

**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**