Assignment Network Review

For this Assignment, you will complete several Networking Tutorials from "Professor Messer" at:

http://www.professormesser.com/

This Assignment consists of question sets based upon several tutorials.

Tutorial	Description
Protocols and Addresses	TCP/IP protocols and related addressing standards.
Common Ports	Ports represent application, or process, specific software constructs that serve as communication end points.
Network Technologies	Networks utilize many different technologies to ensure proper traffic flow.
IPv4 and IPv6	While IPv4 is the most widely used protocol, it is being superseded by IPv6.
Network Cabling and Connectors	Traditional networks employed physical connectors and physical media along with related standards.
Network Types	DSL, cable, satellite, fiber and Bluetooth networks are all discussed here.
Wireless Networking	802.11 wireless networking and related wireless standards are presented here.

Table 1 *Professor Messer Tutorials*

Question Sets Instructions
These questions, organized by tutorial, are meant to serve as a guide for your studies. Please complete each of the question sets, name the files appropriately, and post them to your online portfolio.

It is suggested that you view each of the tutorials. However, if you would like to challenge the tutorials and just complete the questions, as long as you complete the questions correctly, that is also an acceptable option.

Please complete and post the assignment by exam date.

Question Set 1: 4.1 – Protocols and Addresses
http://www.professormesser.com/free-a-plus-training/220-701/protocols-and-addresses/

1. In a networking context, what is a protocol?
2. What is the major protocol used on the Internet?
3. At what OSI/ISO layer does IP operate?

From Protocols and Addresses part 2 of 3...
1. What three pieces of information do you need to configure TCP/IP?
2. Is the IP address a single address?
3. When was classfull addressing last used?
4. What are the three major classes of addresses?

Protocols and Addresses part 3 of 3...
1. What is DNS? What does it do?
2. What is DHCP? What does it do?
3. Which proprietary Microsoft protocol was used in early versions of Microsoft Windows?
4. Which protocol is used to resolve a fully qualified domain name to an IP address?

Question Set 2: 4.1 – Common Ports
http://www.professormesser.com/free-a-plus-training/220-701/common-ports/
1. In a TCP/IP context, what is a port?
2. What is a non-ephemeral port?
3. What is meant by the term "well known" port?
4. Compare and contrast TCP and UDP ports.

Common Ports Part Two
http://www.professormesser.com/free-a-plus-training/220-701/common-ports/
1. What port does the DNS service utilize?
2. What port does the HTTPS protocol utilize?
3. What is the protocol SMTP and what port does it use?

Question Set 3: 4.1 – Network Technologies
http://www.professormesser.com/free-a-plus-training/220-701/network-technologies/
1. How does Professor Messer define a network?
2. What is a network Topology? And who makes Network Topology Standards?
3. What is the most popular form of consumer networking?
4. What is the term that describes a network that can communicate in both directions at the same time?
5. What differentiates a LAN from a WAN?

Question Set 4: 4.1 – IPv4 and IPv6
http://www.professormesser.com/free-a-plus-training/a-plus-videos/ipv4-and-ipv6-2/
1. What is the most widely used protocol in the world?
2. Compare and contrast the lengths of IPV4 and IPV6.
3. Is this a valid IPv4 address: "192.1.325.12"?
4. Is this a valid IPv6 address: "a::b::c"?

Question Set 5: 4.2 – Network Cabling and Connectors
http://www.professormesser.com/free-a-plus-training/220-701/network-cabling-and-connectors/
1. What is the alliance of trade associations that makes network cabling standards?
2. What is the Commercial Building Telecommunications Cabling Standard that we use for cabling?

3. What is the most common physical type of cabling?
4. What category of copper cable support 100 Mbits Ethernet?
5. What category of copper cable supports 10 Gbits Ethernet through 55 meteres?

Part 2
1. What is plenum rated cable?
2. What type of cable did Ethernet originally use? Hint, same type of cable as used in cable TV.
3. What is the type of cable that is most suited for sending signals a long distance?
4. If you were connecting machines within a data center, what type of fiber would you be most likely to use?
5. If you were connecting two remote buildings, what type of fiber would you be most likely to use?
6. What type of jack would you use for Ethernet?
7. What type of jack would a phone use?

Question Set 6: 4.3 – Network Types
http://www.professormesser.com/free-a-plus-training/220-701/network-types/
1. What high speed type of network runs over telephone lines?
2. What type of high speed network runs over coax cable?
3. Of the popular types of home high speed networks utilizes non-terrestrial networks that typically have a high latency?

Part2
1. What was Bluetooth originally designed to replace?
2. What type of network would Bluetooth create?

Question Set 7: 4.3 – Wireless Networking
http://www.professormesser.com/free-a-plus-training/220-701/wireless-networking/
1. What is the IEEE family of standards for wireless networking?
2. How do the different members of the 802.11 family differ?
3. Which 802.11 standard utilizes MIMO?
4. Which 802.11 standard represents an improvement, and backwards compatibility, with 802.11b?

Part 2
1. What was the original encryption utilized by 802.11?
2. When were WEP cryptographic vulnerabilities identified?
3. What type of encryption was created to improve on WEP but utilize the same hardware?
4. What type of wireless encryption is based on the Advanced Encryption Standard (AES)?

Part 3
1. In wireless networking, what is an SSID?
2. Disabling SSID broadcast is an important security configuration.
3. What is the general security term used to describe the disabling of SSID broadcast?
4. Can MAC addresses be spoofed?
5. What wireless networking standard supports speeds up to 600 megabits per second?