



VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN

[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]

Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

**Question Paper Code: 5037**

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – March/April 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	K1 – Remembering	K3 – Applying	K5 - Evaluating
(KL)	K2 – Understanding	K4 – Analyzing	K6 - Creating

**PART – A**

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	Draw a flowchart for finding the cube of the given number.	2	K3	CO1
2.	List the simple strategies for developing a program.	2	K1	CO1
3.	What are the ways in which constants can be created in 'C' language?	2	K3	CO2
4.	State the significance of break and continue statements.	2	K2	CO2
5.	How do we initialize a two dimensional array of integers?	2	K3	CO3
6.	What is a void pointer? Where is it used?	2	K2	CO3
7.	Differentiate between call by value and call by reference.	2	K2	CO4
8.	List the possible return values of strcmp function and also give its meaning.	2	K3	CO4
9.	Compare and contrast between Structures and Unions.	2	K3	CO5
10.	Why bit fields are used?	2	K3	CO5

**PART – B**

(5 x 16 = 80 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	What is a pseudocode? Write an algorithm for finding the average of all values in a given list.	13	K2	CO1
(OR)				
b)	List the symbols used in the flowchart. Draw the flowchart for finding the greatest of three numbers.	13	K2	CO1

12.	a)	Write a program to perform menu driven calculator using switch-case statements.	13	K3	CO2
		(OR)			
	b)	i. Describe the operators available in C.	6	K3	CO2
		ii. Write a program to print 1 to 100 continuously.	7		
13.	a)	Write a program to sort the list of numbers in ascending order. Write algorithm for the same.	13	K3	CO3
		(OR)			
	b)	Write a program to find the maximum of the given numbers in an array. Draw flowchart for the same.	13	K3	CO3
14.	a)	Define recursion. Write a recursive program to find the first 'n' Fibonacci series.	13	K3	CO4
		(OR)			
	b)	Write a program to receive the names of 10 students and sort the students list in alphabetical order.	13	K3	CO4
15.	a)	Define a structure and elaborate on declaring and accessing each member.	13	K3	CO5
		(OR)			
	b)	Create a structure to store the following details of a student: Roll Number, Name, Mark1, Mark2, Mark3, Total and Result. Write a program to read RollNo, Name and 3 subject marks. Find and update the total and result based on their marks.	13	K3	CO5

### PART – C

(1 x 15 = 15 Marks)

Q.No.	Questions	Marks	KL	CO	
16.	a)				
	i.	How to define pointer to a structure and access the data with an example.	5	K2	CO5
	ii.	Create a structure to specify data of customers in a bank. The data to be stored is: Account number, Name, Balance in account. Assume maximum of 10 customers in the bank. Write a program to withdraw cash from Bank, get account number and amount to withdraw. Your program should give a message "Insufficient balance for withdrawal" if the balance goes less than Rs.500 during withdrawal.	10	K4	
		(OR)			
	b)	Write a C program that defines a structure employee containing the details such as emp_no, emp_name, department name and salary. The structure has to store 20 employees in an organization. Use the appropriate method to define the above details and define a function that will display the contents?	15	K4	CO5