CHM 222 Assignment 1

1. One mole of an ideal gas initially at 273 K and 10 atm press is expanded to 1 (one) atm. Calculate final temperature, W, Q, change in E and H if the process is
(a) sudden and irreversible.
(b) reversible adiabatic
(c) isothermal reversible
(d) isothermal irreversible
(e) isochore (constant volume)

2. Calculate work done in electrolysis of 18 gm water at 27 deg. C.

3. Draw H vs T curve for Carnot Cycle.

4. Consider a Carnot cycle that takes heat from a small and hot iron ball of initial temperature T_1 and gives heat to a cold ball of temp T_2 ($T_1>T_2$). During each cycle the temperature of the hot ball will decrease and temperature of the cold ball will increase. Calculate final temperature of both the balls.