PVP 20

Code: 20ES1102

I B.Tech - I Semester – Regular / Supplementary Examinations – APRIL 2022

PROBLEM SOLVING & PROGRAMMING WITH PYTHON

(Common to 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.

UNIT – I

1.	a)	Explain pattern recognition with an example.	6 M
	b)	Develop a script to ask the user to enter two numbers and perform arithmetic operations.	8 M
		OR	
2.	a)	Develop a script in scratch to change the color and size of sprite.	8 M
	b)	Explain repeat and repeat until with suitable examples.	6 M

UNIT – II

3.	a)	Illustrate characteristics of an algorithm.	6 M
	b)	Construct a flowchart to print whether a given number is palindrome or not. (Hint: A palindrome number is a number that remains the same when it's digits are reversed. Example:16461)	8 M
		OR	

4. a) Explain various built in operators in Raptor with suitable examples. 6 M

b) Construct a flowchart to display GCD of a given two numbers. 8 M

UNIT-III

5. a) Develop a program to illustrate operator precedence and associativity Operations with suitable examples. 7 M

b) Develop a program to check whether given number is Armstrong number or not. 7 M

(Hint: It is a number if the sum of its own digits raise to the power number of digits gives the number itself. Example: 153 (3 digits, so power is 3) $=1^3 + 5^3 + 3^3 = 1 + 125 + 27 = 153$)

OR

6. a) Develop a Python program to find whether a number is power of 2 using bitwise operators. 7 M

b) Develop a program to find sum of even digits in a given integer number. 7 M

UNIT – IV

7. a) Develop a program to demonstrate the scope and lifetime of a variable with suitable examples. 7 M

b) Develop a program to illustrate string formatting operators with suitable examples. 7 M

OR

8. a) Develop a program to return reverse of a given number using functions. 7 M

	b)	Develop a program to illustrate built-in math functions with suitable examples.	7 M

UNIT – V

9.	a)	Develop a program to illustrate file opening modes with suitable examples.	7 M
	b)	Develop a program to illustrate any four list operations with suitable examples.	7 M

OR

10.	a)	Develop a program to illustrate file read and write operations with suitable examples.	7 M
	b)	Develop a program to illustrate any four tuple operations with suitable examples.	7 M