Assignment No. 1

Q 1. Define classes. Give one example.

Q 2. What do you understand by instance of a class. Give one example.

Q 3. What is the need of object oriented programming?

Q 4. Differentiate between Procedural programming and object oriented programming.

Q 5. Define data encapsulation. How is it implemented in C++?

Q 6. Define data hiding. How is it implemented in C++?

Q 7. Define data abstraction. How is it implemented in C++?

Q 8. Define polymorphism. How is it implemented in C++?

Q 9. Differentiate between public, private and protected data members.

Q 10. What do you understand by access specifiers?

Q 11. Differentiate between Inline Functions and Non Inline Functions. Give a suitable example using C++ code to illustrate the same.

Q 12. Define a class in C++ with the following description:
  - A data member ***Flight number*** of type integer
  - A data member ***Destination*** of type string
  - A data member ***Distance*** of type float
  -
  - A data member ***Fuel*** of type float
    A member function **CALFUEL( )** to calculate the value of fuel as per the flowing criteria.

Distance	Fuel
<= 1000	500
More than 1000 and <= 2000	1100
More than 2000	2200

Public Members
  - A function **FEEDINFO( )** to allow to enter values for flight   number, destination, Distance
  - call function **CALFUEL( )** to calculate the quantity of fuel
    A function **SHOWINFO( )** to allow user to view the content of all the data members

Q 13. A class '**time**' has the
following members:
Data Members:
    Hour of type int
    Minute of type int
Member Function: Readtime(int h, int m);
    Showtime( );
    Addtime(time T1, time T2);
Write a program using classes to input two different objects FT and ST,
print their sum(assuming 24 hours clock time) e.g.,
INPUT :
    FT= 6 hrs 35
    minutes ST=
    3 hrs 45
    minutes
OUTPUT :
     T = FT+ST
       = 10 hrs 20 minitues.

Q 14. What are static class members? Explain with a suitable example.

Q 15. What are nested classes?

Assignment No. 2

Q1. What are constructors and destructors? Give an example to illustrate the use of both. Q2. Define Constructor overloading. Give an example.

Q3. Define Copy Constructor. Give an example.

Q4. Answer the questions (i) and (ii) after going through the following class :

```
class Test
    {
            char Paper[20];
            int Marks;
    public :
            Test()                      //Function 1
            {
            strcpy(Paper, "Computer");
            Marks = 0;
            }
            Test(char P[])              //Function 2
            {
            strcpy(Paper, P);
            Marks = 0;
            }
            Test(int M)                 //Function 3
            {
            strcpy(Paper, "Computer");
            Marks = M;
            }
            Test(char P[],int M)        //Function 4
            {
            strcpy(Paper, P );
            Marks =M;
            }
    };
```

i.   Which feature of Object Oriented Programming is demonstrated using Function 1, Function 2, Function 3, Function 4 in the above class Test?
ii. Write statements in C++ that would execute Function 2 and Function 4 of class Test.