MCAE08

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MAKEUP EXAMINATIONS – JULY 2019

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

Subject : **Programming with Python**   **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 any 5 list operating methods with examples.	CO1	(10)
	b)	Implement a telephone directory using Dictionaries.	CO1	(05)
	c)	Develop a python program to find the sum of even numbers and odd numbers in the given list.	CO1	(05)
2.	a)	How do you create and access dictionaries in Python? List and describe any 5 methods on dictionaries.	CO1	(10)
	b)	Design a simple calculator with different mathematical operations using python script.	CO1	(05)
	c)	Develop a python program to find whether the given string is palindrome or not.	CO1	(05)

UNIT– II

3. a) Let *a* be the list of values produced by *range(1,50)*. Using the function *filter* and a *lamda* argument, write the expression that will produce each of the following.   CO2   (08)
   - *(i)*   A list of odd numbers in *a*
   - *(ii)*   A list of even numbers in *a*
   - *(iii)*   A list of values in *a* divisible by 3 and not divisible by 7.

   b) Develop a recursive function to generate prime numbers in a given range.   CO2   (07)

   c) Explain list comprehension with example.   CO2   (05)

4. a) Define a function that takes a positive integer n, and then produces n lines of output in the following pattern,   CO2   (10)
```
+
+ +
+ + +
+ + + +
+ + + + +
```
   Is it possible to get the same output using a single loop? Justify.

   b) Illustrate the following with example: CO2   (10)
   i) DOC strings   ii) local and global variables   iii) pass by reference and pass by value in python

UNIT- III

5. a) What is the difference between a method and a function? Give an example each.   CO3   (04)

   b) Design a Python class called account and implement the functions deposit, withdraw and display balance.   CO3   (10)

   c) Explain different ways of accessing attributes in a class.   CO3   (06)

6. a) Describe the following along with example wrt to python: CO3   (10)
   i) Constructor ii) destructor iii) self keyword iv) del keyword
   v) static members.
   b) Explain the inheritance in python.   CO3   (04)
   c) List any 6 regular expression patterns in python along with their   CO3   (06)
   meaning and example.

UNIT- IV

7. a) What are tinker widgets? What geometry manager classes does tkinter   CO4   (10)
   expose? Write a program that has a button on a canvas which when
   clicked the message "Hello World" has to be displayed.
   b) What is an event in python? Exemplify how for each widget, you can   CO4   (10)
   bind Python functions and methods to events.

8. a) Discover what exception is produced by each of the following points.   CO4   (10)
   Then, for each, write a small example program that illustrates catching
   the exception using a try statement and continuing with exception after
   the interrupt.
      i.   Division by zero
      ii.   Opening a file that does not exist
      iii.   Indexing a list with an illegal value
      iv.   Using an improper key with a dictionary
      v.   Passing an improperly formatted expression to the function
         expr( )
   b) Write a program that will prompt the user for a file name, read all the   CO4   (10)
   lines from the file into a list, sort the list, and then print the lines in
   sorted order.

UNIT- V

9. a) Explain MVT architecture of Django framework.   CO5   (06)
   b) Create an HTML form to read bio data of a candidate with fields First   CO5   (14)
   name, Last name, Age, Address, Hobbies (checkboxes), Gender (Radio
   buttons), and submit button to submit form data using GET method.
   On form submission the data should be displayed in proper format.
   Note: Show only necessary python code that has to be added by you in
   different files in Django framework.

10. a) Show the necessary steps and code to create web page and submit   CO5   (12)
    form data using POST method.
    b) Explain the functionalities of models, views, templates of django with   CO5   (08)
    an example.

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