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# EXAM PREPARATION GUIDE

## (1) CONCEPTS

### SUBJECT:

- NP COMPLETENESS (P, NP, CO-NP, NP-COMPLETENESS, NP-HARDNESS, POLYNOMIAL-TIME REDUCIBILITY, REDUCTIONS, ETC.)
- APPROXIMATION ALGORITHMS (GREEDY ALGORITHMS, APPROXIMATION RATIO  $f(n)$ )
- EXPONENTIAL TIME ALGORITHMS (BACKTRACKING, BRANCH-AND-BOUND)

### TESTING METHOD:

TRUE/FALSE QUESTIONS, SHORT ANSWERS

## (2) KNOWN REDUCTIONS

### SUBJECT:

UNDERSTANDING OF ALL REDUCTIONS STUDIED (IN CLASS OR IN ASSIGNMENTS)

### TESTING METHOD:

I GIVE YOU AN INSTANCE OF A PROBLEM, YOU APPLY THE REDUCTION ALGORITHM STUDIED