**Terminal Examination (2020)**

**CS152: Object Oriented Programming (Lab)**

***Name ........................................*** ***Roll# ...................................***

*Time allowed: 70 min Maximum Marks: 60*

Instructions:

1. “**This terminal examination will access your CLOs as per OBE.”**
2. **Use of pencils is not allowed to answer the questions.**
3. Read the questions very carefully before giving an answer. Code must be pasted neatly and indented properly.
4. Total time is the maximum time allowed to solve the paper.
5. It is a closed book and closed notes test.
6. Anybody found cheating or helping any other in cheating will get his/her paper cancelled.

(Marks: 20)

**Q1.** Task 1: Declare an abstract class Vehicle

Data member: type of vehicle // car , truck , bus

Interface: Gettype, Puttype and IsOutstanding //function that does nothing.

How will you make this class abstract?

Task 2: Make a Car class inherit from Vehicle

Data Members: Engine power(int)

Interface: Getenginepower Putenginepower

Task 3: Make a Bus class inherit from Vehicle

Data Members: number of seats

Interface: getSeats and putseats

Task 4: Write a main function Try to instantiate an object of all the three classes in turn ... what is your experience?

Task 5: DEclare IsOutsatnding the pure virtual function in vehicle class Override this function in car class where if engine power is > 1300 then it should return true also Override this function in Bus class where if number of seats is > 45 then it should return true

(Marks: 30)

**Q2.**

Declare a class named Triple with three private data members (floats) x, y, and z. Provide public functions for setting and getting values of all the private data members. Define a constructor that initializes the values to user-specified values. Constructor that sets the values all equal to 0. Also overload the following operators:

* Addition so that corresponding elements are added together
* Subtraction that subtracts 2 objects.
* Output so that it displays the Triple in the form “The triple is (x, y, z).”
* Copy constructor that copies one object value to other.
* Post-increment so that x, y and z are increased by one each.

Also write main function declare object of the Triple class and manipulate all functions of the class.