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