DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER II [CE/IT/MECH]
SUBJECT: (CT-213) Computer Programming in C

Examination	**: First Sessional**	**Seat No.**	**: _____**
Date	**: 29/01/2014**	**Day**	**:Wednesday**
Time	**: 3:30 to 4:45**	**Max. Marks**	**: 36**

INSTRUCTIONS:
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Assume that required header files are included.
5. Draw neat sketches wherever necessary.

Q.1 Do as directed.

(a) Write a program to divide given number by 2 and print integer division result without using /. **[2]**

(b) **Describe the output of following**. **[2]**

```
main()
{
int x=10,y=11,z=15,a=0,w=0;
w=z-- - x++ + --y;
a=w++ - z-- + x;
printf("a=%d x=%d y=%d z=%d w=%d",a,x,y,z,w);
}
```

(c) **Give output for the following:** **[3]**

i)
```
main()
{
 int i=0;
 do
 {
   if(i>10)
       continue;
   i++;
 }while(i<20);
 printf("\n i=%d",i);
}
```

ii)
```
main()
{
 int a=7,b=5,c=3;
 if(b|c>0 || a&b<5 && c<0)
        printf("working");
 else
        printf("done");
}
```

iii)
```
main()
{
 int index=8;
 char Grade;
 switch(index)
 {
 case 8:
 case 7: Grade='A';
 case 6:
 case 5:
        Grade='B';
        break;
 }
 printf("%c",Grade);
}
```

(d) **[1]**
```
main()
{
int x,y,z;
scanf("%2d %*d %1d%d",&x,&y,&z);
printf("x=%d y=%d z=%d",x,y,z);
}
```
Explain the output of above code if input is :
i) 2 3 4 5 **ii)** 234 56 78

(e) Write a program to print 1 if input character is capital otherwise 0 by using Ternary operator. **[2]**

(f) **Find the error if any, correct them and Give output for the following:** **[2]**

i)

```
main()
{
int a,b,x=10,y=10,z=11;
a = x = = y;
printf("a=%d",a);
b= y = = z;
printf("b=%d",b);
}
```

ii)

```
main()
{
int i=0,k=1;
for( ; i ; )
    {
    printf("Hello Students");
    k=0;
    }
if(k = = 1)
    printf("DDU");
}
```

Q.2 Attempt any two from the following questions. **[12]**

(a) Write program to read an integer. If it is positive then display corresponding binary representation of that number. The user must enter 999 to stop. In the case the user enters a negative number then ignore that input and ask the user to re-enter any different number. **[6]**

(b) Write program to solve the series: $1/1! + (3)^3/3! + (5)^5/5! + (7)^7/7! + (9)^9/9! +\ldots\ldots\ldots .+ (n)^n/n!$. Where n is entered by user. **[6]**

(c) i) Explain sentinel and counter controlled loops with proper example. **[3+3]**
ii) Explain goto statement. As a programmer would you prefer to use this statement? Justify your answer.

Q.3 Attempt the following questions. **[12]**

(a) i) Explain storage class & what is dangling else problem? **[3+3]**
ii) Write a program to perform sum and multiplication of all digits of entered number and print the entered number in the reversed order.

(b) Write a program to print following pattern. **[6]**

```
    *
   *A*
  *A*A*
 *A*A*A*
```

OR

Q.3 (a) i) Explain break, exit and continue. **[3+3]**
ii) Write a program to detect the largest number out of 7 numbers and display it with using while loop.

(b) Write a program to print following pattern. **[6]**

```
    *
   * *
  *   *
 *     *
*********
```