MCAE08

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RAMAIAH
Institute of Technology

(Autonomous Institute, Affiliated to VTU)
(Approved by AICTE, New Delhi & Govt. of Karnataka) Accredited by NBA & NAAC with 'A' Grade

SEMESTER END EXAMINATIONS – JUNE 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) Consider the following program which contains some errors. You may assume that the comments within the program accurately describe the program's intended behavior. CO1 (05)

```
 # Get two numbers from the user
n1, n2 = eval(input()) # 1
# Compute sum of the two numbers
print(n1 + n2) # 2
# Compute average of the two numbers
print(n1+n2/2) # 3
# Compute a quotient
print(n1/d1) # 4
# Compute a product
n1*n2 = d1 # 5
```

For each line listed in the comments, indicate whether or not an interpreter error, run-time exception, or logic error is present. Not all lines contain an error.

b) The third person singular verb form in English is distinguished by the suffix -s, which is added to the stem of the infinitive form: run -> runs. A simple set of rules can be given as follows: CO1 (06)

- If the verb ends in y, remove it and add ies
- If the verb ends in o, ch, s, sh, x or z, add es
- By default just add s

Develop a Python Script for the rules above

c) Exemplify built – in list methods CO1 (09)

2. a) Describe the purpose and usage of Break, Continue and Pass in Python. CO1 (06)

b) Develop Python script that takes a list of words and returns the length of the longest one using tuples. CO1 (06)

c) List and exemplify the built – in dictionary methods. CO1 (08)

UNIT– II

3. a) Let *a* be the list of values produced by *range(1,11)*. Using the functions *map* and a *lamda* argument, write an expression that will produce each of the following. CO2 (06)

   (i) A list of squares of the values
   (ii) A list of cubes of the values
   (iii) A list where each element is larger by one than the corresponding element in the original list.

b) What is *LEGB* rule? Explain LEGB rule with an example. CO2 (06)

c) Demonstrate recursion in Python. Write a recursive function to find CO2 (08)

sum of *n* numbers.

4.	a)	Illustrate different types of function parameters available in python.	CO2	(12)
	b)	Explain list comprehension with example. Also develop a python script to print prime numbers in the given range using comprehension.	CO2	(08)

UNIT- III

5.	a)	Define the following w.r.t classes in python. Demonstrate each of the following. (i) Constructor (ii) Destructor (iii) getattr (iv) hasattr.	CO3	(12)
	b)	How do you define regular expressions in python? Write regular expression to match the following patterns: (i) The file names chap01, chap02, chap03, chap10, chap11 and chap12 (ii) containing 'RIT' as an embedded string except at the beginning or end (iii) the file names that end with at least two digits and don't begin with an alphabet (iv) the files except '*.py*' extension	CO3	(08)
6.	a)	Create a class called Stack, Add methods to perform different stack operations like push, pop, is_empty,is_full and display.	CO3	(10)
	b)	Explain data attributes and class attributes? Develop a python program that will illustrate the fact that class variables are shared among all instances of a class.	CO3	(10)

UNIT- IV

7.	a)	Why is exception handling required? Write a Python program to demonstrate user defined exception.	CO4	(10)
	b)	List the various methods to read and write the file contents and Explain.	CO4	(05)
	c)	Construct a python program to read a text file and display first 5 lines and last five lines.	CO4	(05)
8.	a)	Develop a GUI tkinter application to accept login screen with the following specifications: * Input box for user name and password * Input buttons for login and cancel * check box to remember the login credentials.	CO4	(10)
	b)	Consider the following file num_pairs.txt, read data and find the line total and write the line as well as total to a new file.	CO4	(10)

num_pairs.txt

1.3	3.4
2	4.2
-1	1

UNIT- V

9.	a)	Explain the MVC architecture used in Django.	CO5	(10)
	b)	Describe form processing using get method in Django framework.	CO5	(10)
10.	a)	Describe the steps of using a Database server using Django framework. Also exemplify the procedure of setting up the database and creating tables.	CO5	(10)
	b)	List and explain the steps and provide code to create web page and submit form data using post method.	CO5	(10)

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