

Assignment Network Review

Question Set 1: 4.1 – Protocols and Addresses

<http://www.professormesser.com/free-a-plus-training/220-701/protocols-and-addresses/>

In a networking context, what is a protocol?

A protocol is a language. Very often our computers have multiple protocols

What is the major protocol used on the Internet?

TCP/ IP - Transmission Control Protocol and Internet Protocol

At what OSI/ISO layer does IP operate?

Layer 3 Networking

From Protocols and Addresses part 2 of 3...

What three pieces of information do you need to configure TCP/IP?

Your IP address, Subnet mask is and you default gateway.

Is the IP address a single address?

No it is a combination of a network ID and Host ID.

When was class full addressing last used?

Last used in 1993

What are the three major classes of addresses?

Class A, Class B, and Class C.

Protocols and Addresses part 3 of 3...

What is DNS? What does it do?

Domain Name Server. It turns a name into an IP address.

What is DHCP? What does it do?

Dynamic Host Configuration Protocol. It automatically configures all that TCP/IP stuff.

Which proprietary Microsoft protocol was used in early versions of Microsoft Windows?

Net BEUI

Which protocol is used to resolve a fully qualified domain name to an IP address?

DNS

Question Set 2: 4.1 – Common Ports

<http://www.professormesser.com/free-a-plus-training/220-701/common-ports/>

In a TCP/IP context, what is a port?

A window that is open on a computer that is able to communicate with our computer.

What is a non-ephemeral port?

Permanent port number usually on a server or service.

What is meant by the term "well known" port?

Where everyone decides on the same numbering scheme and they all know the common port numbers.

Compare and contrast TCP and UDP ports.

The TCP port aren't the same as UDP port numbers. They still do use port ranges from 0 to 65535

Common Ports Part Two

<http://www.professormesser.com/free-a-plus-training/220-701/common-ports/>

What port does the DNS service utilize?

UDP/53

What port does the HTTPS protocol utilize?

TCP/443

What is the protocol SMTP and what port does it use?

TCP/25

Question Set 3: 4.1 – Network Technologies

<http://www.professormesser.com/free-a-plus-training/220-701/network-technologies/>

How does Professor Messer define a network?

It is how we connect all of our devices together. It could be through copper wires, optic fiber, or radio signals

What is a network Topology? And who makes Network Topology Standards?

A simple network type standardized format. The institute of Electrical and Electronic Engineer.

What is the most popular form of consumer networking?

Ethernet

What is the term that describes a network that can communicate in both directions at the same time?

Full duplex

What differentiates a LAN from a WAN?

A LAN is a local area network home office/small office and a WAN is a wide area network where we use a third party network.

Question Set 4: 4.1 – IPv4 and IPv6

<http://www.professormesser.com/free-a-plus-training/a-plus-videos/ipv4-and-ipv6-2/>

What is the most widely used protocol in the world?

IPv4

Compare and contrast the lengths of IPV4 and IPV6.

IPv4 has 32-bit address with over 4 billion addresses. IPv6 has a 128-bit address with more than enough addresses that we would not run out of addresses.

Is this a valid IPv4 address: "192.1.325.12"?

Not a valid address because the third octet exceeds the max. value of 255.

Is this a valid IPv6 address: "a::b::c"?

No because you can only use one set of colons per address.

Question Set 5: 4.2 – Network Cabling and Connectors

<http://www.professormesser.com/free-a-plus-training/220-701/network-cabling-and-connectors/>

What is the alliance of trade associations that makes network cabling standards?

The Electronic Industries Alliance, EIA

What is the Commercial Building Telecommunications Cabling Standard that we use for cabling?

ANSI/TIA/EIA-568

What is the most common physical type of cabling?

The twisted pair copper cabling.

What category of copper cable support 100 Mbits Ethernet?

Category 5

What category of copper cable supports 10 Gbits Ethernet through 55 meters?

Category 6

Part 2

What is plenum rated cable?

Cable that is used in plenum because it does not burn as quickly as regular cable.

What type of cable did Ethernet originally use? Hint, same type of cable as used in cable TV.

Coaxial

What is the type of cable that is most suited for sending signals a long distance?

Fiber optic cables

If you were connecting machines within a data center, what type of fiber would you be most likely to use?

A multi-mode fiber

If you were connecting two remote buildings, what type of fiber would you be most likely to use?

The single-mode fiber

What type of jack would you use for Ethernet?

The RJ-45

What type of jack would a phone use?

The RJ-11

Question Set 6: 4.3 - Network Types

<http://www.professormesser.com/free-a-plus-training/220-701/network-types/>

What high speed type of network runs over telephone lines?

DSL- Asymmetric digital subscriber line

What type of high speed network runs over coax cable?

Cable modem

Of the popular types of home high speed networks utilizes non-terrestrial networks that typically have a high latency?

Satellite networking

Part2

What was Bluetooth originally designed to replace?

Slow-speed wires

What type of network would Bluetooth create?

PANs, personal area network.

Question Set 7: 4.3 - Wireless Networking

<http://www.professormesser.com/free-a-plus-training/220-701/wireless-networking/>

What is the IEEE family of standards for wireless networking?

802.11

How do the different members of the 802.11 family differ?

They differ by speed, channels, communications, distances and frequencies.

Which 802.11 standard utilizes MIMO?

802.11n

Which 802.11 standard represents an improvement, and backwards compatibility, with 802.11b?

802.11n

Part 2

What was the original encryption utilized by 802.11?

WEP – wired equivalent privacy

When were WEP cryptographic vulnerabilities identified?

2001

What type of encryption was created to improve on WEP but utilize the same hardware?

WPA – WiFi Protected Access

What type of wireless encryption is based on the Advanced Encryption Standard (AES)?

WPA2

Part 3

In wireless networking, what is an SSID?

Service Set Identifier is the name of the wireless network.

Disabling SSID broadcast is an important security configuration.

It can be helpful but doesn't actually secure anything.

What is the general security term used to describe the disabling of SSID broadcast?

Security through obscurity.

Can MAC addresses be spoofed?

Yes.

What wireless networking standard supports speeds up to 600 megabits per second?

The 802.11n