Computer Communication Network

Network Layer-Review

Spring 2015

Question 5-1

Briefly describe the difference between virtual circuit, datagram and best effort networks.

Question 5-2

Briefly describe the difference between routing and forwarding.

Question 5-3

Name four important objective in routing protocols.

Answer:

1. Avoiding congestion
2. Preserving load balancing
3. Provide resilient in term of failure and connectivity.
4. Finding optimal paths in terms of delay and resource utilization

Question 5-4

Briefly discuss the two major routing algorithms; distance vector and link state. State their advantages/disadvantages.

Question 5-5

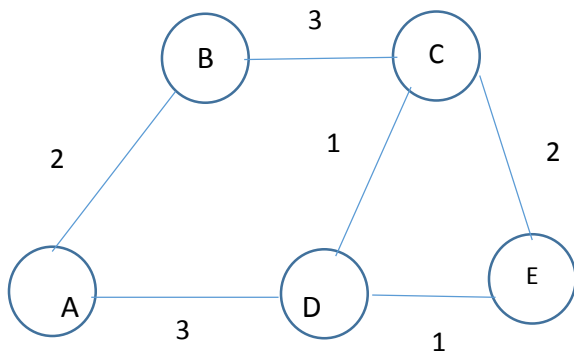Briefly describe 4 techniques to solve congestion

Question 5-6

What is the difference between label switching and virtual circuit?

Question 5-7

1. Why do we use leaky bucket, and how does it work? Illustrate with figure.
2. Why do we use tunneling, and how does it work? Illustrate with figure

Question 5-8

Consider the network in the figure below,

(a) Show how the Link-State algorithm builds the routing table for node A.
(b) Show how the Distance Vector algorithm builds the routing table for node A.

Question 5-9

Briefly describe tunneling, fragmentation, and reassembly. Where do we use them. Given an example for each.