GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEMESTER 1st / 2nd (NEW) EXAMINATION WINTER 2016

Subject Code: 2110003   **Date: 27/01/2017**
Subject Name: COMPUTER PROGRAMMING AND UTILIZATION
Time:10:30 AM TO 1:00 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.**

		MARKS
Q.1	**Objective Question (MCQ)**	
(a)		**07**

1. Which one of the following is known as the 'language of the computer'?
   (a) Programming language.
   (b) High-level language.
   (c) Machine language.
   (d) Assembly language.
2. Any C program
   (a) Must contain at least one function.
   (b) Need not contain any function.
   (c) Needs input data.
   (d) None of the above.
3. In flowchart for what purpose ◊ symbol is used?
   (a) processing.
   (b) condition.
   (c) data flow.
   (d) input/output.
4. Which is a correct 'C' expression?
   (a) z = (x+y);
   (b) z = [x+y];
   (c) z = {x+y};
   (d) z = {(x+y)};
5. If we want to increment the value of sum by 1. Which of following should be used?
   (a) sum++;
   (b) sum = sum+1;
   (c) sum+ = 1;
   (d) all of above.
6. Continue statement
   (a) Breaks loop and goes to next statement after loop.
   (b) does not break loop but starts new iteration.
   (c) exits the program.
   (d) Starts from beginning of program.
7. Which of following is not a valid assignment expression?
   (a) y = 22 ;
   (b) s = x;
   (c) y % = 6;
   (d) z = 5 = 3;

(b)   **07**

1. 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 ");

2. In which of the following the loop is executed at least once?
(a) while
(b) do - while
(c) for
(d) if

3. How many times following loop will be executed.
```
main()
{       int i = 32766;
        while (i<= 32767)
{       printf('%d\n',i);
        i = i+ 1;               }
}
```
(a) 2 times.
(b) 1 times.
(c) infinite times.
(d) loop will not be executed.

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

5. A pointer value refers to
(a) A float value.
(b) An integer constant.
(c) Any valid address in memory.
(d) None.

6. Structure can contain elements of the same data type.
(a) true
(b) false

7. Which function reallocates memory?
(a) realloc
(b) calloc
(c) malloc
(d) None of these

Q.2 **(a)** Recall the definitions of (I) Assembler (II) Compiler (III) Interpreter   **03**

(b) Write a program that reads two numbers from key board and gives their addition, **04** subtraction, multiplication, division and modulo.

(c) Develop an application program to convert and print distance between two cities **07** in meters, feet, inches & centimeters. The distance between two cities (In KM) is input through key board.

Q.3 **(a)** Discuss general form of following decision – making statements.   **03**
(I) IF (II) SWITCH (III) GOTO

(b) Describe the four basic data types. How could we extend the range of values they **04** represent?

(c) Write a program to find sum of first N odd numbers.   **07**
Ex. 1+3+5+7+………..+N.

Q.4 **(a)** List down three constructs for performing loop operations in C language.   **03**
Write general form of same.

(b) Distinguish between the following pairs: **04**
(I) "getchar" and "scanf" functions.
(II) "%s" and "%c" specifications for reading.

(c) Develop a simple program to Add, subtract and multiply two numbers using **07** switch statement.

Q.5 **(a)** What is a pointer? How is a pointer initialized?   **03**

	(b)	Discuss initialization of one-dimensional arrays with example.	**04**
	(c)	Recall and describe different "categories of functions".	**07**

Q.6 **(a)** What do you understand by linked list? How is it represented? **03**

(b) Distinguish between "structure" and "array". Discuss the meaning and purpose of **04** following: (I) struct keyword (II) typedef keyword (III) sizeof operator.

(c) Write a program to count total words in text. **07**

Q.7 **(a)** Distinguish between the following functions: **03**
(I) "getc" and "getchar"   (II) "printf" and "fprintf"   (III) "feof" and "ferror".

(b) Write a program to illustrate the use of fputc ( ) and fputs( ). **04**

(c) Define a structure called cricket that will describe the following information: **07**
a. Player name
b. Team name
c. Batting average

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