1.

y-x-u, y-x-v-u, y-x-w-u, y-x-w-v-u,

y-w-u, y-w-v-u, y-w-x-u, y-w-x-v-u, y-w-v-x-u,

y-z-w-u, y-z-w-v-u, y-z-w-x-u, y-z-w-x-v-u, y-z-w-v-x-u,

2.

x to z:

x-y-z, x-y-w-z,

x-w-z, x-w-y-z,

x-v-w-z, x-v-w-y-z,

x-u-w-z, x-u-w-y-z,

x-u-v-w-z, x-u-v-w-y-z

z to u:

z-w-u,

z-w-v-u, z-w-x-u, z-w-v-x-u, z-w-x-v-u, z-w-y-x-u, z-w-y-x-v-u,

z-y-x-u, z-y-x-v-u, z-y-x-w-u, z-y-x-w-y-u, z-y-x-v-w-u,

z-y-w-v-u, z-y-w-x-u, z-y-w-v-x-u, z-y-w-x-v-u, z-y-w-y-x-u, z-y-w-y-x-v-u

z to w:

z-w, z-y-w, z-y-x-w, z-y-x-v-w, z-y-x-u-w, z-y-x-u-v-w, z-y-x-v-u-w

9.

NO, this is because that decreasing link cost won’t cause a loop (caused by the next-hop relation of between two nodes of that link). Connecting two nodes with a link is equivalent to decreasing the link weight from infinite to the finite weight

10.

At each step, each updating of a node’s distance vectors is based on the Bellman-Ford equation, i.e., only decreasing those values in its distance vector. There is no increasing in values. If no updating, then no message will be sent out. Thus, D(x) is non-increasing. Since those costs are finite, then eventually distance vectors will be stabilized in finite steps

14.

a) eBGP

b) iBGP

c) eBGP

d) iBGP