Candidate seat No: _____

Charotar University of Science and Technology [CHARUSAT]
Faculty of Technology and Engineering
U & P U Patel Department of Computer Engineering

Subject: CE141 Computer Concepts & Programming
First Internal Exam

Semester: 1st SEM B. Tech. (CE/IT/EC) **Maximum Marks: 30**
Date: 21/09/2016 (Wednesday) **Time: 11:10 a.m. to 12:10 p.m.**

Instructions:
(i) Attempt ***all*** the questions.
(ii) Figures to the right indicate ***full*** marks.
(iii) Make suitable assumptions and draw neat figures wherever if required.

Q-1 **Do as directed.**

(1) State whether the following statements are **True or False.** **[02]**

1. `1000L` is an example of long integer and `422.0f` is an example of float.
   True
2. In explicit type conversion, data type of the variable changes permanently.
   False
3. `Logical NOT(!)` is a binary operator.
   False
4. For the correct operation in do…while loop, semicolon is must after while.
   True

(2) **Calculate number of iterations for the given code.** **[02]**

```
(1) void main()
{
   int x=3,y=2,z;
   do{
   z=x<<y;
   x++;
   y=y+2;
   z=4-3+2/1%3+4;
   printf("%d",y);
   }while(z!=0);
}
```

No of Iteration:

Infinite Loop

```
(2) void main()
{
   int a=3,b=4,c=1;
   float e=c,f=b;
   for(;a;)
   switch(a/b)
   {
      case 1:e=b/c;break;
      case 0:a=e-1;break;
      case 3:a=0;break;
      case 2:a++;a=b-c;
   }
}
```

No of Iteration:

1

(3) **What is the output of the following code?** **[01]**

```
void main()
{
   printf("%d\n",- -2);
   printf("%d\n",12&17);
}
```

	OUTPUT: **2** **0**	
Q-2	**Answer the following question.**	
(1)	Draw the flowchart to find the factorial of a number. **1 marks for correct logic** **1 mark for correct symbols**	**[02]**
(2)	Classify the operators based on number of operands. Explain each in detail. **1 Mark for each operator (unary binary & ternary)**	**[03]**
	OR	
Q-2	**Answer the following question.**	
(1)	Write an Algorithm to find Fibonacci series upto n terms. 0 1 1 2 3 5 8 …. **2 Marks for all correct step**	**[02]**
(2)	Explain the main difference between *nested* if else and *else if* ladder. **3 diff – 3 marks**	**[03]**
Q-3	**Write down following programs in C. (Any one)**	**[05]**
(1)	Write a program to calculate the salary of an employee as per the policy of the company. **1 Marks for correct Declaration** **1 Marks for correct Input statement** **2 Marks for correct Logic** **1 Marks for correct Output Statement**	
(2)	Write a program to check whether the entered number is palindrome or not. (A number is palindrome if the original and reversed numbers are equal. e.g. 1441) **1 Marks for correct Declaration** **1 Marks for correct Input statement** **2 Marks for correct Logic** **1 Marks for correct Output Statement**	

Gender	Years of Experience	Salary
Male	>=10	15000
	<10	11000
Female	>=10	12000
	<10	10000

Q-4	**Do as directed.**	
(1)	Mention whether the following are **VALID/INVALID** variable names. **(i)** Define **Valid** **(ii)** A.S.C.I.I. **Invalid** **(iii)** Yes&No **Invalid** **(iv)** Keyword **Valid**	**[02]**
(2)	Explain the difference between getch ( ) and getchar ( ) function.	**[01]**
(3)	Find out the output of the following code.	**[02]**

(1)
```
main()
  {
   int xs=4/3,sx=3/4;
```

(2)
```
main()
  {
    int p=3,q=4,r;
```

	sx++;
	sx=xs--;
	for(sx=3%4;sx<7;)
	{
	sx++;
	printf("%d",4);
	}}
	
	OUTPUT:
	4444
		r=p++ - p;
		q=++r - r;
		p=((3+2)/3+4)-2*2;
		printf("%d %d",p,q);
		}
		
		OUTPUT:
		1 0	

Q-5	**Answer the following question. (Any one)**		**[05]**
(1)	Explain sentinel controlled loop and counter controlled loop with example. **2 ½ Marks for Sentinel Controlled loop** **2 ½ Marks for Counter Controlled loop**		
(2)	Draw and explain basic structure of a C program. **3 Marks for Correct Diagram** **2 Marks for Correct Explanation**		
(3)	Explain any four functions of ctype.h. Also explain low-level language and high-level language with example. **4 Functions of ctype.h – 4 Marks each** **1 Marks for low-level language & high-level language**		
Q-6	**Write down following programs in C. (Any one)**		**[05]**
(1)	Evaluate the series: 1 - 1/2 + 1/3 - 1/4 …± 1/*n* **1 Marks for correct Declaration** **1 Marks for correct Input statement** **2 Marks for correct Logic** **1 Marks for correct Output Statement**		
(2)	If three sides of a triangle are entered through the keyboard, write a program to check whether the triangle is isosceles, equilateral or scalene triangle. ▪ An isosceles triangle is a triangle with (at least) two equal sides. ▪ An equilateral triangle is a triangle in which all three sides are equal. ▪ A scalene triangle is a triangle that has three unequal sides. **1 Marks for correct Declaration** **1 Marks for correct Input statement** **2 Marks for correct Logic** **1 Marks for correct Output Statement**		

ALL THE BEST