Exam for the courses
Kem-42.1700 CHEMICAL ENGINEERING I
Kem-42.101/2 CHEMICAL ENGINEERING I / I; P

Theory exam 10.5.2007

Write to the answer sheet, which year you have passed the home exercise(s)

Problems 1 and 2 in paper A, problems 3 and 4 in paper B, and problems 5 and 6 in paper C.

Answer four (4) questions

1. Transportation of boiling liquid.

2. Explain shortly:
   a) Newtonian fluid.
   b) Recommended flow rate.
   c) Conversion.
   d) Gray body.
   e) Eutectic point in a liquid-solid system.

3. Consider the heat transfer phenomena in the statements underneath. Which heat transfer phenomena take place, how do you explain the statements?

   a) On a windy chilly day it feels colder than it does on calm weather at the same temperature.
   b) Air feels colder by the sea than air at the same temperature in the countryside.
   c) Why does a handle of an all metal kettle become hot during cooking? How to solve this problem?
   d) The so called space blanket (consists of a thin sheet of plastic and metallic material) keeps you warm although the material of the blanket is thin
   e) Sweating in the sauna.

4. Fouling in heat exchangers. How to prevent fouling?

5. Phase equilibrium. Give examples.

6. Absorption as a separation process.