

## 2<sup>nd</sup> Week Problems

**Problem 1-** A damaged 1200-kg car is being towed by a truck. Neglecting the friction, air drag, and rolling resistance, determine the extra power required (*a*) for constant velocity on a level road, (*b*) for constant velocity of 50 km/h on a 30° (from horizontal) uphill road, and (*c*) to accelerate on a level road from stop to 90 km/h in 12 s.

## AE209 Thermodynamics Quiz-2

**Quiz Problem 1-** Determine the power required for a 1150-kg car to climb a 100-m-long uphill road with a slope of 30° (from horizontal) in 12 s (*a*) at a constant velocity, (*b*) from rest to a final velocity of 30 m/s, and (*c*) from 35 m/s to a final velocity of 5 m/s. Disregard friction, air drag, and rolling resistance.

