GAYATRI VIDYA PARISHAD COLLEGE OF ENGINEERING FOR WOMEN

(AUTONOMOUS)

(Affiliated to Andhra University, Visakhapatnam)

I B. Tech I Semester Regular Examinations, January 2025

Problem Solving Using C - 24RT11RC02

(Common to CSE, CSM, ECE and IT)

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SCHEME OF VALUATION

Q. No.	Sub Q. No.	Scheme of Evaluation	Marks allotted
1.	a.	• Diagram of C program structure • Sections of a C Program (header files, constants etc.) • Brief explanation of each section	3 2 2
1.	b.	• Purpose of main () function and syntax • Important points about main () function • Types of main () functions with examples	2 2 3
2.	a.	• What are Constants in C • Defining the constants with syntax • Types of constants with examples	2 2 3
2.	b.	• Primitive data types in C (int, char, float etc.), each with proper examples • Derived data types in C (function, array, pointer), each with proper examples and brief explanation	3 4
3.	a.	• Brief algorithm/pseudo code • A C program using if-else statements to check whether a number is positive or negative or zero with proper syntax.	2 4
3.	b.	• Syntax of switch-case statement • Brief algorithm/steps for the program • Program to find the day of the week based on the number given	1 1 5
4.	a.	• Loops in C • Discussion about ‘for’ loop and its usage with syntax and brief examples • Structure of ‘for’ loop • Program with usage of ‘for’ loop	1 2 2 2
4.	b.	• C program using ‘while’ loop to calculate the sum of first 10 natural numbers, with proper syntax, input and expected output	7
5.	a.	• Brief idea on functions in C, types and usage • Using functions a program is to be produced to find the factorial of a number, with proper syntax, input and expected output	1 6
5.	b.	• Passing data to functions using arguments with examples	1

		• Call by value description with an example • Call by reference with description and proper example	3 3
6.	a.	• Description of dynamic memory allocation definition, need and rules • malloc () and free () functions in DMA • Program to demonstrate the usage of the above two functions with proper syntax, input and expected output	1 1 5
6.	b.	• Pointer definition, syntax • Pointer usage, finding address and value with examples • Examples for accessing and modifying values through pointers	1 2 4
7.	a.	• Definition of Structure in C with syntax • C program using a structure with the specified student details. It should take the input from the user and display back the data. Provide proper syntax, input and expected output.	2 5
7.	b.	• Union in C, definition and syntax • Differences between unions and structures • Example program for usage of unions	2 2 3
8.	a.	• Need of bitfields in C • Definition and syntax of bitfields • Applications of bitfields	2 2 3
8.	b.	• Description of array of structures with an example • C program that accesses and displays all elements in an array of structures with proper syntax, input and expected output	2 5
9.	a.	• File handling in C – definition, need • C file operations – list each operation with syntax, brief description and examples, if any.	2 5
9.	b.	• C program that reads the data from a text file and displays its contents with proper syntax, input and expected output.	7
10.	a.	• C program that reads the data from one file and writes the same to another file with proper syntax, input and expected output.	7
10.	b.	• C program through command line arguments that accepts two numbers from the user and displays their sum with proper syntax, input and expected output.	7