Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE –SEMESTER 1&2(NEW SYLLABUS)EXAMINATION- WINTER 2018

Subject Code:3110003 Date: 09-01-2019

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.**

Q.1	**(a)**	Define: algorithm, flowchart, compiler	**03**
	(b)	Why null value is used in string? Justify your answer with example	**04**
	(c)	List all operators used in C and explain any three with example.	**07**
Q.2	**(a)**	What is UDF? Describe advantages of UDF.	**03**
	(b)	Draw all symbols used in flowchart and draw flowchart to find factorial number.	**04**
	(c)	Explain while loop with example.	**07**
		OR	
	(c)	Explain for loop with example.	**07**
Q.3	**(a)**	Describe local and global variable with example.	**03**
	(b)	Explain break and continue statement with example.	**04**
	(c)	Write a C program to input an integer number and check last digit of number is even or odd.	**07**
		OR	
Q.3	**(a)**	Define general form of 1) do while loop 2) Nested if 3) goto	**03**
	(b)	Describe precedence and associativity of operators with example.	**04**
	(c)	Explain switch case statement with example to read number between 1 to 7 and print relatively day Sunday to Saturday.	**07**
Q.4	**(a)**	What is pointer? Explain with example to print the address of variable using pointer.	**03**
	(b)	Explain fopen() and its mode with example to write a string into file	**04**
	(c)	Define a structure data type called time_struct containing three member's integer hours, minutes, second. Develop a program that would assign values to individual member and display the time in following format : HH:MM:SS	**07**
		OR	
Q.4	**(a)**	Describe array with example.	**03**
	(b)	What is string? Explain with example to find a character from string.	**04**
	(c)	What is structure? How to access the elements of structure? How to calculate size of structure? Explain with example.	**07**
Q.5	**(a)**	Define recursion. List the advantages of recursion.	**03**
	(b)	Classification of User defined function's components (elements)	**04**
	(c)	Create a function to check number is prime or not. If number is prime then function return value 1 otherwise return 0.	**07**
		OR	
Q.5	**(a)**	What do you mean by type conversion? Give example.	**03**
	(b)	Discuss parameter passing technique used in C with example.	**04**
	(c)	Create a function to swap the values of two variables.	**07**