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Total No. of Questions : 16 ]

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# SCOM-317

M.Sc. (IIIrd Semester) Examination, 2021

COMPUTER SCIENCE

Paper - MCS-302 (B)

(Python)

Time : 1½ Hours ]

[ Maximum Marks : 40

Section-A

(Marks : 1 × 10 = 10)

**Note :-** Answer all *ten* questions (Answer limit **50** words). Each question carries 1 mark.

Section-B

(Marks : 3 × 5 = 15)

**Note :-** Answer any *five* questions by selecting at least *one* question from each Unit (Answer limit **200** words). Each question carries 3 marks.

Section-C

(Marks : 5 × 3 = 15)

**Note :-** Answer any *three* questions by selecting *one* question from each Unit (Answer limit **500** words). Each question carries 5 marks.

Section-A

1 each

1. (i) Which character is used in Python to make a single link comment ?
- (ii) Write one-line code in Python to print-Thank you for visiting !
- (iii) What is the general format of for loop in Python ?

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- (iv) What do you mean by Lambda Function ?
- (v) Write syntax to create a 2-D matrix called temp-mat.
- (vi) Which function is used to count the no. of elements in a list ?
- (vii) Write syntax to create a tuple of 5 elements with name tuple-temp.
- (viii) What is the major advantage of using dictionaries in Python ?
- (ix) Which function is used to delete the top most element in a stack in Python ?
- (x) What is the major functionality of using NumPy in Python ?

**Section-B**

3 each

**Unit-I**

- 2. Explain the usage of Indentation in Python with examples.
- 3. Write a program in Python to print 10 to 20, using while loop.
- 4. Write a program in Python to check if entered number is prime or not.

**Unit-II**

- 5. Write a function in Python to check if the sum of 2 entered numbers (integers) is odd or even.
- 6. If the list  $t1 = [2, 5, 7, 9, 10, 11, 12]$ , what will be the output of the statement  $t1[2:]$  ? Justify your answer.
- 7. What is the value of mystring B after the following lines are executed :

```
def mystery(s) :  
    for i in range (len (S), 1, -2) :  
        S = S [1:] + S[0];  
    return(s)  
mystring B = "siruseri"  
mystring B = mystery (mystring B).
```

### Unit-III

8. Describe the file related operations for reading, writing and appending from/ into a file with suitable examples in Python.
9. Explain the usage of library matplotlib pyplot with suitable examples.
10. Explain how can you create a set of elements from the elements of an existing list.

### Section-C

5 each

**Note** :- Answer *three* questions in this Section, by selecting *one* question from each Unit in about **500** words.

### Unit-I

11. Explain (with proper syntax) how Python interpreter can be used as a calculator to find the sum and product of two numbers.
12. Explain how nested loops (for) are used in Python, with suitable examples.

### Unit-II

13. Explain the concept of exceptional handling with suitable example in Python.
14. Explain the concept of string slices in Python with suitable examples.

### Unit-III

15. Write a simple program to draw any simple graph using network library of Python.
16. Write short notes on the following :
  - (a) NumPy library
  - (b) Dictionaries in Python