###### *CSE 473 – Introduction to Computer Networks*

Review Questions 15

##### ***Your Name****:*

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Please print out this form (two-sided, if you can) and write your answers *legibly* in the spaces provided. If you can’t write legibly, type.

1. Consider the network below that consists of 5 routers A to E and one transit networ T. Costs of point-to-point links are symmetric, and costs from the routers to the transit network are as shown on the figure. Compute the shortest path tree from E using Dijkstra’s algorithm and highlight the edges in the tree.

2

1

2

2

4

3

5

T

1. [ 0 3 2 8 6 - 15 - ] where a dash means that there is no known distance to that destination yet. The zero entry in the distance vector reflects the zero-length path from *x* to itself. *x* has only two neighbors, *y* and *z*, with an edge of length 3 to *y* and an edge of length 2 to *z.* The last distance vector *x* received from *y* is [ 3 0 4 5 10 - 12 - ] and the last distance vector it received from *z* is [ 2 4 0 7 4 - 14 - ].

Suppose *x* receives a new distance vector [ 3 0 4 5 8 7 11 - ] from *y*. How does this change its distance vector?

1. Consider a network with 100 routers running a link-state protocol. Assume that the network uses only point-to-point links and that each router has 10 links. If each router experiences a change to the status of one of its incident links every second, what is the maximum number of LSAs that a router can receive in a second? How many of these are not duplicates?