Assignment no -1
Class XII
(2015-16)

Q1 (a) What is the significance of Null statement in c++?
(b) Define compound statement with example.
(c) Give the difference between Actual parameters and formal Parameters. Support your answer with appropriate examples.
(d) Check if the following statements are valid or not, if not give reasons

1. int x(3);
2. a=3+12%5*5; cout<<x; the output is 13
3. double x(1/10); cout<<x; the output is 0.0
4. const a=90;
5. char s[]={'a','b','c'}; cout<<sizeof(s); the output is 3
6. if (5<6) cout<<"hello"; cout<<endl; else cout<<"error";
7. if (x) cout<<x; else cout<<"error";
8. int x=071; cout<<x; the output is 71
9. int a=0x13; cout<<a; the output is 13
10. cout<<"hello\b\thi"; the output is hello hi

(e) What is the difference between keyword and identifier?
(f) What is the difference between 'a' and "a" in c++?
(g) What will be the result of following two expression if i=10 initially?
(i) ++i<=10 (ii) i++<=10
(h) Differentiate between CALL by reference and CALL by value. Give appropriate example to support your answer.
(i) how many times the following loop will be executed:

1. while(1) { }
2. int c=0; while(c<10) cout<<c; c++;
3. int i=0 while(++i<10) cout<<i;
4. int i=0; while(i++<10) cout<<i;
5. while(x) { } the value of x=1;

(k) What is type casting? How it is different from implicit conversion. Give example to support your answer.
Q2.
(a) Find out legal and illegal(if illegal give reason) :-

1) float interest (float principal=2000, int time=2, float rate);
2) float average(a,b);

(b) Find the output of the following code if the input given is 3:

```
int num, rndnm;
cin>>num;
 rndnm= random( num) + 7;
   for( int n=1; n<= rndnm; n++)
        cout<<n<<" " ;
```

1) 1 2 3 4 5 6 7 8 9 10 11
2) 0 1 2 3 4 5 6 7
3) 1 2 3 4 5 6 7 8 9
4) 1 2 3 4 5 6 7 8 9 10

(c) What will be the sizes of the following constants: '\a', "\a", "Reema\'s", '\"'.
(d) What is polymorphism or function overloading? Give an example illustrating polymorphism. State the ambiguities of function overloading.

Q3(a). Find the output:

```
void show()
{
        static  int x=5;
        cout<<x<<endl;
        x++;                }
```

```
void main()
{
        for (int x=1;x<=3;x++)
        show();
}
```

(b) What will happen if we give auto in place of static?
(c) What is the difference between global and local variable. Give example.

Q4Give the difference and syntax of the following functions:

(a) getch() , getche(), getchar()
(b) gets(),cin.getline()
(c) puts(),cout.write()

Q5. Find the output of the code below:

a)
```
void main( )
{
        int NoOfGirls = 4;
        int NoOfBoys = 10 ;
        if ( NoOfBoys =  8    &&    NoOfGirls <= NoOfBoys )
                cout<<"Great achievement";
        else                        cout<<"Greater achievement";          }
```

b). Find the output of the code below :

```
void main( )
{
        int circle = 5 , rectangle = 0 , square = 4 , triangle = 0 ;
        if( circle)
        {
                if( rectangle || square )
                {
                        cout<<"Draw diagram";
                }
                else if( ! rectangle  && ! square )
                {
                        cout<<"Invalid diagram";
                }
                else
                {
                        if( circle == rectangle || square == triangle )
                        {
                           cout<<"Canvas Available";
                        }                       }                   }
        cout<<"Invisible diagram";
}
```

c. Find the output of code below:

```
void main( )
{
        int x = 3 , y = 5;
        if( x <= 5 );
          cout<<"Hurray";
        else
```

```
            cout<<" Trapped";
        }
```

d. **In the following program, find the correct possible output(s)from the options:**

```
#include<stdlib.h>
#include<iostream.h>
void main( )
{ randomize( );
char Area[ ][10]={" NORTH", "SOUTH", "EAST", "WEST"};
int ToGo;
for(int I=0; I<3;I++) {
ToGo=random(2) + 1;
cout<<Area[ToGo]<<":"; } }
```

Outputs:

(i) SOUTH : EAST : SOUTH : (ii) NORTH : SOUTH : EAST :
(iii) SOUTH : EAST : WEST : (iv) SOUTH : EAST : EAST :

e. **Find the output of the following program**

```
#include<iostream.h>
#include<string.h>
#include<ctype.h>
void Convert(char Str[ ],int Len)
{ for(int Count=0;Count<Len;Count++)
{ if(isupper(Str[Count]))
Str[Count]=tolower(Str[Count]);
else if (islower(Str[Count]))
Str[Count]=toupper(Str[Count]);
else if(isdigit(Str[Count]))
Str[Count]=Str[Count]+1;
else Str[Count]=.*.;
} }
void main( )
{ char Text[ ]="CBSE Exam 2005";
int Size = strlen(Text);
Convert(Text,Size);
cout<<Text<<endl;
for(int C=0,R=Size . 1;C<=Size/2;C++,R--)
{ char Temp=Text[C];
Text[C]=Text[R];
Text[R]=Temp; }
cout<<Text<<endl; }
```

f) **Find the output of the following program.**

```
#include<iostream.h>
void Withdef(int HisNum=30)
{ for(int I=20;I<=HisNum;I+=5)
cout<<I<<",";
cout<<endl; }
void Control(int &MyNum)
{ MyNum+=10;
Withdef(MyNum); }
void main()
{ int YourNum=20;
```

```
        Control(YourNum);
        Withdef();
        cout<<.Number=.<<YourNum<<endl; }
```

g) Find the output of following program segment:

```
 #include<iostream.h>
        struct three_d
        { int x,y,z; };
        void movein(three_d &t, int step=1)
        { t.x+=step;
        t.y+=step;
        t.z+=step; }
        void moveout(three_d &t, int step=1)
        { t.x-=step;
        t.y+=step;
        t.z-=step; }
        void main()
        { three_d t1={10,20,5},t2={30,10,40};
        movein(t1);
        moveout(t2,5);
        cout<<t1.x<<","<<t1.y<<","<<t1.z<<endl;
        cout<<t2.x<<","<<t2.y<<","<<t2.z<<endl;
        movein(t2,10);
              cout<<t2.x<<","<<t2.y<<","<<t2.z<<endl; }
```

h) Find the output of following program segment:

```
 #include<iostream.h>
int func(int &x,int y=10)
{ if(x%y==0) return ++x;else return y- -; }
void main( )
{ int p=20,q=23;
q=func(p,q);
cout<<p<<q<<endl;
p=func(q);
cout<<p<<q<<endl;
q=func(p);
cout<<p<<q<<endl; }
```

Q7a. Write a function series which takes two parameters a double x and int n and return the sum of follwing series

$S= 1+x^2/2! +x^3/3!.....x^n/n!$

b. Write a function SumArray() which takes 2 parameters an integer array and its size and displays sum of even and odd elements in the array.

c. Write a function Sum() which takes 2 parameters a 2-D square matrix and displays sum of the elements which end with 3

d Write a function which takes a string as parameter and displays no of uppercase, lowercase, digits and special characters.