CBCS Scheme

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

16MCA21

Second Semester MCA Degree Examination, June/July 2017
Python Programming

Time: 3 hrs. Max. Marks: 80

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

Module-1

1 a. How does a computer run a Python Program? Explain with a neat diagram. **(06 Marks)**

b. Explain and construct the memory model of variables in Python. **(06 Marks)**

c. List any four built – in string functions in Python and explain. **(04 Marks)**

OR

2 a. Predict the output of the following code and justify your answer :

```
City = "Bengaluru"
City [1] = City [8] = "e"
City [6] = "0"
Print (city).
```

(02 Marks)

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

```
def f(x) :
    X = 2 * x
    return x
x = 1
x = f (x + 1).
```

(08 Marks)

c. Discuss the usage of the following with respect to the print ( ) function
i) sep argument ii) end argument iii) .format (arguments). **(06 Marks)**

Module-2

3 a. Predict the output of the following and justify your answer : **(04 Marks)**
i) not "False" ii) -17 % 10 iii) (212 – 32) * 5 / 9 iv) 3.5 // 1.3.

b. Write a Python program to find average of best two test marks out of three test marks. **(04 Marks)**

c. What are the two ways of importing a module? Which one is more beneficial? Explain. **(08 Marks)**

OR

4 a. Discuss the importance of docstring in testing the code semi – automatically using doctest. **(08 Marks)**

b. Write a Python program to find the roots of a quadratic equation. **(08 Marks)**

Module-3

5 a. Consider the list qty = [5, 4, 7, 3, 6, 2, 1] and write the Python code to perform the following operation without using built-in methods :
i) Insert an element 9 at the beginning of the list ii) Insert an element 8 at the end of the list iii) Insert an element 8 at the index position 3 of the list iv) Delete an element at the beginning of the list v) Delete an element at the end of the list vi) Delete an element at the index position 3 vii) Print the list in reverse order (end to start)
viii) Delete all the elements of the list. **(08 Marks)**

b. Write the Python program to check whether a given number is prime or not, using for – else statement. **(08 Marks)**

OR

6 a. Give any four differences between a list and a string in Python. **(04 Marks)**
b. Write a Python program to read a string with punctuations and print the same string without punctuations. **(08 Marks)**
c. What is a list of lists? Give an example along with its memory model. **(04 Marks)**

Module-4

7 a. How can we use 'with' statement while opening a text file? Explain. **(04 Marks)**
b. Consider the following two sets and write the Python code to perform following operations on them. **(04 Marks)**

i) Union
ii) Difference
iii) Symmetric difference
iv) Intersection

Lows = 0,1, 2, 3, 4
Odds = 1, 3, 5, 7, 9

c. Write a Python program to read a word and print the number of letters, vowels and percentage of vowels in the word using a dictionary. **(08 Marks)**

OR

8 a. Store the following data in a list, in a set and in a dictionary. **(06 Marks)**

India	USA	UK	Japan
91	1	41	81

b. In what situations are the sets more useful than the lists? **(02 Marks)**
c. Write a Python program to read the contents of a text file and write into another. **(08 Marks)**

Module-5

9 a. Write short notes on : i) is instance ( ) ii) _ _ init _ _ ( ). **(04 Marks)**
b. With an example, discuss the different components of a tkinter program. **(06 Marks)**
c. Write an object oriented Python program to create two time objects : Current _ time and Bread _ time which contains bread baking time. Include addTime method to display the total time taken by the bread maker to prepare a bread. **(06 Marks)**

OR

10 a. What are the steps that Python follows while creating an object? **(03 Marks)**
b. Explain MVC design with the help of tkinter program. **(08 Marks)**
c. Write a tkinter program to design a GUI window that has a lable of background color green and foreground color white. **(05 Marks)**

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