



國立東華大學

Department of Physics
National Dong Hwa University, 1, Sec. 2,
Da Hsueh Rd., Shou-Feng, Hualien, 974, Taiwan

General Physics II, Quiz 7
PHYS10200AA, Class year100
3-06-2012

SN: _____, Name: _____

Chapter22, Serway; ABSOLUTELY NO CHEATING!

Please write the answers on the blank space or on the back of this paper to save resources.

1. Argon enters a turbine at a rate of 80.0 kg/min, a temperature of 800°C, and a pressure of 1.50 MPa. It expands adiabatically as it pushes on the turbine blades and exits at pressure 300 kPa. (a) Calculate its temperature at exit. (b) Calculate the (maximum) power output of the turning turbine. (c) The turbine is one component of a model closed-cycle gas turbine engine. Calculate the maximum efficiency of the engine.