CBCS Scheme

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

16/17MCA21

Second Semester MCA Degree Examination, June/July 2018
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. Predict the output of the following code:
i) len ('it\' s') ii) 'Computer' + 'Application'
iii) 'H20' * 3 iv) max(2, -3, min(4, 7), -5) **(04 Marks)**

c. Explain the following:
i) input( ) ii) Augmented statement iii) Comment in python **(06 Marks)**

OR

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

b. Explain and construct the memory model of variable in python for the following assignment
>>>degree_celsius = 26.0 **(04 Marks)**

c. Give the syntax of a user-defined function in python and explain the working with an example. **(06 Marks)**

Module-2

3 a. Input an array of n numbers and find separately the sum of positive and negative numbers. **(06 Marks)**

b. Using string method, write an expression that produces:
i) The number of o's in tomato
ii) The index of first occurrence of 'o' in tomato.
iii) A copy of 'master' capitalized
iv) Copy of " monday" with the leading whitespace removed. **(04 Marks)**

c. Write a note on: i) Short-circuit evaluation ii) Comparing strings **(06 Marks)**

OR

4 a. Define module. What are the two ways of importing a module? Explain. **(08 Marks)**

b. Define a method. Give the general form of a method call and explain the following string methods with an example:
i) islower( ) ii) swapcase( ) iii) strip( )
iv) find(s) v) count(s) **(08 Marks)**

Module-3

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

b. Given: fruits = ['Banana', 'Apple', 'Grapes', 'Mango']. Using the concept of slicing write an expression that produces the following:
i) First item of fruits
ii) Last item of fruits
iii) The list ['Banana', 'Apple', 'Grapes']
iv) The list ['Grapes', 'Mango'] **(04 Marks)**

c. Write a note on processing parallel lists using indices. **(04 Marks)**

OR

6 a. Using loops, print the following pattern:

```
PPPPP
PPPP
PPP
PP
P
```

(04 Marks)

b. Explain the following list methods with example:
i) extend (v) ii) insert (i, v) iii) remove (v) iv) reverse ( ) **(08 Marks)**

c. Predict the output of the following code:

```
>>> S = 'C3H7'
>>> total = 0
>>> count = 0
>>> for i in range (len (s)):
        if s[i].isalpha ( ):
            continue
        total = total + int (s[i])
        count = count + 1
...
>>> print (total, count)
```

(04 Marks)

Module-4

7 a. How can we use 'with' statement while opening a file? Explain. **(04 Marks)**

b. Differentiate between tuples and sets based on their mutability, orderedness and uses. **(04 Marks)**

c. Predict the output of the following and explain.
Given lows = {0, 1, 2, 3, 4}
odds – {1, 3, 5, 7, 9}
i) lows-odds ii) lows and odds
iii) lows < = odds iv) lows|odds **(08 Marks)**

OR

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

b. Write a python program for the following file operations.
Press 1 : Open file in read mode
Press 2 : Open file in write mode
Press 3 : current position of file pointer
Press 4 : Reposition the pointer at the beginning. **(08 Marks)**

Module-5

9 a. Write a note on: i) isinstance ( ) ii) _ _ init_ _ ( ) **(06 Marks)**

b. Write an object-oriented program to create 2 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. **(10 Marks)**

OR

10 a. Write a note on the usage of the module tKinter. **(06 Marks)**

b. Explain any six tKinter widgets. **(06 Marks)**

c. Write a tKinter program to design a GUI window that has a label of background color green and foreground color white. **(04 Marks)**

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