 Marks)**

OR

10 a. Demonstrate the creation of any 5 widgets using Tkinter. **(10 Marks)**

b. Explain tkinter based python program for creating a GUI that has a label, entry and a button. The values given in entry field should be updated in label on click of the button. **(10 Marks)**

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