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 JANUARY – FEBRUARY 2021

Program	:	**B.E. : Common to all Programs**	**Semester**	:	**V**
Course Name	:	**Python Application Programming**	**Max. Marks**	:	**100**
Course Code	:	**CSOE01**	**Duration**	:	**3 Hrs**

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT- I

1.	a)	Describe how to define a string in python and any five operations on the string.	CO1	(06)
	b)	Explain the three types of errors encountered in python programming with examples.	CO1	(06)
	c)	Write a Python program to reverse a number and also find the sum of digits in the reversed number.	CO3	(08)
2.	a)	Explain the salient features of python programming.	CO1	(06)
	b)	Describe the "in" and "not in" operators with examples.	CO1	(06)
	c)	Write a Python code snippet to perform the following: i) Finding the occurrence of a character in the given string ii) Searching a substring in the given string.	CO3	(08)

UNIT – II

3.	a)	What are Lists in Python? Write a python program that initializes a list with numbers from 1 to 20 using list comprehension. Print how many odd numbers present in the list and sum of even numbers in the list.	CO2	(06)
	b)	Describe anonymous functions in python. Write a python program using anonymous functions for the Input: n=[4,3,2,1] and print the output as [16,9,4,1].	CO2	(06)
	c)	Write a Python program to combine two dictionary adding values for common keys. Consider d1 = {'a': 100, 'b': 200, 'c':300} and d2 = {'a': 300, 'b': 200, 'd':400}, Sample output: Counter({'a': 400, 'b': 400, 'd': 400, 'c': 300})	CO2	(04)
	d)	Describe tuple in python with example.	CO2	(04)
4.	a)	Define a function which can generate a dictionary where the keys are numbers between 1 and 20 (both included) and the values are square of keys. The function should just print the keys only.	CO2	(06)
	b)	Explain the Scope of Variables in python with an example.	CO2	(05)
	c)	Write a Python function that takes two lists and returns True if they have at least one common member Input: list1=[1,2,3,4,5], list2=[5,6,7,8,9]) Output: True Input:list3=[1,2,3,4,5], list4=[6,7,8,9]) Output: None.	CO2	(05)
	d)	Explain the following functions in python with an example: abs, pow, max, and range.	CO2	(04)

UNIT – III

5.	a)	Explain the working of random module based on deterministic function.	CO3	(06)
	b)	Define scope of an identifier and explain three important scopes in Python.	CO3	(06)
	c)	With a code snippet explain write operation on a file.	CO3	(08)
6.	a)	Describe how are namespaces, files and modules related?	CO3	(08)
	b)	Explain different mathematical functions related to math module.	CO3	(06)
	c)	Write a python program to copy one file to another, omitting any lines that begin with #: using filter.	CO3	(06)

UNIT – IV

7.	a)	Describe constructors in python with example.	CO4	(05)
	b)	Design and implement a python class named circle constructed by a radius and two methods which will compute the area and the perimeter of the circle.	CO4	(05)
	c)	Design and implement a program that accepts two numbers separated by comma and performs a division of two numbers. Include exceptions for the necessary conditions with finally clause.	CO4	(05)
	d)	Discuss the need for self as a parameter for the class methods with an example.	CO4	(05)
8.	a)	Describe the use of __del__ in python with example.	CO4	(05)
	b)	What is inheritance? Explain with an example how inheritance is implemented? List the advantages of using inheritance.	CO4	(06)
	c)	Explain the following types of exception with an example: (i) ValueError (ii) keyBoardInterrupt (iii) keyError.	CO4	(09)

UNIT – V

9.	a)	List and describe all the SQL relational operators. Explain any two SQL relational operators using a query.	CO5	(06)
	b)	Write a GUI application with a single button. Initially the button is labeled 0, but each time it is clicked, the value on the button increases by 1.	CO5	(07)
	c)	Explain with an example all the steps in creating, populating and saving changes to the database.	CO5	(07)
10.	a)	Write Python code that does the following: (i) Creates a new database called census.db (ii) Makes a database table called Density that will hold the name of the province or territory (TEXT), the population (INTEGER), and the land area (REAL). (iii) Inserts new data to the table. (iv) Retrieves the provinces that have populations of less than one million (v) Retrieves the provinces that have populations of less than one million or greater than five million.	CO5	(08)
	b)	Explain the following widgets used in the GUI i) text ii) check button iii) menu.	CO5	(06)
	c)	Design and implement a GUI application which accepts the "name" and "time of the day" as input and displays an appropriate greeting message based on the time of the day.	CO5	(06)

****