Congratulations! You passed!
TO PASS 80% or higher

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GRADE
90.9%

History: The First Internet - NSFNet

LATEST SUBMISSION GRADE
90.9%

1. What was the primary reason for the development of store and forward networks by the academic community? **1 / 1 point**

- ○ There were no leased lines available in the US
- ○ The phone company refused to provide leased lines to the academic community
- ◉ Universities were willing to tolerate delay in order to keep the cost of long-distance data communication low
- ○ Wireless communications like 4G were much slower than the leased copper wires from the phone company

✓ **Correct**

2. What is the relationship between the number of hops on the store and forward network, and the time taken for a message to be delivered? **1 / 1 point**

- ○ More hops in the network decrease delivery time
- ○ The number of hops don't matter because more hops means less traffic per hop
- ◉ More hops within the network usually result in a longer delivery time
- ○ For each new hop in the network the delivery time always doubles

✓ **Correct**

3. What were the primary motivations for the Department of Defense to develop the research network ARPANET? **1 / 1 point**

- ○ Cisco was using the ARPANET to test the performance and reliability of its early products in the 1970's and 1980's
- ○ They knew that if they built the ARPANET during the 1970's it would lay the groundwork for massive economic growth in the later 1990's
- ○ There was a desire to make sure consumer hand-held devices would continue to function in case of nuclear war
- ◉ To improve computing equipment for military purposes, making it easier for people to access computers, and communicate more effectively across the military.

✓ **Correct**

4. What was the fundamental difference between the store and forward network of BITNET, and ARPANET? **1 / 1 point**

- ○ ARPANET was essentially a store-and-forward network for the U.S. Military
- ○ The use of computer terminals
- ○ The use of leased lines from the telephone company
- ◉ Packet switching

✓ **Correct**

5. In the shared network, the role of the router is: **1 / 1 point**

- ○ To reassemble packets into the original message

- ○ To store data when a network link went down
- ○ To store all of the possible routes between a pair of connected computers
- ◉ To quickly forward packets to the next router

✓ Correct

6. What are the advantages of packet switching? **1 / 1 point**

- ◉ Many messages can be in-flight at the same time, preventing large messages from blocking small ones
- ○ Packet switching slows all messages down to the speed of the slowest message
- ○ Packet switching makes sure every packet takes exactly the same path from the source computer to the destination computer
- ○ There is no major advantage and the decision to do packet switching was politically motivated

✓ Correct

7. Why did the National Science Foundation decide to build a national shared network? **1 / 1 point**

- ○ Cisco wanted someone to develop and test router technology so they could build a business around network hardware
- ◉ It was very expensive to give each university its own supercomputer. A national shared network was more affordable.
- ○ Universities had extensive on-campus networks and needed a way to connect those networks together.
- ○ Politicians put pressure on the National Science Foundation to build a national shared network

✓ Correct

8. Larry Smarr was one of many instrumental players in creating the first national network. What do we learn from his interview? **1 / 1 point**

- ○ From the first moment that NSFNet was turned on, Google was the most popular application
- ○ Telephone companies were very supportive of NSFNet.
- ◉ That high performance computing needs at universities and the Internet were deeply connected
- ○ Access to shared library resources (journals etc) were the primary motivator of the NSFNet

✓ Correct

9. Why did the University of Michigan not participate in the ARPANET research project? **1 / 1 point**

- ○ No states starting with the letter 'M' were included
- ○ When Michigan first connected to ARPANET they crashed the network, and so were permanently removed from the project
- ○ Michigan had its own state-wide network, consisting of 10 nodes
- ◉ Michigan had its own state-wide network, consisting of 3 nodes

✓ Correct

10. In the late 1980s, how did the first average citizens get Internet access? **0 / 1 point**

- ◉ Average citizens entered competitions to win Internet access
- ○ The US military realized they could raise funds by selling access to the Internet
- ○ The rules for 'academics-only' were slowly bypassed
- ○ The became university employees so they could access the Internet

! Incorrect

11. What was the primary difference between the University of Michigan proposal to build the NSFNet, and the other proposals? 1 / 1 point

- ○ The University of Michigan's midwest location meant that the connections to the rest of the nodes on the NSF were cheaper.
- ○ The University of Michigan used leased lines from the telephone company. Other proposals used long-distance wireless communications to build the network.
- ◉ The University of Michigan proposal proposed a 1.54 Mbit network with planned upgrades to much higher speeds throughout the life of the project
- ○ The University of Michigan proposal included a search engine. The other proposals only had a directory-style lookup of Web resources.

✓ Correct