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MCAE08

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M S RAMAIAH INSTITUTE OF TECHNOLOGY

(AUTONOMOUS INSTITUTE, AFFILIATED TO VTU)

BANGALORE – 560 054

SEMESTER END EXAMINATIONS - MAY/JUNE 2016

Course & Branch : Master of Computer Applications **Semester** : IV

Subject : **Scripting Languages** **Max. Marks** : **100**

Subject Code : MCAE08 **Duration** : **3 Hrs**

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT – I

1. a) Explain the usage of the following methods with examples: CO2 (10)
   (i) extend() (ii) pop() (iii) sort()
   (iv) split() (v) join()

   b) What is the output of the following code segments? Explain the causes. CO1 (10)

```
i) for letter in 'Python':
     if letter == 'h':
        break
     print 'Current Letter :', letter

ii) for letter in'Python':
      if letter =='h':
           continue
      print'Current Letter :', letter

iii) for letter in'Python':
       if letter =='h':
          pass
          print 'This is pass block'
       print'Current Letter :', letter
```

2. a) Compare and contrast lists, tuples and sets. CO1 (10)
   b) Develop a python program to count the frequency of word in a string using dictionary. CO2 (05)
   c) Develop a python program to print unique elements in a list. CO2 (05)

UNIT – II

3. a) Using your factorial function, write a function that estimates the value of the mathematical constant e using the formula: CO3 (08)
   e = 1 + 1/1! + 1/2! + 1/3! + 1/4! + … n terms.
   b) Using reduce, write a function named ave(lst) that will return the average of a list of numbers. CO4 (06)
   c) Develop a script to generate the Fibonacci series using recursion. CO3 (06)

4. a) Using filter, write a lambda function which takes input as a list of numbers to generate a new list of prime numbers. CO4 (10)
   b) Explain in detail the usage of map and list comprehension with suitable examples. CO4 (10)

UNIT – III

5.	a)	What is duck typing? Explain with an example.	CO5	(05)
	b)	Develop a python program for a calculator that performs operations in Reverse Polish Notation(RPN) using stacks.	CO8	(15)
6.	a)	Demonstrate the following with respect to classes in python: i) inheritance ii) classes in python polymorphism iii) data hiding.	CO5	(10)
	b)	Create a class *Rectangle*. The constructor for this class should take two numeric arguments, which are the *width* and *height*. Add methods to compute the area and perimeter of the rectangle, as well as methods that simply return the height and width. Add a method *isSquare* that returns a Boolean value if the rectangle is a square.	CO5	(10)

UNIT – IV

7.	a)	Develop a simple temperature conversion GUI using *tkinter* that consists of an entry field and two buttons. When button labeled Celsius is clicked, the entry field is converted from Fahrenheit to Celsius, When button labeled Fahrenheit is clicked, the entry field is converted from Celsius to Fahrenheit.	CO9	(10)
	b)	List and Demonstrate the methods to operate on text files in python.	CO6	(10)
8.	a)	Develop a python program that will prompt the user for a file name, read all the lines from the file into a list, sort the list, and then print the lines in sorted order.	CO6	(06)
	b)	Discover what exception is produced by each of the following points. Then develop small example program that illustrates catching the exceptions using *try* statement(s) and continuing with execution after the interrupt. • Division by zero • Opening a file that does not exist • Indexing a list with an illegal value	CO7	(10)
	c)	How do you bind events in *tkinter* programming?	CO9	(04)

UNIT – V

9.	a)	Explain the MVC architecture used in Django.	CO10	(10)
	b)	Describe how form processing is achieved in Django framework.	CO12	(10)
10.	a)	Show the necessary steps required to i. create 2 database courses and department. ii. add courses and departments iii. display the courses and department	CO10	(10)
	b)	Develop a Django application which displays the list of employees who belong to a particular department. Show only the necessary steps and code.	C011	(10)

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