Course:	Programming in C			**Semester:**	II	**Date:**	
Division:		**Batch:**		**SET**	B	**Name:**	
Exam:	OST			**Time:**		**Roll No:**	

Q 1	Attempt Any ONE [Show all test Cases in Output]	Marks
1	Write a C program that simulates a traffic light system using a switch-case structure. The program should: Allow the user to input a traffic light color: "Green", "Red", or "Yellow" (case-sensitive). Display appropriate messages based on the input. Track the number of times each color has been entered. Exit when the user enters "Exit", displaying a summary of how many times each color was entered. Reject invalid inputs and prompt the user again. **Test Case:** **Input Output** **Green Go ahead!** **Red Stop!** **Yellow Slow down!** **blue Invalid input! Try again.** **GrEeN Invalid input! Try again.** **yellow Invalid input! Try again.** **Exit (Displays summary & exits)** **Traffic Light Summary:** **Green entered: 1 times** **Red entered: 1 time** **Yellow entered: 1 times** **Input from user 1 marks** **Implementation of switch-case loop 3 marks** **Implementation of while loop 2 marks** **Display summary 2 marks**	08
2	Write a C program that takes a string and two integers (n1, n2). Now reverse the sequence of characters in the string between n1 and n2. (Note: First character indices start from 1] **Test Case 1:** Enter a string: "abcdxyabcd" Enter two indices (n1 and n2): 5 6 Modified string: "abcdyxabcd" **Test Case 2:** Enter a string: "programme" Enter two indices (n1 and n2): 4 7 Modified string: "promargme" **Test Case 3:** Enter a string: "Exercises" Enter two indices (n1 and n2): 1 3 Modified string: "exErcises"	08

	Input string and range 2 marks **reverse a portion of the string 4 marks** **Print modified string for all test case 2 marks**	

Q 2	Attempt Any ONE [Show all test Cases in Output]	Marks
1	Write a program that defines a structure Book with the following members: char title[100] char author[100] float price Initialize an array of Book structures with sample data (at least 5 books). Implement the following user-defined functions: • displayBooks() → Display all book details. • searchBookByTitle() → Search for a book by title. • searchBooksByAuthor() → Search for books by an author. If no books are found for the given author, display "No books found by this author." **Output the program with at least 3 different test cases.** **Define structure for Book 2 marks** **Function to display all books 2 marks** **Function to search for a book by title 3 marks** **Function to search books by authors 3 marks** **Output for all test cases 2 marks**	12
2	Write a C program that: Takes a temperature in Celsius from the user. Implement functions using pointers to: • Convert Celsius to Fahrenheit using F = (C * 9 / 5) + 32 • Convert Celsius to Kelvin using K = C + 273.15 Displays the results. Implement a menu driven program. **Functions Required:** inputTemperature() → Takes user input. convertToFahrenheit() → Converts Celsius to Fahrenheit. convertToKelvin() → Converts Celsius to Kelvin. displayResults() → Displays all values.	12

Test Case 1:	**Test Case 2:**	**Test Case 3:**
Enter temperature in Celsius: 0 Temperature: 0.00°C = 32.00°F = 273.15K	Enter temperature in Celsius: 100 Temperature: 100.00°C = 212.00°F = 373.15K	Enter temperature in Celsius: 37 Temperature: 37.00°C = 98.60°F = 310.15K

	Function to take user input 1 marks **Function to convert Celsius to Fahrenheit 2 marks** **Function to convert Celsius to Kelvin 2 marks** **Function to display results & all test cases 2 marks** **Use of Pointer 2 marks** **Implementation of Menu Driven 3 marks**	