PVP Siddhartha Institute of Technology, Kanuru, Vijayawada-7

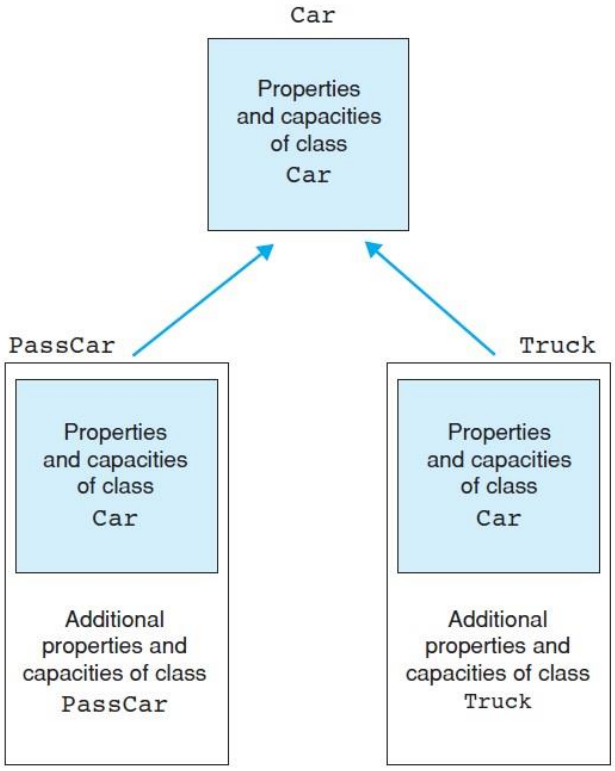
Academic Year: 2023-24 **Program: B.Tech (CSE)**

Subject: Object Oriented Programming through C++ (20CS3302) **Regulation: PVP20**

Year/Semester: II Year I Semester (Section-2) **Max Marks: 5 Marks**

Assignment – 01

1. What is function overloading? Demonstrate the function overloading with a suitable example (C02 – L2)
2. What is constructor overloading? Demonstrate the constructor overloading with a suitable example. (C02 – L2)
3. What is operator overloading? Demonstrate the operator overloading by overloading the following operators (C02 – L2)
    - >>
    - <<
    - +(binary plus)
    - ++(post increment)
    - ++(pre increment)
4. What are the parameter passing techniques in C++? Demonstrate with a suitable example for each parameter passing technique. (C02 – L2)
5. Demonstrate with a suitable example the advantage the using friend functions(C02 – L2)
6. What are the access specifiers? Demonstrate with a suitable example. (C02 – L2)
7. Consider the following scenario and create the class and objects as per the requirement. (C04 – L4)



The classes Car and PassCar are to modify to allow objects to be created and destroyed. In addition, the class Truck is to be added to the class hierarchy.

■ Change the classes Car and PassCar to make the constructor issue the following message:
"Creating an object of type ... ."
■ Define a destructor for the Car and PassCar classes.The destructor should issue the following message:
"Destroying an object of type ...."
■ Then define the class Truck, which is derived from Car, using the data members shown opposite, a constructor, a destructor, and the additional methods shown opposite.
■ Implement the constructor for the Truck class—the constructor should again issue a suitable message. Use the base initializer to initialize the data members of Car.
■ Define a destructor for Truck—the destructor should again issue a suitable message for trucks.
■ To test your class, create and display a Truck type object in your main function. If required by the user, enable your program to create and display objects of the types PassCar and Car.

Observe how the various objects and member objects are created and destroyed.