NAGARJUNA COLLEGE OF ENGINEERING AND TECHNOLOGY
Department of Mechanical Engineering

Odd Semester 2023-24
Internal Assessment Test – I

Course Name: Introduction to Python Programming	**Course Code: 23PLC15B**	**Semester: I**
Date: 20-11-2023	**Time: 9.30 to 10.30 am**	**Max. Marks: 25**

[Note: Answer any THREE full questions as indicated below]

Sl. No		QUESTIONS	COs	RBT Levels	Marks
1.	a)	Explain if-else and if-elif statements with examples	CO1	L2	04M
	b)	Implement a python program to check whether a given number is palindrome using loops.	CO1	L3	06M
		OR			
2.	a)	Explain the syntax of while loop with an example.	CO1	L2	04M
	b)	Write a short program that prints the numbers 1 to n using a for loop. Then write an equivalent program that prints the numbers 1 to n using a while loop	CO1	L3	06M
3.	a)	Explain the following functions performed on list. i. append ii. pop iii. remove iv. sort	CO2	L2	04M
	b)	Implement a python program to read n numbers into a list and find the largest, smallest and average among them.	CO2	L3	06M
		OR			
4.	a)	Explain the following dictionary methods with examples. i. keys() ii. setdefault()	CO2	L2	04M
	b)	Implement a python program to create a dictionary database to store birthdays of employees. If the name of the employee searched by the user is not available in the dictionary, ask the user to update the birthday by taking input from the user.	CO2	L3	06M
5.		Mention the salient features of python.	CO1	L1	05M
		OR			
6.		Mention the differences between list and tuple with examples.	CO2	L1	05M

NAGARJUNA
Engineering & Technology

NAGARJUNA COLLEGE OF ENGINEERING AND TECHNOLOGY
Department of Mechanical Engineering

Odd Semester 2023-24
Internal Assessment Test – II

Course Name: Introduction to Python Programming | **Course Code**: 23PLC15B | **Semester**: I

Date: 02-01-2024 | **Time: 11.00 am to 12.00 noon** | **Max. Marks: 25**

[Note: Answer any THREE full questions as indicated below]

Sl. No		QUESTIONS	COs	RBT Levels	Marks
1.	a)	Illustrate positive and negative string slicing in python with suitable examples	CO3	L2	04M
	b)	Develop a program that takes a sentence as input from the user and computes the frequency of each word.	CO3	L3	06M
		OR			
2.	a)	Discuss the various file access modes supported by python	CO3	L2	04M
	b)	Write Python Program to read the contents of the specified file and count the number of characters, number of words and number of lines in it.	CO3	L3	06M
3.	a)	Explain os.walk() module with suitable examples .	CO5	L2	04M
	b)	Implement a python program to create a folder named PYTHON and under the said folder create three files with names file1, file2 and file3. Write the contents in file1 as "NCET" and file2 as "VTU" and file3 contents should be the merged contents of files file1 and file2. Check out the necessary conditions before writing file3.	CO5	L3	06M
		OR			
4.	a)	Explain the use of assert function with suitable examples.	CO5	L2	04M
	b)	Write a function named DivExp which takes two parameters a, b and returns a value c (c=a/b). Write suitable assertion for a>0 in function DivExp and raise an exception for when b=0. Develop a suitable program which reads two values from the console and calls a function DivExp.	CO5	L3	06M
5.		Discuss the following string methods with suitable examples i) startswith() ii) endswith() iii) ljust() iv) rjust() v) center()	CO3	L2	05M
		OR			
6.		Explain the process of saving variables using shelve module	CO5	L2	05M

Nagarjuna College of Engineering & Technology

(Autonomous Institute Affiliated to VTU)

First Semester BE Degree SE Examination, January 2024

Introduction to Python Programming

Time: 3Hrs. Max. Marks: 100

Note: Answer any one full questions from each module

		COs	M	BL
	Module - 1			
1a	Discuss the rules to be followed for naming variables with suitable examples of valid and invalid variable names.	CO1	06	L2
b	Develop a program to read the name and year of birth of a person. Display whether the person is a child(less than 9 years), teenager(10-17 years), adult(18-60 years) and senior citizen(more than 60 years)	CO1	06	L3
c	Implement a python program to print all prime numbers between 1000 and 10000 using function to check the prime property of a number.	CO1	08	L3
	OR			
2a	Explain different relational operators supported by python with suitable examples.	CO1	06	L2
b	What is the output of the following program segments i) for i in range(5): print(i) ii) for i in range(20, 1,-1): print(i) iii) for i in range(0, 30, 2): print(i)	CO1	06	L3
c	Store numbers from 1 to 100 in a list. Develop a program to print mean, variance and standard deviation of the elements of the list with suitable messages.	CO1	08	L3
	Module - 2			
3a	Explain str(), int() and float() built-in functions with relevant examples.	CO2	06	L2
b	Explain the following dictionary methods with examples. i. items() ii. values() iii. get() iv. setdefault()	CO2	06	L2
c	For a=['how', 'hello', [1,2,3,4], [30,20,10]], what is the output of following statement (i) print(a[: :]) (ii) print(a[-3][0]) (iii) print(a[2][: -1]) (iv) print(a[0][: : -1])	CO2	08	L3
	OR			
4a	Discuss indexing and slicing with reference to lists in python with positive and negative values in indices.	CO2	06	L2
b	Explain the difference between the pop() and remove() list methods with suitable examples.	CO2	06	L2
c	Implement a python program to find frequency of each word in a given string and display the output using pprint() method. Use dictionary to store frequency of each word.	CO2	08	L3
	Module - 3			
5a	Discuss the following methods associated with the file object with suitable examples. i) read() ii) readlines() iii) write()	CO3	06	L2
b	Using string slicing operation write python program to reverse each word in a given text file (eg: text file content: "hello how are you", output: "olleh woh era uoy")	CO3	06	L3
c	Develop a program to read the contents of a text file, sort the contents line by line and write the sorted contents into a separate text file.	CO3	08	L3
	OR			
6a	Explain different modes of opening a file.	CO3	06	L2
b	Explain escape characters and raw strings with suitable examples.	CO3	06	L2
c	Develop a program to print top 5 longest words in a text file and write the output to another text file.	CO3	08	L3

Module - 4

7a	Implement a python program to display the directory, its subdirectory and files using os.walk() method.	CO4	06
b	Explain the process of saving variables using shelve module.	CO4	06
c	Develop a program to backing Up a given Folder (Folder in a current working directory) into a ZIP File by using relevant modules and suitable methods.	CO4	08

OR

8a	Explain deleting and moving files using shutil module with suitable examples.	CO4	06
b	Explain the process of creation of raising an exception in python with suitable examples.	CO4	06
c	Write a function named DivExp which takes two parameters a, b and returns a value c (c=a/b). Write suitable assertion for a less than 0 in function DivExp and raise an exception for when b=0. Develop a suitable program which reads two values from the console and calls a function DivExp.	CO4	08

Module - 5

9a	Write a program to illustrate Class variables and Instance variables.	CO5	06
b	Illustrate operator overloading with an example.	CO5	06
c	Develop a program that uses class Student which prompts the user to enter marks in five subjects and calculates total marks, percentage and displays the score card details. [Hint: Use list to store the marks in five subjects and total marks. Use init method to initialize name, USN and the lists to store marks and total, Use getMarks() method to read marks into the list, and display() method to display the score card details.	CO5	0

OR

10a	Define a class called student. Display the marks details of top five students using inheritance.	CO5	0
b	Define the terms with example: (i) class (ii) object	CO5	06
c	Consider a user defined class called Point. Write a function called distance that takes two Points as arguments and returns the distance between them.	CO5	08