Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER 1&2 EXAMINATION – SUMMER 2020

Subject Code: 3110003   **Date:05/11/2020**
Subject Name: Programming For Problem Solving
Time: 10:30 AM TO 01:00 PM   **Total Marks: 70**
Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			Marks
Q.1	**(a)**	Explain different symbols used in flowchart.	**03**
	(b)	Write algorithm or flowchart for finding maximum out of three numbers entered by user.	**04**
	(c)	Explain different categories of operators available in C programming.	**07**
Q.2	**(a)**	Explain entry controlled and exit controlled loop with proper syntax.	**03**
	(b)	Explain 1) nested if-else statement 2) break statement.	**04**
	(c)	Write a program to store 10 elements in array given by user and to find maximum out of those 10 elements.	**07**
		OR	
	(c)	Write a program to find a character from the string, string and character to be searched both will be given by user.	**07**
Q.3	**(a)**	Show 1D array declaration, initialization and iteration.	**03**
	(b)	Explain type conversion and type casting with example.	**04**
	(c)	Write a C program to read numbers 1 to 7 and print relatively day Sunday to Saturday using switch statement.	**07**
		OR	
Q.3	**(a)**	List any three header file with its usage.	**03**
	(b)	Explain four basic data types in C and provision to extend range for appropriate data types.	**04**
	(c)	Write a C program to find factorial of a given number.	**07**
Q.4	**(a)**	Write a program to find area of triangle.	**03**
	(b)	Explain problem solving using recursion with any example.	**04**
	(c)	What is user defined function? Explain pass by value and pass by reference in functions with example.	**07**
		OR	
Q.4	**(a)**	Show 2D array declaration, initialization and iteration.	**03**
	(b)	Explain any four inbuilt string functions.	**04**
	(c)	Write a function in the program to return 1 if number passed is prime otherwise return 0.	**07**
Q.5	**(a)**	Explain various file management function in C.	**03**
	(b)	Show structure declaration and initialization with proper syntax.	**04**
	(c)	Write a C program to find $1+1/2!+1/3!+1/4!+.....+1/n!$.	**07**

1

OR

Q.5 **(a)** What is pointer? Explain with example to store and print the address of variable using pointer   **03**

(b) Show the usage of malloc( ) and calloc( ) with syntax.   **04**

(c) Define a structure "personal" that would contain person name, date of joining and salary. Using this structure read information of 5 people and print the same on screen. Also display sum of salary of all 5 people.   **07**

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2