Seat No.:_____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– 1st / 2nd EXAMINATION (NEW) – SUMMER 2018

Subject Code: 2110003 **Date: 23-05-2018**

Subject Name: Computer Programming and Utilization

Time: 02:30 pm to 05:00 pm **Total Marks: 70**

Instructions:

1. **Question No. 1 is compulsory. Attempt any four out of remaining Six questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **Objective Question (MCQ)** **Mark**

(a) **07**

1. Keyboard is the _____ type of device
(a) Input (b) Pointing (c) Output (d) Sound

2. The storage of a character variable is _____
(a)2 byte (b)1 byte (c) 8 byte (d) 0 byte

3. What should be written in the program to get newline on the screen?
(a) printf("\n"); (b) echo "\\n";
(c) printf('\n'); (d) printf(" \\n ");

4. Which of these have highest precedence?
(a) ( ) (b) ++ (c) * (d) >>

5. For loop is _____.
(a)Function Controlled Loop (b)Entry Controlled Loop
(c) Exit Controlled Loop (d) None of these

6. In flowchart for what purpose ◊ symbol is used?
(a) Processing (b) Condition (c) Data flow (d) Input/output

7. The format string to accept a string is
(a)%c (b)%d (c)%f (d)%s

(b) **07**

1. _____ is generally used to increase the apparent size of physical memory.
(a) Secondary memory (b) Virtual memory
(c) Hard-disk (d) Disks

2. File manipulation functions in C are available in which header file?
(a) streams.h (b) stdio.h (c) stdlib.h (d) files.h

3. What will be the output of following code.

```
{
   int x = 10, y=15;
    x = x++;
    y = ++y;
    printf("%d, %d \n" , x, y);
}
```

(a) 10, 15 (b) 10, 16 (c) 11, 16 (d) 11, 15

4 Array index start at (a) 1 (b) User Defined (c) 0 (d) None of above

5. Which of the following operator is used to select a member of a structure variable
(a) .(dot) (b) ,(comma)
(c) : (colon) (d) ;(semicolon)

6. Address stored in the pointer variable is of type _____
(a) Character (b) Integer
(c) Floating (d) Array

7. ____ converts the programs written in assembly language into machine instructions.
(a) Machine compiler
(b) Interpreter
(c) Assembler
(d) Converter

Q.2 **(a)** Name the major components of computer system and give their function. **03**
(b) List out the operators used in C language and explain any three with example **04**
(c) 1. Define algorithm and explain different symbols used in flowchart. **03**
2. Draw a flow chart that shows how to find root of quadratic equation ax^2+bx+c. **04**

Q.3 **(a)** Describe the four basic data types. How could we extend the range of values they represent? **03**
(b) Define variable and constant. Explain different types of constants. **04**
(c) Write a C Program to convert temperature from Fahrenheit to Celsius and vice versa. **07**

Q.4 **(a)** What is array? Give example and advantages of array. **03**
(b) Explain: 1. Nesting if-else statement 2. Use of break statement **04**
(c) Write a program in 'C' to print the following pattern using loop statement. **07**

```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```


Q.5 **(a)** Explain how string is defined in C. List the various inbuilt string functions. **03**
(b) What is pointer? Explain how pointers are declared and initialized. State its advantages. **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.6 **(a)** What is structure? Explain with example how to declare a structure and how to initialize it. **03**
(b) What is dynamic memory allocation? Show the use of malloc() and calloc() function with their syntax. **04**
(c) Explain nested structure and array of structure with example. **07**

Q.7 **(a)** Explain recursive function with proper syntax with small example. **03**
(b) Describe file management? List the various file handling operations in c **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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