Ottawa Carleton Institute for Electrical and Computer Engineering

School of Electrical Engineering and Computer Science, University of Ottawa

ELG-5383

Survivable Optical Networks

Assignment # 2 Due February 25th, 2015

Write a computer program (in C, C++ or Java) to calculate the shortest pair of edge-disjoint paths for every source-destination (s-d) pair in a network.

Hint: The shortest path is not necessarily one of the shortest pair as shown in the network below. For example, the shortest path from node A to node Z is ABCDZ, while the shortest pair is ABCGZ and AEBFDZ. The program should allow the user to input the network topology using the keyboard or read the network topology from a file by giving its full directory.

Refer to “Survivable Networks Algorithms for diverse routing”, by Ramesh Bhandari, Kluwer Academic Publishers, Boston 1999.

8

1

1

1

1

1

1

1

1

2

2

4

4