PLC142

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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 – MAY 2023

Program	: **B.E :- Common to CSE / ISE / CSE(CY) / AI & DS / BT / AI & ML / CSE (AI&ML) / CV**	**Semester**	: **I**
Course Name	: **Introduction to Python Programming**	**Max. Marks**	: **100**
Course Code	: **PLC142**	**Duration**	: **3 Hrs**

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT - I

1.	a)	Explain the different types of expressions in python.	CO1	(04)
	b)	Write a python program to print n Fibonacci numbers using while loop.	CO1	(08)
	c)	With the help of an example explain Lambda Functions.	CO1	(08)
2.	a)	Write a python program to Read and Write an array using the concept of Nested loops.	CO1	(04)
	b)	Write a python program to print factorial of a number using functions.	CO1	(08)
	c)	By defining a function, write a program to print the following sequence. * * * * * * * * * * * * * * *	CO1	(08)

UNIT - II

3.	a)	Explain all the built in methods available for lists. Give examples for each of the methods.	CO2	(08)
	b)	What are pure functions and modifiers with respect to lists in python? Give example for each of the function type.	CO2	(06)
	c)	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)
4.	a)	What is aliasing and cloning w.r.t to lists? Explain each of them with an appropriate example.	CO2	(08)
	b)	Write a Python program to check whether a list contains a sublist in it as one of its element.	CO2	(06)
	c)	Describe tuple in python with example.	CO2	(06)

UNIT - III

5.	a)	What are modules? Describe the three different ways to import names into the current namespace, and to use them with an example.	CO3	(08)
	b)	Explain with example the various methods available in the random module.	CO3	(06)
	c)	i) Write a program that reads a file and writes out a new file with the lines in reversed order (i.e., the first line in the old file becomes the last one in the new file.) ii) Write a Python program to count number of characters, words and lines in a file	CO3	(06)

6.	a)	i) Write a Python program to read a file line by line and store it into a list by sorting it by the first letter of each line. ii) Write Python Program to get the File Name from user and find the Longest Word in a File.	CO3	(06)	
	b)	i)Discuss the following methods associated with the file object I) read() II) readline() III) readlines() IV) write() ii)Describe the different access modes of the files with an example.	CO3	(08)	
	c)	i) Write a Python program to generate random odd 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)	
7.	a)	**UNIT- IV** Discuss the need for self as a parameter for the class methods with an example.	CO4	(06)	
	b)	What is inheritance? Explain with an example how inheritance is implemented? List the advantages of using inheritance.	CO4	(08)	
	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	(06)	
8.	a)	Explain the concept of polymorphism in Object oriented programming with a python program.	CO4	(06)	
	b)	Differentiate between class attribute and data attribute with an example.	CO4	(06)	
	c)	Write a program with class named 'Rectangle' that contains the following. Implement a main that initializes the object of the class and returns the area and perimeter of the rectangle. • Two data fields named width and height. • A constructor that creates a rectangle with specified width and height. • A method getArea() that returns the area of rectangle. • A method getPerimeter() that returns the perimeter.	CO4	(08)	
		UNIT - V			
9.	a)	i) Write a python program to find the average of best of two marks out of three marks taken as input. ii) Write a python program to get a string made of the first two and last two characters from a given string. If the string length is less than two, return empty string otherwise return new string.	CO5	(08)	
	b)	Explain the find() and split() methods. write a simple example program to demonstrate the use of these methods on strings.	CO5	(06)	
	c)	With a program show how a user can raise an exception when program detects an error condition.	CO5	(06)	
10.	a)	What is exception handling? Write a program to implement exceptional handling in python.	CO5	(06)	
	b)	Describe how to define a string in python and any five operations on the string.	CO5	(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.	CO5	(08)	

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