CSOE01

USN	1	M	S							

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	**:**	**B.E. : Common to all branches**	**Semester**	**:**	**VIII**
Subject	**:**	**Python Application Programming**	**Max. Marks**	**:**	**100**
Subject Code	**:**	**CSOE01**	**Duration**	**:**	**3 Hrs**

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT- I

1. a) Define debugging. Explain experimental debugging and different types of errors with examples. CO1 (06)

   b) i) Write a python program to get a new string from a give string where 'is' has been added to the front. If the string already begins with "is" the return the string unchanged. CO1 (09)

   ii) Write a python code to check if the given string is palindrome or not.

   c) CO1 (05)

   1. What is the value of the following expression:
   24//6%3, 24//4//2
   i) (1,3) ii) (0,3) iii) (1,0) iv) (3,1)

   2. What is the value of the expression:4+25//10**
   i) 3 ii) 7 iii) 77 iv) 0

   3. What is the output of the following code?
   >>>example = "snow world"
   >>>print("%s" % example[4:7])
   i) wo ii) world iii) sn iv) rl

   4. The value of the expressions 4/ (3*(2-1)) and 4/3*(2-1) is the same. State whether true or false.
   i) True ii) False

   5. The expression 22**3 is evaluates as: (2**2) **3. State whether this statement is true or false.**
   i) True ii) False

2. a) i) Write a program to count the number of individual characters in a string. CO1 (08)
   Sample string:"yahoo.com"
   Result :{'0':3,'y':1,'.':1,'a':1,'h':1,'m':1,'c':1}

   ii) Write a Python program to get a string from a given string where all occurrences of its first char have been changed to '$', except the first char itself.
   Sample String : 'restart'
   Expected Result : 'resta$t'

   b) Explain the usage of "break" and "continue" statements in python with a relevant example. CO1 (06)

   c) Explain any six methods of the Strings with an example. CO1 (06)

UNIT- II

3. a) i) Write a Python program to remove duplicates from a list. CO2 (08)
   ii) Write a Python function that takes two lists and returns True if they have at least one common member.

   b) Explain any two python built-in data structure with an example. CO2 (06)

	c)	Write a Python function that accepts a string and calculate the number of upper case letters and lower case letters. Sample String : 'The quick Brown Fox' Expected Output : No. of Upper case characters : 3 No. of Lower case Characters : 13	CO2	(06)
4.	a)	Explain the various slicing operation that can be performed on list. Illustrate with relevant examples.	CO2	(06)
	b)	List and explain all the useful built in methods in dictionaries. Explain with appropriate examples.	CO2	(08)
	c)	Write a Python function that takes a list and returns a new list with unique elements of the first list Sample List : [1,2,3,3,3,3,4,5] Unique List : [1, 2, 3, 4, 5]	CO2	(06)

UNIT- III

5.	a)	Illustrate the need for modules in programming with an example. Explain any two modules used in python programming.	CO3	(06)
	b)	i) Design and implement a program that reads a file and outputs a new file with the lines in a sorted order. ii) Design and implement a program that reads a file and prints only those lines that contain the substring "python".	CO3	(08)
	c)	Explain namespace, scope and lookup rules in python with relevant examples.	CO3	(06)
6.	a)	i) Write a Python program to count the number of lines in a text file. ii) Write a Python program to count the frequency of words in a file.	CO3	(08)
	b)	Design and implement a python program to create and read the contents of a file that resembles a student information book with names and usn. Alphabetically sort the list.	CO3	(06)
	c)	i) Write a Python program to generate random even integers in a specific numerical range using the random module ii) Write a Python program to get a single random element from a specified string using the random module.	CO3	(06)

UNIT- IV

7.	a)	What are exceptions? How do you handle an exception in python? Explain the constructs with an example.	CO4	(06)
	b)	Discuss the significance of the "self" keyword, __init__() and __str__() method in Python with a proper example code snippet.	CO4	(06)
	c)	Write a program to create a class called Point with two attributes x and y. Write following functions and demonstrate the working of these functions by creating suitable objects. i) To read attribute values ii) To display point as an ordered pair iii) To find distance between two points.	CO4	(08)
8.	a)	What is sameness w.r.t objects? Explain with an example the concept of shallow and deep copy.	CO4	(06)
	b)	Write a Python class named Rectangle constructed by a length and width and a method which will compute the area of a rectangle.	CO4	(06)

	c)	Write a definition for a class named Circle with attributes center and radius, where center is a Point object and radius is a number. i) Instantiate a Circle object that represents a circle with its center at (150, 100) and radius 75. ii) Write a function named point_in_circle that takes a Circle and a Point and returns True if the Point lies in or on the boundary of the circle. iii) Write a function named rect_in_circle that takes a Circle and a Rectangle and returns True if the Rectangle lies entirely in or on the boundary of the circle.	CO4	(08)

UNIT- V

9.	a)	Write a GUI application with a button labeled "Goodbye." When the button is clicked, the window closes.	CO5	(06)
	b)	Explain the MVC design. Applying the MVC design, develop graphical user interface as an example.	CO5	(07)
	c)	List and discuss all the SQL relational operators. Explain any two of them using a query.	CO5	(07)
10.	a)	Construct GUI application that has a single button. Initially the button is labeled 0, then each time, the button is clicked, the value on the button should increase by 1.	CO5	(06)
	b)	Develop GUI application in which a character text is entered, and when the count button is clicked, the number of vowels and consonants are counted and displayed in the window.	CO5	(08)
	c)	Explain the need for using joins in the databases. With an example explain the steps involved in performing inner joins.	CO5	(06)

****