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----- Homework Chapter 1 Review Questions :

3- What Are Three Criteria Necessary For An Effective And Efficient Network?

\* Performance \* Reliability \* Security 4-what are the advantages of a

multipoint connection over a point-to-point connection? Point-to-point

connection is limited to two devices, where else more than two devices share

a single link in multipoint connection. Multipoint connection can be used for

fail-over and reliability. 5 - what are the two type of line configuration? There

are two possible types of line configurations or connections. These

connections are. 1. Point-to-point connection 2. Multipoint connection 6-

categorize the four basic topologies in terms of line configuration ? Point to

point- mesh and star. Multi point- bus and ring. 7- what is the difference

between half-duplex and full-duplex transmission modes? Full duplex allows

transmitting and receiving at the same time. Half duplex allows transmitting

and receiving, but not at the same time. 8- name the four basic network

topologies and cite an advantage of each type? \* Mesh Topology : Privacy or

security . eliminating the traffic problems . A mesh is robust . Fault

identification and fault isolation easy . \* Star topology : Easy to install and

reconfigure and less expensive . Robustness . identification and fault

isolation . \* Bus topology : Ease of insulation . \* Ring Topology : Easy to

install and reconfigure . Fault isolation is simplified . Unidirectional traffic .

11- what is a internet ? what is the Internet ? Internet : a collaboration of

more than 100 of 1000 interconnected network. Exercises : 16- assume six

devices are arranged in a mesh topology. how many cables are needed ?

how many ports are needed for each device ? Devices- 6  $W = n(n-1)/2$

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solution :  $W = \frac{6(6-1)}{2} = \frac{6(5)}{2} = 3(5) = 15$  15 cables And you will need 5 ports on each of the devices.

18- You have two computers connected by an Ethernet hub at home. Is this a LAN, a MAN, or a WAN? Explain your reason .

These Small sizes networks are categorized to LAN. Ethernet is a LAN. All small sized office networks and in-house networks are LANs. MAN owned by single company, it's averagely large network.

21- Draw a hybrid topology with a star backbone and three ring networks ?

22- Draw a hybrid topology with a ring backbone and two bus networks ?

23- performance is inversely related to delay. when you use the internet which of the following app are more sensitive to delay ?

a. Sending an Email : E-mail is not an interactive application. Even if it is delivered immediately, it may stay in the mail-box of the receiver for a while. It is not sensitive to delay.

b. copying a file : We normally do not expect a file to be copied immediately. It is not very sensitive to delay.

c. surfing the Internet : Surfing the Internet is the an application very sensitive to delay. We except to get access to the site we are searching.

24- when a party makes a local telephone call to another party , is this point to point or multipoint ? Explain . In this case, the communication is only between a caller and the called . A dedicated line is established between them. The connection is point-to-point.