Question 1 (2 marks)

Show that $ALL_{DFA}$ is in $P$.

Question 2 (2 marks)

Problem 7.12 (page 323).

Question 3 (2 marks)

Problem 7.21 (page 324).

Question 4 (2 marks)

Problem 7.22 (page 324).

Question 5 (2 marks)

Problem 7.35 (page 326).

Date Due: before the end of class on Monday, April 20, 2015. No late assignment is accepted.

NOTE: For students who want to learn NP-completeness differently or just need more time to learn NP-completeness, you can skip the polynomial reduction parts on Question 3,4,5 (but you still need to complete the NP membership parts, i.e., showing that the corresponding problems belong to NP). A practical programming assignment will be given separately. The polynomial reduction materials will not appear in Test 3, but will appear in the final exam.