PPS CT Paper

Programming For Problem Solving (SRM Institute of Science and Technology)

SRM Institute of Science and Technology
College of Engineering and Technology
DEPARTMENT OF ECE
SRM Nagar, Kattankulathur – 603203, Chengalpattu District, TamilNadu

BATCH 1

SET A

Academic Year: 2023-2024 (EVEN)

Test: CLAT 2 **Date:** 01-04-2024
Course Code & Title: 21CSS101J – Programming for Problem Solving **Duration:** 8.00 am – 9.30 am
Year & Sem: 1st Year / 2nd Sem **Max. Marks:** 40

Course Articulation Matrix:

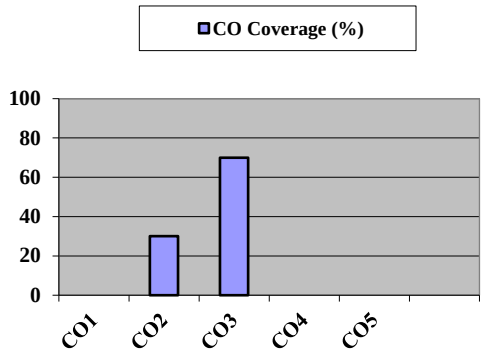
21CSS101J – Programming for Problem Solving		**Program Outcomes (POs)**											
		Graduate Attributes											
COs	At the end of this course, learners will be able to:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
CO-1:	Solve problems through computer programming. Express the basic data types and variables in C	2	3	-	-	-	-	-	-	-	-	-	2
CO-2:	Use appropriate data types in simple data processing applications. To create programs using the concept of arrays.	2	3	-	-	-	-	-	-	-	-	-	2
CO-3:	Create string processing applications with single and multi-dimensional arrays.	2	3	-	-	-	-	-	-	-	-	-	2
CO-4:	Create user defined functions with required operations. To implement pointers in applications with dynamic memory requirements.	2	3	-	-	-	-	-	-	-	-	-	2
CO-5:	Create programs using the python data types, loops, control statements for problem solving	2	3	-	-	-	-	-	-	-	-	-	2

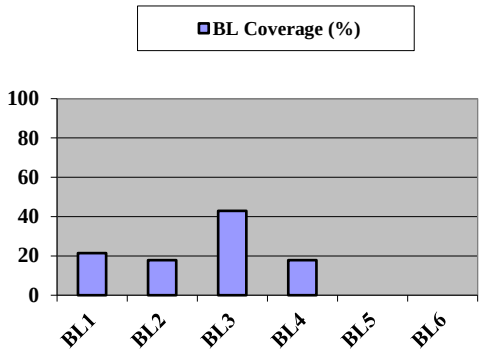
	Part – A(4 x 2 = 8 Marks) **Instructions: Answer ALL the Questions**				
Q. No	**Question**	**Marks**	**BL**	**CO**	**PO**
1	Differentiate NULL pointer and VOID pointer.	2	1	2	1

2	What is the expected output of below codes?
	a)
	`#include <stdio.h>`
	`int main()`
	`{`
	`int i;`
	`int arr[5] = {1};`
	`for (i = 0; i < 5; i++)`
	`printf("%d ", arr[i]);`
	`return 0;`
	`}`
	b)
	`#include <stdio.h>`
	`void main()`
	`{`
	`int a[3] = {1,2,3};`
	`int *p = a;`
	`for(int i=0; i<3;i++)`
	`{`
	`Printf("%d",*p);`
	`P++;`
	`}`
	`Return 0;`
	`}`
		2	2	2	2

3	Contrast the function printf and sprintf in C.	2	1	3	1
4	Write a C Program to find a substring from the main string using built in function.	2	4	3	2
	Part – B(4 x 8 = 32 Marks)				
	Compulsory Question				
5a	What are pointers? How to use pointers? Explain the declaration of pointers and pointer to pointer with examples.	8	1	2	1
	or				
5b	Write a C program that performs matrix multiplication on two matrices of size r x c. The program should take input for the number of rows and columns in the matrices and the elements of the matrices from the user. The program uses nested for loops to perform the matrix multiplication and stores the result in a new matrix "m". The program should then print the result matrix on the screen.	8	3	2	12
	Instructions: Answer ANY 3 Questions				
6	Write a C program to a) Reverse a string in place b) converts a string representation of an integer to its corresponding integer value.	4+4	4	3	2
7	Explain the any two built-in/library string functions with syntax and example.	4+4	2	3	12
8	Explain the concept of call by reference and call by values using suitable examples	4+4	3	3	2
9	Write a C program for a) passing array elements by values to a function. [scenario: out of 4 array elements, pass only the second and third elements] b) passing entire array elements to a function. [scenario: The function should calculate the sum of all elements in the array]	4+4	3	3	1

Course Outcome (CO) and Bloom's level (BL) Coverage in Questions





Evaluation Sheet

Name of the Student: **Register No.:**

Part- A (4 x 2= 8 Marks)					
Q. No	**CO**	**PO**	**Maximum Marks**	**Marks Obtained**	**Total**
1	CO2	PO1	2		
2	CO2	PO2	2		
3	CO3	PO1	2		
4	CO3	PO2	2		
Part- B (4 x 8= 32 Marks)					
5a	CO2	PO1	8		
or					
5b	CO2	PO2	8		
6	CO3	PO12	8		
7	CO3	PO12	8		
8	CO3	PO2	8		
9	CO3	PO1	8		

Consolidated Marks:

CO	Maximum Marks	Marks Obtained
2	12	
3	28	
Total	40	

PO	Maximum Marks	Marks Obtained
1	20	
2	20	
12	16	
Total	56	

Signature of the Course Teacher