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CSE320

Quiz-1

Fall 2022

Time: 20 min

Total Marks: 15

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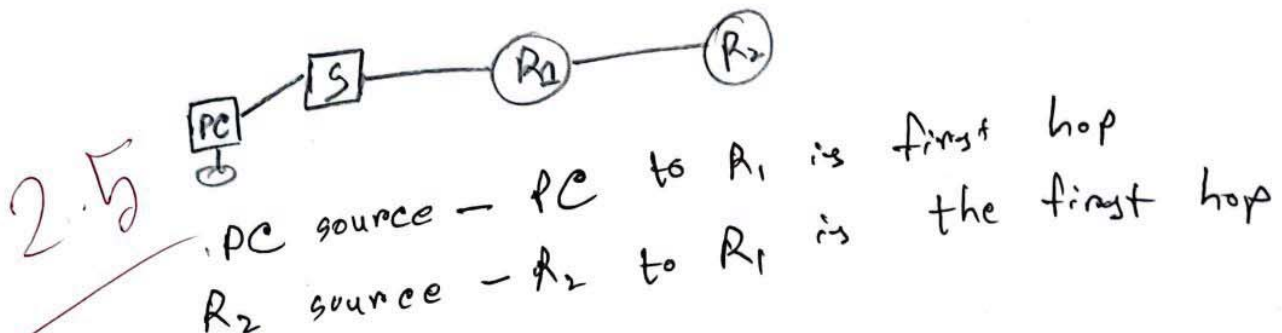
Sec: 5

1. Match the following to one or more layers of the TCP/IP protocol suite: [2.5]

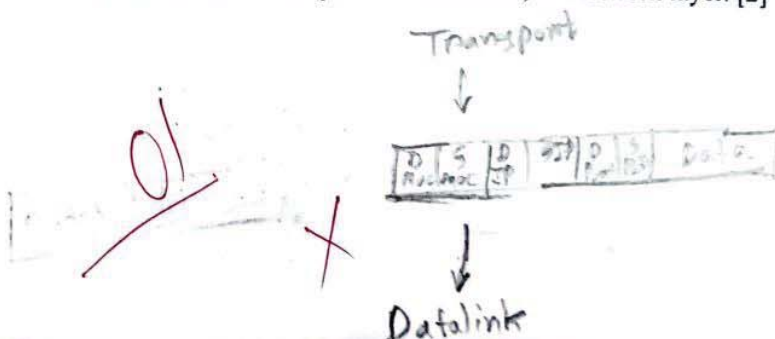
- Requests sender to send more segments when congestion is not there at the receiver end - ~~Transport~~ ✓
- Logging the user out from an application when user remains inactive for a long time - ~~Application~~ ✓
- Provides Network virtual terminal service - ~~Application~~ ✓
- Accessing medium to send data - ~~Network~~ Physical (X)
- Adds IP Address in the header - ~~Transport~~ (X)

A
P
S
N
D
P

2. Imagine, in a network, a PC is connected to a switch, and the switch is then connected to router R1. Router R1 is then connected with router R2. Which device is the first hop, if the PC is the source? Which device is the first hop, if router R2 is the source? Draw the physical topology. [2.5]



3. Draw the PDU (protocol data Unit) of Network layer. [2]



D = Destination
S = Source

4. How do we represent data? Name two different data types and their standards. [1]

We represent data by strings of 0s and 1s.

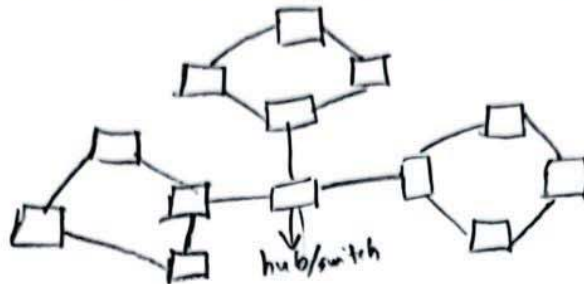
0.5

Example:

1. In physical layer, data is called bits

2. In data link layer, data is called frames

5. Draw a star topology with three ring networks each having four devices. [2]



6. Mention the number of simplex links needed to connect 20 devices in a star topology. [2]

We need n duplex links to connect 20 devices

So, we need 20 duplex or $20 \times 2 = 40$ simplex links for two way connection

7. In the network depicted in Figure 1, Host 1 is sending data to Webserver. Consider that process Ps of the sending computer wants to send some data to process Pr of the receiving host. Port addresses of process Ps and Pr are Px and Py respectively. Show the contents of the frames for transport, network, and data link layers at the sender side devices with appropriate figures. For indicating MAC addresses just mention device name with device interface. [For example: EDGER-RTR_Fa x/x is a MAC address] [3]

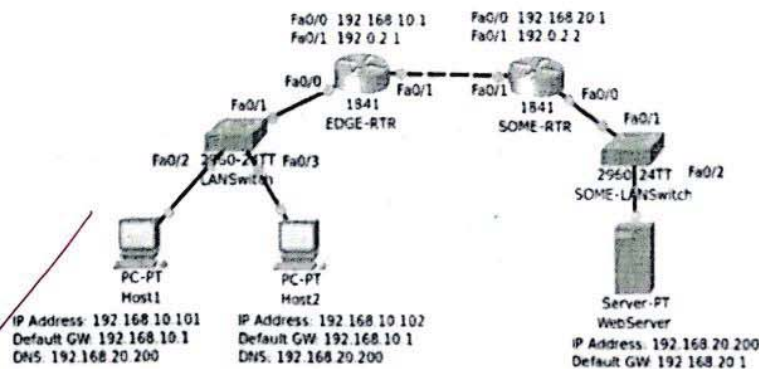


Figure 1.

D	S	SIP	DIP	Dport	Sport	
MAC	MAC					
Fa0/0	Fa0/0	192.168.10.1	192.168.20.1	Web	80	Data