

CSEN404 Introduction to Networks
Spring Term 2021
Practice Assignment 10

Problem 1

An organization is assigned 1 class B address 160.17. The organization has 5 departments that need to have each computer department be connected on the same subnet. The numbers of computers in the 5 departments are: 50, 90, 44, 120, and 35 respectively.

- a) How many host bits at least are needed in the subnet mask?
- b) Divide the bits of the IP between host, subnet and network.
- c) Write down the IP address and subnet mask for each department.

Problem 2

The following figure shows a network where the Open Shortest Path First (OSPF) routing algorithm is running. Nodes G and J are border routers.

1. Execute the Dijkstra algorithm at Node A to discover optimum paths to all routers in Area 1.
2. If Node A in Area 1 wishes to send a packet to node K in Area 2, what is the sequence of nodes that will be traversed?

