

CSE320: Data Communications

Quiz-1 (Set - A)

Total Marks: 15

Name:

ID:

Sec:

1. “ABC Corporation”, a medium-sized company with offices distributed across multiple floors, is planning to upgrade its network infrastructure. Given the company's anticipation of future expansion, ABC Corporation is looking for a scalable network infrastructure. How can a combination of Mesh and Star topologies address the specific need of accommodating additional devices and departments within ABC Corporation as the company grows? [2.5]

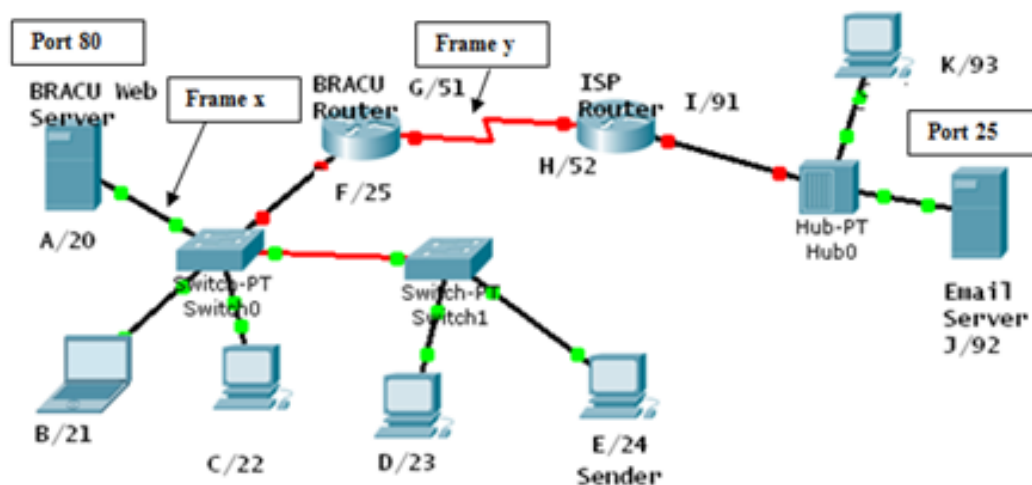
2. Five devices are connected using mesh topology. If each physical link allows communication in both directions (full duplex mode), how many physical links are needed in total? [2.5]

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

- route determination
- providing services for the end user
- segmentation and reassembly
- adding checkpoints or synchronization points
- transforming bits to electromagnetic signals

4. Identify each of the below scenarios to an appropriate network type (PAN, LAN, WAN, MAN) [2.5]
- You are sending pictures using WhatsApp from your mobile to your friend who is sitting beside you in BRACU Cafeteria
 - You and your friend are communicating via email using BRACU PC and both of you are in different floors of BRACU campus
 - You are communicating with your friend who lives in USA
 - PCs in Ayesha Abed Library can communicate with PCs at BRAC Center (Both are in different networks)
 - A number of fire stations located in a city are connected, so office staff can easily communicate with one another

5. Complete the frames (X & Y) given below with appropriate port, IP and MAC addresses. The sender Host E has two applications running; one for email with port number 50110 and the other for accessing the web server with port number 60923. The frame X is intended for the BRACU Web server and frame Y is coming from the Email Server. (MAC addresses are denoted using alphabets and IP addresses are denoted using numbers) [5]



Frame X

D. Mac	S. MAC	D. IP	S. IP	D. Port	S. Port	Data	Trailer

Frame Y

D. Mac	S. MAC	D. IP	S. IP	D. Port	S. Port	Data	Trailer