Seat No: ....   Enrollment No: ....

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech, Summer 2024-25 Examination

Semester: I / II   Date: 19-05-2025
Subject Code: 303105102   Time: 2.00 pm to 4.30 pm
Subject Name: Programming for Problem Solving   Total Marks: 60

Instructions:
1. This question paper comprises of two sections. Write answer of both the sections in separate answer books.
2. From Section A, **Q.1** is compulsory, From Section B, **Q.1** is compulsory.
3. Figures to the right indicate full marks
4. Draw neat and clean drawings & Make suitable assumptions wherever necessary.
5. Start new question on new page.
6. BT- Blooms Taxonomy Levels – Remember-1, Understand -2, Apply-3, Analyse-4, Evaluate-5, Create-6

SECTION - A

Q.1	Answer the following questions.	Marks	CO	BT
	A. Explain the Following: a. Explain how the continue statement works in a loop. b. What happens if the break statement is not used in a switch case? c. How does the default case work in a switch statement?	06	CO3, CO4	BT2
	B. Explain the following: a. How does a three-dimensional array extend the concept of two-dimensional arrays? b. What is the significance of the base address of an array in memory? c. How do you pass a one-dimensional array as a function argument in C?	06	CO4, CO5	BT2
Q.2	A. Explain the concept of short-circuit evaluation.	04	CO1, CO2	BT2
	B. What are the basic steps involved in writing a computer program	05	CO1	BT1
	OR			
	B. Differentiate between syntax errors and run-time error	05	CO2	BT3
Q.3	A. Compare arrays and structures.	04	CO2	BT2
	B. Analyze the output of the following C program and explain the behavior of different data types. #include int main() { char ch = 'A'; int num = 100; float pi = 3.14; printf("%c %d %.2f", ch, num, pi); return 0; }	05	CO3	BT3
	OR			
	B. Explain the difference between integer and character input.	05	CO3, CO4	BT1

SECTION - B

Q.1	Answer the following questions.	Marks	CO	BT
	A. Explain the following: a. Write a C program to convert a string to uppercase using `strupr()` (or `toupper()`). b. How do you convert a string to lowercase using `strlwr()` (or `tolower()`)	06	CO4	BT3

	in C? c. Write a program to reverse a string using `strrev()`.			
	B. Explain the following: a.Write a C program to define and call a simple user-defined function that prints "Hello, World!". b. Create a function that takes two integers as input and returns their sum. c. Write a function that swaps two numbers using call by value	06	CO3, CO4	BT6
Q.2	A. What is the use of pointer variables in C?	04	CO2, CO3	BT2
	B. Explain the purpose of free() function.Give an example.	05	CO2, CO3	BT2
	OR			
	B. Write a program in C to find the number of lines in a text file.	05	CO4	BT3
Q.3	A. Write size of Int,Float, char and double in Bytes	04	CO1	BT1
	B. Draw the flowchart to find the greatest of three numbers.	05	CO2	BT3
	OR			
	B. What do you mean by Global and Local variable.Explain with example.	05	CO4	BT3