Assignment 3

Q.A. Answer the following questions in one or two lines :

1. What is operator overloading ?
2. List the C++ operators that can not be overloaded.
3. Write rules for operator overloading .
4. How many explicit operators are required if binary operator is overloaded using friend fuction.
5. List the operators which can not be overloaded using friend function.
6. List the operators which should be overloaded using friend function.
7. List the operators which should be overloaded member function.
8. A destructor can be overloaded. State true / false.
9. Write syntax to declare member operator function and non-member operator function.
10. Write syntax to declare member operator function to overload post increment operator.
11. What is inheritance ?
12. Write syntax for pure virtual function.
13. Define abstract class.
14. "An abstract class cannot be instantiated". State true/false.
15. Pure virtual function makes the class abstract. State true/false.
16. State the purpose of virtual base class.
17. Why we use inheritance.
18. Write the syntax to derive a new class from base class.
19. What are the different types of inheritance.
20. Write the syntax to call parameterized constructor in base class from derived class constructor.

Q.B. Answer the following questions :

1. Write a program using operator overloading to overload the $<<$ and $>>$ operators for class Date. The data members of Date class are DD , MM , YY. Write necessary constructors.
2. Define a class String . Use overload the following operators : $==, <, +$
3. Explain how the operator function is invoked if defined as
   a) Member Function b) Friend Function
4. Write a program to represent an integer matrix of different dimensions. Overload + , - operators to perform matrix operations.
5. Define class integer having one int data member. Overload the following operators :
   a.   ++ (pre and post)
   b.   – (unary and binary)
6. What is an inheritance ? What ambiguity can raise in single inheritance ? How it is solved.
7. Write a note on constructor in a derived class. Illustrate with a suitable example.
8. What are different forms of inheritance. Give example of each.
9. Explain how runtime polymorphism is achieved in C++.Explain with example.
10. What is virtual function? State the difference between virtual and pure virtual function.

11. What is an advantages of multilevel inheritance ? Explain with example.
12. How to resolve ambiguity in multiple inheritance ?
13. What is the purpose of virtual function ? State the rules for virtual functions.
14. Write a program to prepare mark sheet of the college examination with the following items read from the keyboard. Student name , rollno , subjectname,subjectcode,iternalmarks,externalmarks. Design the base class consisting of data members such as student name , rollno, subjectname. The derived class consists of members subjectcode, internalmarks , externalmarks.
15. Design a base class person(name,address,phoneno) Derive a class Employee (eno,ename) from person. Derive the class Manager(Designation,department, basic_salary from Employee. Write a program to accept and display the details of n managers.
16. Define a base class Item(itemno,name,price). Derive a base class "DiscountedItem" (Discount_Percent). A Customer buys n items . Calculate the total price , total discount and display the bill using appropriate output formats.