

4. Regenerative Rankine Cycle.

Ex1: Consider the regenerative Rankine cycle for ideal processes where the superheated steam has 15MPa and 600 C, the condenser pressure is 10kPa. Some of the steam is extracted at the pressure 1,2MPa to heat up the feedwater in open feedwater heater. Draw the T-s diagram and sketch of the power plant, calculate a fraction of steam extracted from the turbine, thermal efficiency of the cycle. Remember that in ideal cycle there is a saturated liquid in state 1 and 3.