

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.	07
<pre> 1 2 2 3 3 3 4 4 4 4 5 5 5 5 5 </pre>	
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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