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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