

Q. A collection of five routers is to be connected in a point-to-point subnet. Between each pair of routers, the designers may put a high-speed line, a medium-speed line, a low-speed line, or no line. If it takes 100 ms of computer time to generate and inspect each topology, how long will it take to inspect all of them? (give your answer as xxx.xx)

A.

seconds

Show Answer 104857.6

Which of the following description about OSI layers is incorrect?

- ☐ The application layer contains a variety of protocols that are commonly needed by users
- ☐ The physical layer is concerned with transmitting raw bits over a communication channel
- ☐ The data link layer is a true end-to-end layer, all the way from the source to the destination
- ☐ The network layer controls the operation of the subnet and determines how packets are routed from source to destination

Show Answer The data link layer is a true end-to-end layer, all the way from the source to the destination

Connectionless Services is also called

- ☐ datagram service
- ☐ virtual circuit service
- ☐ acknowledged datagram service
- ☐ client-server service

Show Answer datagram service

What is the name of PDU at the network layer of the OSI reference model?

- ☐ message
- ☐ frame
- ☐ segment
- ☐ packet

Show Answer packet

Some network systems support transmission to a subset of the machines. This mode of operation is called:

- ☐ broadcasting
- ☐ flow control
- ☐ congestion control
- ☐ multicasting

Show Answer multicasting

Q. An image is 1024 x 768 pixels with 3 bytes/pixel. Assume the image is uncompressed. How long does it take to transmit it over a 56-kbps modem channel? Over a 1-Mbps cable modem? Over a 10-Mbps Ethernet? Over 100-Mbps Ethernet? (give your answer as xx.xxx)

A. for 56kbps:

sec

A. for 1Mbps:

sec

A. for 10Mbps:

sec

A. for 100Mbps:

sec

Show Answer 337.042

Show Answer 18.874

Show Answer 1.887

Show Answer 0.189

Q.A client-server system uses a satellite network, with the satellite at a height of 40000 km. What is the best-case delay in response to a request?

A.

msec

Show Answer 533

Q. How long was a bit on the original 802.3 standard in meters? Use a transmission speed of 10 Mbps and assume the propagation speed in coax is 2/3 the speed of light in vacuum.

A.

meters.

Show Answer 20

Q. A system has an 7-layer protocol hierarchy. Applications generate messages of length 1000 bytes. At each of the layers , an 20 byte header is added. What fraction of the network bandwidth is filled with headers?

A.

%

Show Answer 12

ch1-18 Which of the OSI layers handlers each of the following:

(a) Dividing the transmitted bit stream into frames.

(b) Determining which route through the subnet to use.

Show Answer Data link layer or The Data Link Layer or data link

Show Answer Network layer or The Network Layer or network