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Reg.No.:								

VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 5036

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – AUG. / SEP. 2023
First Semester
U19CS101 – PROGRAMMING FOR PROBLEM SOLVING
(Regulation 2019)
(Common to All Branches)

Time: Three Hours Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	Draw the flowchart for finding the roots of quadratic equation.	2	K1	CO1
2.	Write an algorithm to find sum and average of N numbers.	2	K2	CO1

3.	What is the output of given program if user enters value 99?
	#include<stdio.h>
	void main()
	{int i;printf("Enter a number:");
	scanf("%d", &i); // 99 is given as input.
	if(i%5 == 0){printf("nNumber entered is divisible by 5"); }}
		2	K3	CO2

4.	Write the syntax for nested if and else-if ladder.	2	K2	CO2
5.	How to declare and initialize a Two-dimensional array?	2	K2	CO3
6.	Write the syntax and purpose of malloc( ) function.	2	K2	CO3
7.	Define function. List the different types of functions.	2	K1	CO4
8.	List the string handling functions.	2	K1	CO4
9.	Write a C program to create a structure variable with five student's details.	2	K2	CO5
10.	State the significance of bitfields in enumerated data type.	2	K1	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.			Questions	Marks	KL	CO
11.	a)	i.	Draw the flowchart for finding the maximum value in the list.	6	K2	CO1
		ii.	Write an algorithm and pseudo code for Factorial of a given number.	7		
			(OR)			
	b)	i.	Write an algorithm and flowchart to find whether the given number is prime or not.	6	K2	CO1
		ii.	Explain the different symbols used for flowchart with your own example.	7		
			(OR)			
12.	a)	i.	Explain formatted input and output statements used in C with syntax and example.	6	K2	CO2
		ii.	Write a C program to swap the two variables without using third variables.	7		
			(OR)			
	b)	i.	Write a C program to check whether the given number is Odd or Even.	6	K2	CO2
		ii.	Describe decision making and branching statements with proper syntax and example.	7		
13.	a)		Illustrate arrays and multidimensional arrays with an example program.	13	K2	CO3
			(OR)			
	b)	i.	Describe different arithmetic operations on pointers with proper examples.	7	K2	CO3
		ii.	Enlighten the functions used to allocate and free memory dynamically.	6		
14.	a)	i.	Write a C program to generate the Fibonacci series of a given number using recursion.	7	K2	CO4
		ii.	Explain the call-by-reference parameter passing technique with example.	6		
			(OR)			
	b)		Explain the following string handling functions with example: a. strcpy() b. strcmp() c. strcat() d.strlen() e. strncat()	13	K2	CO4

15.	a)	Write a program to maintain a record of n employee detail using an array of structures with three fields (id, name, salary) and print the details of employees whose salary is above 5000.	13	K3	CO5
		(OR)			
	b)	Illustrate the Structure and nested structure with necessary example program.	13	K2	CO5

PART – C

(1 x 15 = 15Marks)

Q. No.		Questions	Marks	KL	CO
16.	a)	Write a C program to maintain a record of n students details using an array of structures with four fields(roll no, name, marks and grade). Assume appropriate data type for each field. Print the marks of the student given the student name as input.	15	K3	CO5
		(OR)			
	b)	Illustrate the following concepts with your own example i. Bitfields ii. Unions iii. Array of Pointers.	15	K2	CO5