

Wired And Wireless Local Area Networks Quiz Questions and Answers PDF

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Which of the following cable types is typically used in wired LANs?

- CoaxIAL
- Twisted Pair ✓**
- HDMI
- USB

Wired LANs typically use Ethernet cables, specifically twisted pair cables such as Cat5e, Cat6, or Cat6a. These cables provide reliable data transmission and are the standard for local area networking.

Which frequency band is commonly used by Wi-Fi networks?

- 1 GHz
- 2.4 GHz ✓**
- 3.5 GHz
- 4.9 GHz

Wi-Fi networks commonly operate on the 2.4 GHz and 5 GHz frequency bands, with newer standards also utilizing the 6 GHz band.

In a wired LAN, what device is used to connect multiple devices within the network?

- Modem
- Switch ✓**
- Access Point
- Repeater

In a wired LAN, a switch is the primary device used to connect multiple devices, allowing them to communicate with each other efficiently.

Which of the following is a security protocol used in wireless networks?

- SSL
- WEP ✓
- HTTPS
- FTP

WPA2 (Wi-Fi Protected Access 2) is a widely used security protocol designed to secure wireless networks by providing strong encryption and authentication mechanisms.

How does the choice of frequency band (2.4 GHz vs. 5 GHz) affect the performance of a wireless LAN?

The 2.4 GHz band is better for longer range and penetrating obstacles, but it is more crowded and slower, while the 5 GHz band offers faster speeds and less interference but has a shorter range.

Which of the following Wi-Fi standards support both 2.4 GHz and 5 GHz bands? (Select all that apply)

- 802.11 a
- 802.11 n ✓
- 802.11 ac ✓
- 802.11 b

Wi-Fi standards that support both 2.4 GHz and 5 GHz bands include 802.11n, 802.11ac, and 802.11ax. These standards are designed to provide better performance and flexibility in wireless networking.

Which security protocols are considered more secure for wireless networks? (Select all that apply)

- WEP
- WPA
- WPA2 ✓
- WPA3 ✓

The most secure protocols for wireless networks are WPA3 and WPA2, as they provide stronger encryption and better security features compared to older protocols like WEP and WPA.

What is a common topology used in wired LANs?

- Mesh
- Star ✓**
- Tree
- Hybrid

A common topology used in wired LANs is the star topology, where all devices are connected to a central hub or switch. This configuration allows for easy management and troubleshooting of the network.

What are the advantages of using a wireless LAN? (Select all that apply)

- Increased mobility ✓**
- Easier scalability ✓**
- Higher speed than wired LAN
- Reduced installation cost ✓**

Wireless LANs offer flexibility, ease of installation, and mobility for users, allowing devices to connect without physical cables. They also facilitate easier network expansion and can reduce installation costs.

Which of the following are benefits of using a wired LAN? (Select all that apply)

- Higher security ✓**
- Greater mobility
- Lower latency ✓**
- Easier installation

Wired LANs offer several advantages including higher speed, reliability, and security compared to wireless networks. They are less susceptible to interference and provide consistent performance for data-intensive applications.

Describe the role of an access point in a wireless LAN.

The role of an access point in a wireless LAN is to provide a connection point for wireless devices to access the network, facilitating communication and data transfer between these devices and the wired network.

Discuss the impact of network topology on the performance and reliability of a wired LAN.

The impact of network topology on the performance and reliability of a wired LAN is profound; for instance, star topology offers better performance and reliability due to centralized management and easier fault isolation, while bus topology may suffer from performance degradation and reliability issues as more devices are added.

Why might an organization choose to implement a hybrid network combining both wired and wireless technologies?

A hybrid network combines wired and wireless technologies to enhance flexibility, scalability, and performance, allowing organizations to meet diverse connectivity requirements.

What are common issues that can affect wireless LAN performance? (Select all that apply)

- Signal interference** ✓
- Cable faults
- Connectivity drops** ✓
- Port failures

Common issues that can affect wireless LAN performance include interference from other devices, signal attenuation due to physical obstructions, network congestion, and improper configuration of network settings.

Which Wi-Fi standard is known for operating on the 5 GHz band?

- 802.11 b
- 802.11 g
- 802.11 n
- 802.11 a** ✓

The Wi-Fi standard known for operating on the 5 GHz band is 802.11ac. This standard offers higher data rates and improved performance in environments with multiple devices compared to its predecessors.

Explain the main differences between a wired LAN and a wireless LAN.

The main differences between a wired LAN and a wireless LAN are that wired LANs rely on physical cables for data transmission, resulting in faster and more reliable connections, whereas wireless LANs use radio signals, allowing for greater mobility and flexibility but often at the cost of speed and security.

What is the most common technology used in wired LANs?

- Bluetooth
- Ethernet** ✓
- Wi-Fi
- NFC

The most common technology used in wired LANs is Ethernet, which provides a reliable and efficient method for connecting devices within a local area network.

What does SSID stand for in wireless networking?

- Secure System Identification
- Service Set Identifier ✓**
- Standard Signal Identification
- System Service ID

SSID stands for Service Set Identifier, which is a unique name used to identify a wireless network. It allows devices to connect to the correct network among multiple available options.

Which components are essential for a wireless LAN? (Select all that apply)

- Router ✓**
- Access Point ✓**
- Ethernet Cable
- SSID ✓**

A wireless LAN requires essential components such as wireless access points, network interface cards, and a router to facilitate communication and connectivity among devices.

What are the potential security risks associated with wireless LANs, and how can they be mitigated?

Potential security risks associated with wireless LANs include unauthorized access, eavesdropping, and data interception. To mitigate these risks, organizations should implement strong encryption protocols (like WPA3), use secure authentication methods (such as 802.1X), and regularly monitor the network for unusual activity.