MCAE08

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RAMAIAH
Institute of Technology

(Approved by AICTE, New Delhi & Govt. of Karnataka)

(Autonomous Institute, Affiliated to VTU)
Accredited by NBA & NAAC with 'A' Grade

SUPPLEMENTARY SEMESTER EXAMINATIONS – JULY 2019

Course & Branch : Master of Computer Applications
Subject : **Programming with Python**
Subject Code : MCAE08

Semester : IV
Max. Marks : **100**
Duration : **3 Hrs**

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT - I

1. a) Design a Python program to print the mid number (which is between minimum and maximum) out of three input numbers. CO1 (05)

   b) Predict the output of the following and justify your answer: CO1 (05)

i) 22 < "A"	ii) i = 5 print("welcome") if i> 5 elseprint("bye")
iii) **[1, 2] in [0, 1, 2, 3]**	iv) s="programming" print(str[5:-2])
v) ls=[34, 'hi', -5] ls.sort()	

   c) How do you terminate a loop? Write a Python program to count the palindrome words in a line of text. CO1 (05)

   d) What are identical objects and equivalent objects? Give examples. CO1 (05)

2. a) What do you mean by mutable and immutable data structures? Explain with examples. CO1 (04)

   b) Predict the output of the following and justify your answer: CO1 (08)

i)	a = -45 print (--a)	ii)	str1 = 'hello' print(str1[-1:])

iii)	a=[1,2,3,4,5,6,7,8,9]
	a[::2]=10,30,50,50,90
		iv)	a, b, c = True, False, False
			if a or b and c:
			  print "MSRIT"
			else:
			  print "RNSIT"

   c) What is a string? Discuss the different ways of representing a string in Python. CO1 (02)

   d) Use the for loop and give example for: CO1 (06)
      i) Processing characters in Strings
      ii) Displaying values and keys of a dictionary
      iii) Looping over List of Lists.

UNIT – II

3.	a)	Exemplify the various types of formal arguments in python.	CO2	(10)
	b)	Write a lambda function for each of the following: -	CO2	(10)
		i. Take one argument and return true if it is nonzero		
		ii. Take one argument and return true if it is odd		
		iii. Take two arguments and return their sum		
		iv. Take two arguments and return true if their sum is odd		
		v. That three arguments and return true if the produce of the first two is less than or equal to the third.		
4.	a)	Write a program using map function to convert the temperature from celcius to Fahrenheit and vice versa.	CO2	(05)
	b)	What is List Comprehension? Describe with examples.	CO2	(10)
	c)	Analyze and write the output for the following code snippets:	CO2	(05)
		i. >>>filter (lambda x:x,[4,0,6,3,0,2])		
		ii. >>>reduce(lambda x, y: x and y, filter(lambda x:x%2==0,a))		

UNIT - III

5.	a)	Explain the following concepts in detail:	CO3	(10)
		i. Data hiding		
		ii. Inheritance		
		iii. Static members.		
	b)	Define the following w.r.t classes in python. Show the code snippets to define/show the usage of each. (i) Constructor (ii) Destructor (iii) getattr (iv) hasattr.	CO3	(10)
6.	a)	What are data attributes and class attributes? Create a python program that will illustrate the fact that class variables are shared among all instances of a class.	CO3	(12)
	b)	List any 6 regular expression patterns in python and write the meaning of each.	CO3	(08)

UNIT - IV

7.	a)	Design and develop a simple temperature conversion utility which asks the user to enter the temperature in the textbox and two buttons to convert Fahrenheit to Celsius and vice-versa using Tkinter.	CO4	(12)
	b)	List and Demonstrate the methods to operate on text files in python.	CO4	(08)
8.	a)	Develop a python program that will prompt the user for a file name, read all the numbers from the file into a list, separate positive and negative numbers from the list, and store them in separate files.	CO4	(10)
	b)	Discover the exception produced by each of the following points. Then, for each, develop a small script that illustrates catching the exception using a try statement and continuing with execution after the interrupt.	CO4	(10)
		• Division by zero		
		• Opening a file that does not exist		
		• Indexing a list with an illegal value		
		• Using improper key with a dictionary		
		• Using unindented code.		

UNIT - V

9.	a)	With a neat diagram, describe the MVC architecture along with Django framework.	CO5	(10)
	b)	Write a python program to create a population table in SQLite, store data and retrieve.	CO5	(10)
10.		Create a form with the following specification and send the data to the python script to store the data into the database and retrieve. The specifications are: i) Name and phone number ii) Submit and reset buttons iii) Upon click of a button, store the data in the database. iv) Upon click of a retrieve button, display the data from the database.	CO5	(20)

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