6.   Brayton cycle – regeneration.

Ex1: An ideal gas turbine cycle with two stages of compression and two stages of expansion has an overall pressure ratio of 8. Air enters each stage of the compressor at 300K and each stage of the turbine at 1300K. Draw the cycle on the T-s diagram. Determine the back work ratio and the thermal efficiency of this gas-turbine cycle, assuming a)no regenerators and b) an ideal regenerator with 100 % effectiveness. Compare the results with those obtained in other examples.