PVP 20

Code: 20ES1102

I B.Tech - I Semester – Regular / Supplementary Examinations
FEBRUARY - 2023

PROBLEM SOLVING & PROGRAMMING WITH PYTHON

(Common for EEE, ME, ECE)

Duration: 3 hours Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level CO – Course Outcome

			BL	CO	Max. Marks
		UNIT-I			
1	a)	Explain the Foundations of Computational Thinking with an example.	L2	CO1	6 M
	b)	Explain the necessary elements in scratch to develop a simple animation for changing background and costumes.	L3	CO2	8 M
		OR			
2	a)	Discuss the advantages and applications of Visual Programming.	L2	CO1	6 M
	b)	Explain iterative statements in Scratch with the following example: Square Spiral.	L2	CO1	8 M
		UNIT-II			
3	a)	Construct a flowchart to find Greatest Common Divisor (GCD) of two given numbers.	L3	CO2	7 M

	b)	Construct a flowchart to print whether the given number is palindrome or not.	L3	CO2	7 M
OR					
4	a)	Construct a flowchart to check the given number is Untouchable Number or not. *For a number to be untouchable, it must not be equal to the sum of the proper divisors of ANY number. A few untouchables are 2, 5, 52 and 88.*	L3	CO2	6 M
	b)	Construct a flowchart to perform unit conversion: Centigrade to Fahrenheit.	L3	CO2	8 M
UNIT-III					
5	a)	Develop a program to illustrate if-elif-else and nested if statement w.r.t the following: "Find the greatest number from the given three numbers".	L3	CO3	7 M
	b)	Develop a program to check the given number is Armstrong number or not.	L3	CO3	7 M
OR					
6	a)	Explain Python operators with an example.	L2	CO1	6 M
	b)	Demonstrate nested for loop with the following example: Write a program to print the following pattern 1 2 3 3 4 5 4 5 6 7 5 6 7 8	L3	CO3	8 M

UNIT-IV					
7	a)	Explain the differences between local and global variables with an example.	L1	CO1	6 M
	b)	Develop a program that uses lambda function to find the sum of first 10 natural numbers.	L3	CO3	8 M
OR					
8	a)	Develop a program to count the occurrence of a given word in a given string.	L3	CO3	8 M
	b)	Explain the flag options with an example.	L2	CO3	6 M
UNIT-V					
9	a)	Develop a program to count the number of words and lines in a file.	L3	CO3	7 M
	b)	Illustrate how tuple and list are different from each other with its operations with an example.	L4	CO4	7 M
OR					
10	a)	Explain different types of file access modes with an example.	L4	CO4	6 M
	b)	List and Explain Built-in Dictionary functions and Methods. Develop a program that uses dictionary methods.	L4	CO4	8 M