Quiz 6 will be a 30-minute quiz. The problems will be drawn from the problem types described below.

The italicized words are vocabulary that may be used in the questions on the quiz.

**Topics from the lecture 15: Networks 1.**

1. Definitions and terminology: network, arc, node, degree of a node, adjacency list, adjacency matrix, path, cycle, tree, walk, closed walk, Eulerian cycle, connected, tree, shortest path problem.
2. Dijkstra’s algorithm for finding a shortest path from an origin node to all other nodes.
   - terminology: distance labels, permanent nodes, update arcs, predecessor of a node,

**Topics from the lecture 16: The Minimum Cost Flow Problem.**

1. Formulation of a min cost flow problem as a linear program.
2. The Integrality Theorem (also called a remarkable theorem.)
3. The Transportation Problem
4. The Assignment problem.
5. The maximum number of independent 1’s is equal to the minimum number of lines containing all of the 1’s.

**Topics from the lecture 15: TSP and Heuristics.**

1. The Traveling Salesperson Problem (TSP)
2. The facility location problem
3. Design a construction heuristic for TSP or the facility location problem
4. Design an improvement heuristic for TSP or the facility location problem