

Instruction: Mechano-Informatics (Essay)

Date : H22 (2010), August 24, 13:00 – 14:40

Answers should be written either in Japanese or English.

- 1) Do not open this problem booklet until the start of the examination is announced.
- 2) Two problems are provided. Answer both of them.
- 3) If you find missing, misplaced, and/or unclearly printed pages in the problem booklet, notify the examiner.
- 4) Two answer sheets are provided. Check the number of them, and if you find excess or deficiency, notify the examiner. You must use a separate sheet for each problem. When you run short of space to write your answer on the front side of the answer sheet, you may use the back side by clearly stating so in the front side.
- 5) In the designated blanks at the top of each answer sheet, write examination name “Mechano-Informatics (Essay)”, “Master” or “Doctor” , your applicant number, and the problem number. Omission in filling up these blanks may void your test score.
- 6) An answer sheet is regarded as invalid if you write marks and/or symbols unrelated to the answer.
- 7) Submit both answer sheets even if they are blank.
- 8) Use the blank pages in the problem booklet for your draft.
- 9) Fill in your applicant number on the blank below, and submit this booklet. Also submit the Japanese booklet with your applicant number in the corresponding blank.

Applicant number:
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### **Problem 1**

Japan is paying attention to innovation in the field of “Health-care & Medicine” and “Environment & Energy” as a long-term strategy for next ten years. Although there can be various definitions of innovation, innovation is defined here as drastic and prosperous social changes brought by creations based on scientific and technological breakthroughs. Give one example of an intelligent machine or information system that can contribute to the innovation in either of the above-mentioned field, and explain the technological breakthrough necessary for the achievement. Moreover, discuss concretely how our lifestyle will change by the example you mentioned.

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## **Problem 2**

Answer the following questions about the research you wish to pursue in the master course.

- P. 1. State the research title that appropriately expresses the research. Answer in English (also if possible in Japanese)
- P. 2. State the goal of the research, and describe its significance and a practical plan of the research.
- P. 3. Give two or more experiences that you expect to obtain in the master course, and describe concretely how those experiences help you in your career plan.

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