Code: 19CS2801A

IV B.Tech - II Semester – Regular Examinations - MAY 2023

INTRODUCTION TO PYTHON PROGRAMMING
(Common for CE, ME , ECE)

Duration: 3 hours   Max. Marks: 70

Note: 1. This question paper contains two Parts A and B.
   2. Part-A contains 5 short answer questions. Each Question carries 2 Marks.
   3. Part-B contains 5 essay questions with an internal choice from each unit. Each question carries 12 marks.
   4. All parts of Question paper must be answered in one place.

BL – Blooms Level   CO – Course Outcome

PART – A

		BL	CO
1. a)	What do you mean by Interpretative feature of Python?	L2	CO1
1. b)	Define Lambda function. Give an example.	L2	CO1
1. c)	Write on any two functions available in regular expression (RegEx) module 're' of Python.	L2	CO1
1. d)	Differentiate between Python list and tuples? Give a sample program to print a list and tuple elements.	L2	CO1
1. e)	L=[1,2,3,4,5,6,7,8]. Define Numpy array by passing L. Give Python code to print the last 3 elements slice of the list L.	L2	CO1

PART – B

			BL	CO	Max. Marks
		UNIT-I			
2	a)	Explain in brief the features of Python.	L2	CO1	6 M
	b)	Give the syntax of various iterative statements. Construct a Python program to check an entered number is palindrome or not?	L3	CO2	6 M
		OR			
3	a)	What are relational operators? Show a sample Python code on how relational operators are implemented?	L3	CO2	6 M
	b)	Differentiate conditional statements and Iterative statements. Construct a Python program to print the greatest of three numbers.	L3	CO2	6 M
		UNIT-II			
4	a)	Define a function and function call. Illustrate with a Python code to check the entered number is prime or not using function call with parameters.	L3	CO2	6 M
	b)	Define local and global variables. Discuss on the scope of these variables using a sample Python code.	L2	CO1	6 M
		OR			
5	a)	Explain any five built in math functions in Python.	L2	CO1	6 M

	b)	Develop a Python program to print first five Fibonacci numbers using recursion.	L2	CO2	6 M

UNIT-III

6	a)	Explain any five string methods.	L2	CO1	6 M
	b)	Briefly explain with syntax how a file is opened and edited. Give sample Python codes.	L2	CO1	6 M

OR

7	a)	List and explain various modes to open a file.	L2	CO1	6 M
	b)	File.txt is a text file containing 10 text lines. Develop Python code to i) read the file, ii) add 2 more text lines, iii) count the number of lines in the file.	L3	CO2	6 M

UNIT-IV

8	a)	What is slicing? Analyze with your own examples to explain slicing on lists and tuples.	L4	CO4	6 M
	b)	What is a Dictionary? Given a dictionary Dict = {'ravi': 10, 'rajnish': 9, 'sanjeev': 15, 'yash': 2, 'suraj': 32}. Construct a Python code to sort the dictionary elements by key values.	L3	CO4	6 M

OR

9	a)	Explain briefly various data structures in Python.	L4	CO4	6 M

	b)	What is list comprehension? Show a Python code to extract a sub-list of even numbers from a range (0,50) using list comprehension.	L3	CO4	6 M

UNIT-V

10	a)	Interpret the use of numpy array in computations. List any 6 Built-in functions associated with numpy package.	L3	CO3	6 M
	b)	Why data visualization is needed? Illustrate any three plots as supported by Matplotlib.	L3	CO3	6 M

OR

11	a)	Differentiate Numpy and pandas packages. Prepare Python code to load a file "ABC_1899.csv" by using Numpy and pandas.	L3	CO3	6 M
	b)	What is Matplotlib? Choose which Matplotlib plots are used to do uni-variate and Bi-variate data analysis.	L3	CO3	6 M