CSci 1302 Assignment 2
Due Wedn., February 4th, 2004

Note: the symbol $\equiv$ stands for logical equivalence.

**Problem 1 (4 points).** Exercise 3.6 pp. 32-33 Parts 3,5. Please construct the truth tables for the formulas.

**Problem 2 (4 points).** Exercise 3.7 pp. 35 Parts 8, 9. Please show all your computations.

**Problem 3 (8 points (part 1 is 2 points, the other two parts are 3 points each)).** Exercise 3.8 pp. 42-43.

**Problem 4 (5 points).** Exercise 3.9 p. 43, Part 2 (you don’t need to suggest an application for this digital circuit).

**Problem 5 (12 points).** Use truth tables to prove or disprove the following:

A. $p \Rightarrow (q \lor r) \equiv (p \Rightarrow q) \lor (p \Rightarrow r)$
B. $p \Rightarrow (q \land r) \equiv (p \Rightarrow q) \land (p \Rightarrow r)$
C. $(p \lor q) \Rightarrow r \equiv (p \Rightarrow r) \lor (q \Rightarrow r)$
D. $(p \land q) \Rightarrow r \equiv (p \Rightarrow r) \land (q \Rightarrow r)$