Examination on MSJ0001 ,,Thermal Engineering"		
Name:		
Group:		
Date:		

- 5.1. What is the relationship between density and absolute temperature of a gas during isobaric process?
 - a) Density of a gas does not depend on temperature
 - b) Density is proportional to temperature
 - c) Density is inversely proportional to temperature
- 5.2. Isothermal process is presented at



- 5.3. Which one of the following describes Newton's law of cooling? Define all of the variables in this equation.
 - a) $\dot{Q} = -k \cdot A \cdot \text{grad}t$
 - b) $\dot{Q} = U \cdot A \cdot \Delta T$
 - c) $\dot{Q} = hA_s(T_s T_\infty)$
 - d) $\dot{Q} = \sigma \cdot A \cdot T^4$
- 5.4. Definition of an opened thermodynamic system. Examples.
- 5.5. Boiler efficiency and heat losses.
- 5.6. Operation principle of an ordinary domestic refrigerator. Principle schematic with explanation of each component.
- 5.7. The Carnot' cycle on *Ts* diagram with explanation of each process. Efficiency equation.
- 5.8. Determine the maximum thermal efficiency of a heat engine, which receives heat from a heat source at 200 °C and rejects heat to a heat sink at 20 °C.