Exam Report: 6.4.4 Practice Questions

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Overall Performance

Your Score: 56%

Passing Score: 80%

View results by: ◯ Objective Analysis   ⦿ Individual Responses

Individual Responses

▼ **Question 1:**   <u>Correct</u>

Which of the following is a wired networking method most commonly used today by desktop PCs and other network devices to connect to a local area network?

◯ Token Ring

◯ Bluetooth

➡ ⦿ Ethernet

◯ 802.11n

◯ ArcNet

Explanation

Ethernet is a wired local area network (LAN) standard. Most laptops and desktop computers have built-in Ethernet network ports.

Bluetooth is a wireless standard that allows the creation of short-range Personal Area Networks (PANs). Token Ring and ArcNet are older wired network standards that are nearly obsolete and not commonly used in a modern LAN. 802.11n is a wireless standard used in local area networks.

References

TestOut PC Pro - 6.4 Ethernet
[e_eth_pp6.exam.xml Q_ETH_FCT_ETHERNET]

▼ **Question 2:**   <u>Correct</u>

You have just signed up for a broadband home internet service that uses coaxial cable. Which connector type will you most likely use?

◯ ST

◯ RJ11

◯ RJ45

➡ ⦿ F-type

◯ BNC

Explanation

Use an F-type connector for broadband cable connections that use coaxial cable. Use a BNC connector for 10Base-2 Ethernet networks. Use an RJ11 connector for modem connections to a phone line. Use an RJ45 connector for an Ethernet network that uses twisted pair cable. Use ST and SC connectors for fiber optic cables.

References

TestOut PC Pro - 6.4 Ethernet
[e_eth_pp6.exam.xml Q_ETH_FCT_F-TYPE_CONNECTOR]

▼ **Question 3:**   Incorrect

Match the types of Ethernet connectivity devices on the left with the corresponding descriptions on the right. Each type of Ethernet connectivity device may be used once, more than once, or not at all.

Connects segments on the same subnet. Forwards signals to only the port connected to the destination device.

✔ Switch

Can be used to connect wireless clients to wired clients on the same network.

✔ Bridge

Connects two network segments that have different subnet addresses.

✔ Router

Connects segments on the same subnet. Repeats signals out to all other ports.

✔ Hub

Operates in full-duplex mode, meaning devices can both send and receive data at the same time.

~~Bridge~~   Switch

Operates in half-duplex mode, meaning devices can either send or receive data at any given time.

✔ Hub

Uses the IP address within a packet to move packets between networks.

✔ Router

Explanation

Ethernet uses a variety of connectivity devices, including hubs, switches, routers, and bridges.

A hub provides a central connection for multiple media segments on the same subnet. When a hub receives a signal, it is repeated out to all other ports. Hubs operate in half-duplex mode, meaning devices can either send or receive data at any given time.

A switch provides a central connection for multiple media segments on the same subnet. When a switch receives a signal, it forwards that signal only to the port where the destination device is connected. Switches operate in full-duplex mode, meaning devices can send and receive data at the same time because transmission paths are dedicated to only the communicating devices.

A router connects two network segments that have different subnet addresses. Routers use the IP address within a packet to move packets between networks.

A bridge connects two segments within the same subnet that use different media types. For example, use a bridge to connect wireless clients to wired clients on the same network.

References

TestOut PC Pro - 6.4 Ethernet
[e_eth_pp6.exam.xml Q_ETH_FCT_NETWORK_COMPONENTS_01]

▼ **Question 4:**   Incorrect

Which of the following devices allows network communications to be transmitted over existing AC power lines?

　○ AC-enabled switch

　○

◉ ~~Power over Ethernet~~

○ Ethernet multiplexer

○ AC Circuit Switch

➡ ○ Ethernet over Power

Explanation

An Ethernet over Power device allows for network communications to be transmitted over existing AC power lines. An Ethernet over Power device is plugged into one AC power outlet, and a second Ethernet over Power device is connected to the same AC circuit. These devices multiplex the AC copper power lines to transmit digital network signals at a frequency higher than the AC electrical power already on the circuit.

References

TestOut PC Pro - 6.4 Ethernet
[e_eth_pp6.exam.xml Q_ETH_FCT_NETWORK_COMPONENTS_02]

▼ **Question 5:**   Correct

Which of the following devices can be used to distribute electrical power along with network data on twisted-pair Ethernet cabling (CAT 5 or higher)?

○ AC-enabled switch

○ Ethernet multiplexer

○ Ethernet over Power

➡ ◉ Power over Ethernet

○ AC Circuit Router

Explanation

Power over Ethernet (PoE) technology can be used to distribute electrical power along with network data on twisted-pair Ethernet cabling (CAT 5 or higher). Power is usually supplied by a PoE-enabled Ethernet switch. PoE is commonly used to power network devices that are located where physical access to a power outlet may not be available. For example, a PoE-enabled surveillance camera mounted on a tall pole can be powered via its Ethernet cabling.

References

TestOut PC Pro - 6.4 Ethernet
[e_eth_pp6.exam.xml Q_ETH_FCT_NETWORK_COMPONENTS_03]

▼ **Question 6:**   Correct

Your network follows the 1000Base-T specifications for Gigabit Ethernet.

Which of the following is the MAXIMUM cable segment length allowed?

➡ ◉ 100 meters

○ 412 meters

○ 500 meters

○ 1,000 meters

○ 2,000 meters

Explanation

Gigabit Ethernet using twisted pair cables (either Cat 5e or Cat 6) has a maximum cable segment length of 100 meters. All Ethernet networks that use twisted pair cable (Ethernet, Fast Ethernet, and Gigabit

Ethernet) have a distance limitation of 100 meters.

References

TestOut PC Pro - 6.4 Ethernet
[e_eth_pp6.exam.xml Q_ETH_SPEC_1000BASE-T_01]

▼ **Question 7:**   <u>Correct</u>

Which of the following is true of a network using the 1000Base-T standard? (Select TWO.)

➡ ☑ The network uses copper UTP cables.

➡ ☑ The network operates at one gigabit per second.

☐ The network operates at one kilobit per second.

☐ The network operates at 10 gigabits per second.

☐ The network uses fiber optic cables.

Explanation

The 1000Base-T standard for Ethernet uses copper UTP cables (Cat5e or higher) and operates at 1000 Mbps (or 1 Gbps). With the exception of 10GBase designations, the number in Ethernet standards is based on megabits per second. Ethernet specifications with F, L, S, or E use fiber optic cables.

References

TestOut PC Pro - 6.4 Ethernet
[e_eth_pp6.exam.xml Q_ETH_SPEC_1000BASE-T_02]

▼ **Question 8:**   <u>Incorrect</u>

A medical center wants to upgrade their network backbone to 10-Gigabit Ethernet (10 Gbps) so they can perform daily backups of large amounts of data to the secure on-site storage area network (SAN) without bogging down the network. Some of the backbone segments will have to reach between buildings that are close to 300 meters apart.

Which of the following cable types BEST supports the 10-Gigabit Ethernet at the necessary segments lengths while keeping costs as low as possible?

◯ Twisted pair Category 6

◯ Twisted pair Category 7

◉ ~~Single-mode fiber optic~~

➡ ◯ Multimode fiber optic

Explanation

Multimode fiber optic cable is the only option that meets all the requirements. It supports 10-Gigabit Ethernet speeds with maximum segment lengths up to 300 meters.

Single-mode fiber optic cable can also support the 10-Gigabit Ethernet speeds and the segment lengths that are needed, but the cable and the connection equipment is more expensive than multimode fiber optic cable and connection equipment.

Twisted pair Category 6 and 7 cable can support 10-Gigabit Ethernet speeds, but the maximum segment length is 100 meters, which is not long enough for this scenario.

References

TestOut PC Pro - 6.4 Ethernet
[e_eth_pp6.exam.xml Q_ETH_SPEC_FIBER_TYPES_01]

▼ **Question 9:**   <u>Incorrect</u>

Which type of fiber optic cable supports 10 Gigabit Ethernet with a maximum segment length of up to 40 km?

○ 10GBaseT twisted pair Category 7

➡ ○ 10GBaseER single-mode

○ 10GBaseSR multimode

◉ ~~10GBaseLR single-mode~~

Explanation

10GBaseER (extended reach) is a port type for single-mode fiber optic cable that supports 10-Gigabit Ethernet with segment lengths up to 40 km.

10GBaseLR (long reach) is a port type for single-mode fiber optic cable that supports 10-Gigabit Ethernet with segment lengths up to 10 km.

10GBaseSR (short range) is a port type for multimode fiber optic cable that supports 10-Gigabit Ethernet with segment lengths up to 300 meters.

10GBaseT twisted pair Category 7 is a copper cable that supports 10-Gigabit Ethernet with segment lengths up to 100 meters.

References

TestOut PC Pro - 6.4 Ethernet
[e_eth_pp6.exam.xml Q_ETH_SPEC_FIBER_TYPES_02]