

ME 24-221
Thermodynamics I

Quiz No: 8
December 8, 2000
Instructor: J. Murthy
15 minutes
Open textbook, closed notes

An ideal air standard Brayton cycle operates between a low pressure of 100 kPa and a high pressure of 1 Mpa. The lowest temperature in the cycle is 300 K and the highest temperature is 1500 K. Find

1. The temperature at the end of the isentropic compression process in K.
2. The heat transfer to the air in the high-temperature heat exchanger in kJ/kg.

Assume that air has constant specific heats.