Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– I & II (NEW) EXAMINATION – WINTER 2019

Subject Code: 3110003 **Date: 07/01/2020**

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)**	List out types of software with Examples.	**03**
	(b)	Distinguish the data types provided by C programming language.	**04**
	(c)	Implement a C Program to convert temperature from Fahrenheit to Celsius and vice versa.	**07**
Q.2	**(a)**	Define break and continue statement with example.	**03**
	(b)	Categorize the major components of computer system and give their function.	**04**
	(c)	List all symbols used in flowchart and draw flowchart to find factorial number.	**07**
		OR	
	(c)	Construct 'C' program to print the following pattern using loop statement. 1 2 2 3 3 3 4 4 4 4 5 5 5 5 5	**07**
Q.3	**(a)**	Explain different types of constants.	**03**
	(b)	Define algorithm and explain different symbols used in flowchart.	**04**
	(c)	Demonstrate a C program to input an integer number and check last digit of number is even or odd.	**07**
		OR	
Q.3	**(a)**	Explain getch(), getchar(), gets().	**03**
	(b)	List out the operators used in C language and explain any three with example	**04**
	(c)	Write a program to find sum of first N odd numbers. Ex. 1+3+5+7+……..+N	**07**
Q.4	**(a)**	Show the important of stdio.h header file.	**03**
	(b)	Describe file management. And List the various file management functions.	**04**
	(c)	Build a function to check number is prime or not. If number is prime then function return value 1 otherwise return 0.	**07**
		OR	
Q.4	**(a)**	Distinguish between Structure and Union.	**03**
	(b)	Develop an algorithm to print first N Fibonacci numbers.	**04**

	(c)	Write a C program to read 10 numbers from user and store them in an array. Display Sum, Minimum and Average of the numbers	**07**
Q.5	**(a)**	Write a program to illustrate the use of fputc ( ) and fputs( )	**03**
	(b)	Categorize User defined function's components (elements).	**04**
	(c)	Explain the function definition, function prototype and function call with relative example.	**07**

OR

Q.5	**(a)**	List the advantages of recursion.	**03**
	(b)	Explain for loop with example.	**04**
	(c)	Explain call by value (pass by value) and call by reference (pass by reference) with examples in brief.	**07**

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