Week 10 Assignment 10

The students were asked to answer the following questions:

1. What is the difference between MAC-aligned and MAC-unaligned?
   - a. MAC-aligned requires a specific format for the MAC address, whereas MAC-unaligned does not.
   - b. MAC-aligned addresses are used for Ethernet, whereas MAC-unaligned addresses are used for other networks.
   - c. MAC-aligned addresses are stored in the network layer, whereas MAC-unaligned addresses are stored in the link layer.
   - d. MAC-aligned addresses use 48 bits, whereas MAC-unaligned addresses use 64 bits.
   - e. MAC-aligned addresses cannot be changed, whereas MAC-unaligned addresses can be changed.

2. In an Ethernet packet, what is the length of the MAC address?
   - a. 6 bytes
   - b. 12 bytes
   - c. 24 bytes
   - d. none of these

3. Which option is correct?
   - a. ICMPv6 is used for error reporting and debugging, whereas ICMPv4 is used for error reporting and debugging.
   - b. ICMPv4 is used for error reporting and debugging, whereas ICMPv6 is used for error reporting and debugging.
   - c. ICMPv6 is used for error reporting and debugging, whereas ICMPv4 is used for error reporting and debugging.
   - d. ICMPv4 is used for error reporting and debugging, whereas ICMPv6 is used for error reporting and debugging.

4. What is the difference between a router and a hub?
   - a. A router is a device that connects two or more networks, whereas a hub connects only one network.
   - b. A router uses IP addresses to route packets, whereas a hub uses MAC addresses.
   - c. A router uses ARP and RARP to resolve IP addresses, whereas a hub uses ARP and RARP to resolve MAC addresses.
   - d. A router uses NAT to translate private IP addresses, whereas a hub does not.

5. What are the properties of switched Ethernet?
   - a. Switched Ethernet operates at the MAC layer and provides wire-speed switching.
   - b. Switched Ethernet is a broadcast domain and all devices on the same switch can communicate.
   - c. Switched Ethernet is a collision domain and all devices on the same switch share the same bandwidth.
   - d. Switched Ethernet is a link layer protocol and is used to connect devices.

6. What does the internet do on an Internet server?
   - a. Provides packet-level internetworking.
   - b. Provides transport-level internetworking.
   - c. Provides application-level internetworking.
   - d. Provides end-to-end internetworking.

7. What is a router for Internet purposes?
   - a. A router is a device that connects two or more networks and provides wire-speed routing.
   - b. A router is a device that connects two or more networks and provides wire-speed switching.
   - c. A router is a device that connects two or more networks and provides wire-speed forwarding.
   - d. A router is a device that connects two or more networks and provides wire-speed bridging.

8. What is the purpose of a network administrator?
   - a. A network administrator is responsible for the configuration and maintenance of network devices.
   - b. A network administrator is responsible for the security and performance of network devices.
   - c. A network administrator is responsible for the design and implementation of network devices.
   - d. A network administrator is responsible for the installation and support of network devices.

9. What is the difference between Ethernet and Fast Ethernet?
   - a. Fast Ethernet operates at a speed of 100 Mbps, whereas Ethernet operates at a speed of 10 Mbps.
   - b. Fast Ethernet uses a different protocol, whereas Ethernet uses a different protocol.
   - c. Fast Ethernet uses a different connectivity, whereas Ethernet uses a different connectivity.
   - d. Fast Ethernet uses a different media type, whereas Ethernet uses a different media type.

10. What is the difference between Ethernet and Gigabit Ethernet?
    - a. Gigabit Ethernet operates at a speed of 1 Gbps, whereas Ethernet operates at a speed of 10 Mbps.
    - b. Gigabit Ethernet uses a different protocol, whereas Ethernet uses a different protocol.
    - c. Gigabit Ethernet uses a different connectivity, whereas Ethernet uses a different connectivity.
    - d. Gigabit Ethernet uses a different media type, whereas Ethernet uses a different media type.

11. What is the difference between Ethernet and OC-12?
    - a. OC-12 operates at a speed of 1.25 Gbps, whereas Ethernet operates at a speed of 10 Mbps.
    - b. OC-12 uses a different protocol, whereas Ethernet uses a different protocol.
    - c. OC-12 uses a different connectivity, whereas Ethernet uses a different connectivity.
    - d. OC-12 uses a different media type, whereas Ethernet uses a different media type.

12. What is the difference between Ethernet and SONET?
    - a. SONET operates at a speed of 51 Mbps, whereas Ethernet operates at a speed of 10 Mbps.
    - b. SONET uses a different protocol, whereas Ethernet uses a different protocol.
    - c. SONET uses a different connectivity, whereas Ethernet uses a different connectivity.
    - d. SONET uses a different media type, whereas Ethernet uses a different media type.

13. What is the difference between Ethernet and FDDI?
    - a. FDDI operates at a speed of 100 Mbps, whereas Ethernet operates at a speed of 10 Mbps.
    - b. FDDI uses a different protocol, whereas Ethernet uses a different protocol.
    - c. FDDI uses a different connectivity, whereas Ethernet uses a different connectivity.
    - d. FDDI uses a different media type, whereas Ethernet uses a different media type.

14. What is the difference between Ethernet and ATM?
    - a. ATM operates at a speed of 51 Mbps, whereas Ethernet operates at a speed of 10 Mbps.
    - b. ATM uses a different protocol, whereas Ethernet uses a different protocol.
    - c. ATM uses a different connectivity, whereas Ethernet uses a different connectivity.
    - d. ATM uses a different media type, whereas Ethernet uses a different media type.

15. What is the difference between Ethernet and FDDI?
    - a. FDDI operates at a speed of 1 Gbps, whereas Ethernet operates at a speed of 10 Mbps.
    - b. FDDI uses a different protocol, whereas Ethernet uses a different protocol.
    - c. FDDI uses a different connectivity, whereas Ethernet uses a different connectivity.
    - d. FDDI uses a different media type, whereas Ethernet uses a different media type.

16. What is the difference between Ethernet and SONET?
    - a. SONET operates at a speed of 1.25 Gbps, whereas Ethernet operates at a speed of 10 Mbps.
    - b. SONET uses a different protocol, whereas Ethernet uses a different protocol.
    - c. SONET uses a different connectivity, whereas Ethernet uses a different connectivity.
    - d. SONET uses a different media type, whereas Ethernet uses a different media type.

17. What is the difference between Ethernet and ATM?
    - a. ATM operates at a speed of 51 Mbps, whereas Ethernet operates at a speed of 10 Mbps.
    - b. ATM uses a different protocol, whereas Ethernet uses a different protocol.
    - c. ATM uses a different connectivity, whereas Ethernet uses a different connectivity.
    - d. ATM uses a different media type, whereas Ethernet uses a different media type.

18. What is the difference between Ethernet and FDDI?
    - a. FDDI operates at a speed of 1 Gbps, whereas Ethernet operates at a speed of 10 Mbps.
    - b. FDDI uses a different protocol, whereas Ethernet uses a different protocol.
    - c. FDDI uses a different connectivity, whereas Ethernet uses a different connectivity.
    - d. FDDI uses a different media type, whereas Ethernet uses a different media type.

19. What is the difference between Ethernet and SONET?
    - a. SONET operates at a speed of 1.25 Gbps, whereas Ethernet operates at a speed of 10 Mbps.
    - b. SONET uses a different protocol, whereas Ethernet uses a different protocol.
    - c. SONET uses a different connectivity, whereas Ethernet uses a different connectivity.
    - d. SONET uses a different media type, whereas Ethernet uses a different media type.

20. What is the difference between Ethernet and ATM?
    - a. ATM operates at a speed of 51 Mbps, whereas Ethernet operates at a speed of 10 Mbps.
    - b. ATM uses a different protocol, whereas Ethernet uses a different protocol.
    - c. ATM uses a different connectivity, whereas Ethernet uses a different connectivity.
    - d. ATM uses a different media type, whereas Ethernet uses a different media type.