

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE SEMESTER 1<sup>st</sup> / 2<sup>nd</sup> (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.**

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

**MARKS**

**(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  $\diamond$  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, subtraction, multiplication, division and modulo. **04**  
(c) Develop an application program to convert and print distance between two cities in meters, feet, inches & centimeters. The distance between two cities (In KM) is input through key board. **07**

- 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 represent? **04**  
(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 switch statement. **07**

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

- (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 following: (I) struct keyword (II) typedef keyword (III) sizeof operator. **04**
- (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**
- Player name
  - Team name
  - Batting average

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