Object Oriented Programming Using C++

Lab Test-I

Time Allowed: 2:00 Hrs **Total Points: 20**

1. Write a program using class to print Hello World Message on the screen. Your program should be divided into three different files namely helloworld.h (The header file containing the class definition), helloworld.cpp (The C++ file containing the definition of member function of class) and main.cpp (The C++ file containing the main function)
2. Define a class student with the following specification

   Private members of class student
   admno (integer), sname(character), eng. math, science (float), total (float)
   ctotal() //a function to calculate eng + math + science with float return type.

   Public member function of class student
   Takedata() //Function to accept values for admno, sname, eng, science and invoke ctotal() to calculate total.
   Showdata() //Function to display all the data members on the screen.

   Additional activities: Make all of the member functions as inline.

3. Write a Program to design a class having variety of constructors(Default, Parameterized) and destructor. Also demonstrate the order of execution of constructors and destructors.
4. Write a Program to design a student class representing student roll no. and a test class (derived class of student) representing the scores of the student in various subjects and sports class representing the score in sports. The sports and test class should be inherited by a result class having the functionality to add the scores and display the final result for a student.
5. Write a Program using copy constructor to copy data of an object to another object.
6. Write a Program to swap private data members of classes named as class_1, class_2 using friend function.
7. Write a Program using class to process Shopping List for a Departmental Store. The list include details such as the Code No and Price of each item and perform the operations like Adding, Deleting Items to the list and Printing the Total value of a Order.
8. Write a program to demonstrate the concept of virtual base class.
9. Write a program to demonstrate the concept and use of abstract class.
10. Calculate the area of triangle into a class Triangle by inheriting the class TriW in public mode , TriX in protected mode, TriY in private and TriZ in default mode All these classes have data about the 3 sides of triangle and a member function to pass values to these data in each class. Also compare the areas.