

# ECE 461 – Internetworking Fall 2009

## Problem Sheet 4

**Problem 1.** Consider the following set of prefixes

- a) 0001\*
- b) 00010\*
- c) 00011\*
- d) 001\*
- e) 0101\*
- f) 011\*
- g) 100\*
- h) 1010\*
- i) 1100\*
- j) 11110000\*

Construct the following tries and trees

- 1) a binary trie for the set of prefixes;
- 2) a path-compressed trie;
- 3) a disjoint-prefix binary trie;
- 4) a multibit trie with stride size 2;

Consider the network shown in the figure below. The cost of each link is indicated in Figure 1.

**Problem 2.** Use the Dijkstra algorithm to find the least-cost path between node “1” and all other nodes.

**Problem 3.** Use the Distance Vector algorithm to find the least-cost paths between all nodes. (Assume that the nodes are destinations).

