Sample Questions

(These are just for your practice; the real exam may be very different)
(I do "not" have solutions for these questions).

1. What is the complexity (runtime) of topological sorting?

2. In the Branch and Bound algorithm discussed in class, if I solve the MIS problem optimally and add 1 to the result, do I still have a lower bound? If not, then how do we modify the branch and bound algorithm discussed in class to C?

3. What is the overall run How many steps can the recursion tree method for evaluating the complete sum take in the worst case?
4. If the delay of a circuit is decided by the length of the longest path in it, while optimizing delay, which software will you use ESPRESSO or MIS?
(MIS is a multilevel optimization software)

5. In several problems, we would like to estimate the total number of times each node in a boolean network switches (0→1 or 1→0) for a given sequence of input vectors. Give an algorithm that calculates the total number of switching on each node of a boolean network assuming the set of input vectors are provided.

GOOD LUCK.