University of Jordan – Dept. of Chemical Engineering

0915321 ChE Thermodynamics (I)

Problem Set # (6): Thermodynamic Cycles

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- These are suggested problems for you to work out.
- The problem numbers refer to those given at the end of Chapters in the Textbook:
    (Cengel & Boles, Thermodynamics: An Engineering Approach, 8th edition)
- The final answer(s) is/are provided.

Problem #	Final Answers
9-46	Diesel cycle: T_3 = 1725K, efficiency = 56.3%, MEP = 676 kPa
9-86	Brayton cycle: mass flow rate = 985 kg/s
10-12	Rankine (steam) cycle: efficiency = 27%, net power = 25.2 MW
11-13	Reverse Carnot (refrigerant) cycle: W_{in} = 30.8 kW , COP_R = 4.87

Wish you all success