Reg. No.:

Name :

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TERM END EXAMINATIONS (TEE) – December 2021- January 2022

Programme	:	**B. Tech**	**Semester**	:	**Fall 2021-22**
Course Name	:	**Introduction to Problem Solving and Programming**	**Course Code**	:	**CSE1021**
Faculty Name	:	**Dr A V R Mayuri**	**Slot / Class No**	:	**A21+A22+A23 / 0115**
Time	:	**1½ hours**	**Max. Marks**	:	**50**

Answer ALL the Questions

Q. No.		Question Description	Marks
		PART - A (30 Marks)	
1	(a)	Discuss the sequence of steps that one typically goes through in designing and analysing an algorithm.	10
		OR	
	(b)	Illustrate with examples how functions are categorized based on the arguments and return type.	10
2	(a)	(I) Implement python program to compute factorial of a given number using recursion	5
		(II) Implement python program to swap two numbers without using third variable and arithmetic operator.	5
		OR	
	(b)	Find all the prime factors of 627 using factor tree and short division method and implement in python language how to compute prime factors of the given number.	10
3	(a)	Write the algorithm, flowchart and program to find the smallest divisor of a given integer	10
		OR	
	(b)	(I) Implement python program to remove duplicates from the given array {2,1,3,5,4,1,3,2,4,5}.	5
		(II) Implement python program to perform array pair sum	5
		PART - B (20 Marks)	
4		Illustrate with sample programs in python language for conditional and iteration control statements.	10
5		Write a Python Program to perform various list operations. (Slicing, appending, find index of element, sorting, popping, removing, insert, count occurrences, extend, reverse)	10

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