Exam Report: B.3 Domain 2: Networking, All Questions
_____

Date: 6/19/2017 8:02:11 am   Candidate: Stangl, Thomas (Email: tstangl@calarttech.edu)
Time Spent: 02:52:53
_____

Overall Performance

Your Score: 68%

View results by: ○ Objective Analysis   ● Individual Responses
_____

Individual Responses

▼ **Question 1:**   <u>Correct</u>

To answer this question, complete the lab using information below. | Launch Lab |
**You have completed this lab and may go on to the next
question.**

You completed the lab correctly. | View Lab Report |

Recently, you implemented a wireless network at your home. However, without
additional configuration, the wireless access point will allow connections from
any laptop or mobile device. You need to secure the wireless network from
unauthorized connections.

In addition, you suspect that wireless access points used by your neighbors are
interfering with your access point. You've discovered that they are using
channels 2 and 5 for their wireless networks.

Your task in this lab is to secure the wireless network as follows:

- Use **PoliceSurveillanceVan** for the SSID. **Note**: The SSID name is
  case sensitive.
- Disable SSID broadcasts.
- Set the channel such that it doesn't conflict with access points in
  neighboring homes.
- Use **WPA2-PSK** authentication, with **AES** for encryption.
- Configure **S3CuR31!** as the security key. **Note**: The security key is
  case sensitive.
- Only allow devices with following hardware addresses to connect to
  the wireless network:
    - **00:87:FC:E2:E5:D2**
    - **00:50:56:C0:00:08**
    - **00:87:FC:E2:E5:F2**
- Change the administrator authentication credentials on the wireless
  access point to:
    - Username: **@dm1n**
    - Password: **p@SSw@Rd**

To view and configure the wireless access point, use Internet Explorer
and go to **192.168.0.100**. Enter username: **admin** and password:
password.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm WIRELESS3-PB]

▼ **Question 2:**   Incorrect

🖥 To answer this question, complete the lab using information below.   [**Launch Lab**]

You did not complete the lab correctly.

You work as the IT Administrator for a small corporate network. The network uses a DHCP server for IP address configuration for most clients. While in the Executive Office, the manager asked you to configure her laptop for use in both her small office/home office (SOHO) and at work. The laptop is currently configured with a static wireless connection for her SOHO, but the laptop is not connecting to the network while at the office. You need to configure the TCP/IP properties on the laptop to work on both networks.

Your task in this lab is to do the following:

- Record the laptop's static IP and DNS configuration settings.
- Configure the laptop to obtain IP and DNS addresses automatically.
- Create an alternate TCP/IP connection with the static settings.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm DHCP2-PB]

▼ **Question 3:**   Incorrect

A portable computer connected to a printer with an infrared interface works fine inside your office. However, when you go outside it works sporadically. How can you fix this? (Select two.)

➡ ☐ Move the printer closer to the computer.

☐ Install a Gamma Ray Spectrometer (GRS) to shield the interface.

➡ ☑ Block any direct and reflected sunlight from the pathway between the PC and the printer.

☐ Set the environment setting to outdoor mode in the BIOS.

Explanation

Infrared light is light that is near visible light in the electromagnetic spectrum. Therefore very bright lights and in particular sunlight may cause interference with infrared interfaces. The best way to manage this interference is to minimize the distance between the connected devices and minimize interfering sunlight.

References

LabSim for PC Pro, Section 6.9.
[pcpro2016_all_questions_en.exm INFRARED_01]

▼ **Question 4:**   Incorrect

You want to use a wireless keyboard and mouse with your laptop computer. Which method should you choose?

- ○ IEEE 1394

- ◉ ~~802.11g wireless~~

➡ ○ Bluetooth

- ○ PS/2

- ○ USB

Explanation

Bluetooth would be the best choice because it has a high transfer rate and because it automatically detects other Bluetooth devices in the area and creates an encrypted PAN between them. 802.11g is a wireless networking standard for communicating between computers, not for connecting wireless devices to a computer. PS/2, IEEE 1394 (Firewire), and USB are all wired connection standards.

References

LabSim for PC Pro, Section 6.9.
[pcpro2016_all_questions_en.exm BLUETOOTH_01]

▼ **Question 5:**   <u>Correct</u>

What is the maximum range of the Bluetooth 2.0 specification for Class 1 devices?

- ○ 300 M

- ○ 10 M

- ○ 50 M

- ○ 30 M

➡ ◉ 100 M

Explanation

Bluetooth version 2.0 class 1 devices have a maximum range of about 100 meters. Earlier versions had a maximum range of only about 10 meters.

References

LabSim for PC Pro, Section 6.9.
[pcpro2016_all_questions_en.exm BLUETOOTH_02]

▼ **Question 6:**   <u>Correct</u>

Which of the following are characteristics of Bluetooth? (Select two.)

➡️ ☑️ 2.4 GHz radio wireless

☐ Line-of-sight transmission

☐ Red spectrum light waves

➡️ ☑️ Ad hoc connections

☐ 5.75 GHz radio wireless

Explanation

Bluetooth is a wireless networking standard that uses 2.4 GHz radio waves. These are the same type of radio waves used with 802.11 wireless networking, so radio transmission can go through walls (not limited to line-of-sight connections). Bluetooth uses ad hoc connections between devices. Infrared uses red spectrum light waves and is limited to line-of-sight transmissions.

References

LabSim for PC Pro, Section 6.9.
[pcpro2016_all_questions_en.exm BLUETOOTH_03]

▼ **Question 7:**   Correct

What is the maximum transmission speed for Bluetooth v3 and v4 devices?

○ 11 Mbps

○ 1 Mbps

○ 3 Mbps

➡️ ⦿ 24 Mbps

Explanation

Bluetooth v3 and v4 devices have a maximum transmission speed of up to 24 Mbps.

Bluetooth v1.2 devices have a maximum transmission speed of up to 1 Mbps. Bluetooth v2 devices have a maximum transmission speed of up to 3 Mbps. The wireless standard 802.11b transmits data at a rate of up to 11 Mbps.

References

LabSim for PC Pro, Section 6.9.
[pcpro2016_all_questions_en.exm BLUETOOTH_04]

▼ **Question 8:**   Incorrect

You need a type of wireless connection that can transfer data between your phone, PDA, and laptop. You are transferring sensitive information. Which would be the best choice?

○ Cellular WAN

⦿ ~~Wireless Ethernet~~

➡️ ○ Bluetooth

○ Infrared

Explanation

A Bluetooth connection would be the best choice because it automatically detects Bluetooth-enabled devices and creates a wireless PAN between them. It can be used for both voice and

data signals, and it also provides 128-bit encryption to protect sensitive information in transit. Infrared is a line-of-sight medium so it may be difficult to maintain connectivity, it also doesn't provide encryption. Cellular WAN provides very little security for information in transit and requires a cellular connection for each device. Wireless Ethernet is used for transferring data, not connecting devices.

References

LabSim for PC Pro, Section 6.9.
[pcpro2016_all_questions_en.exm BLUETOOTH_05]

▼ Question 9:   Correct

You want to use a wireless printer at home. The printer will be used by two computers in two different rooms. Which interfaces could be used to do this?

- ○ IEEE 1394
- ○ USB
- ○ Infrared (IrDA)
- ➡ ◉ Wireless Ethernet
- ○ IEEE 1284

Explanation

You could use an 801.11 wireless Ethernet connection for the printer. 802.11 wireless Ethernet has a greater range than infrared, and will go through walls. The other interfaces are wired interfaces. IEEE 1394 is Firewire. IEEE 1284 is parallel.

References

LabSim for PC Pro, Section 6.9.
[pcpro2016_all_questions_en.exm BLUETOOTH_06]

▼ Question 10:   Correct

Which of the following wireless communication technologies can be described as follows?

- Has a very limited transmission range, of less than two inches
- Used with credit cards and passports
- Slower than other wireless technologies
- Constantly emitting a signal

- ○ Infrared in line-of-sight mode
- ○ Infrared in diffuse mode
- ○ Bluetooth
- ➡ ◉ NFC
- ○ IEEE 1394

Explanation

Near Field Communication, or NFC, uses the 13.56 MHz frequency and has a very short range—in order for devices to communicate, they have to be within two inches of each other. NFC chips are being used for such applications as passports and credit cards to contain all the information about the passport holder or the credit card account. NFC chips use encryption algorithms to secure the connection but are constantly emitting a signal and use a much slower transmission speed than other wireless technologies.

References

LabSim for PC Pro, Section 6.9.
[pcpro2016_all_questions_en.exm NFC]

▼ **Question 11:**   <u>Correct</u>

Drag the wireless networking technology on the left to its associated transmission distance limitation on the right. Each technology can be used more than once.

Up to 100 meters for Class 1 devices

> ✔ Bluetooth

Up to 30 meters in areas without interference

> ✔ Infrared

Up to 10 meters for Class 2 devices

> ✔ Bluetooth

Explanation

Radio frequency wireless transmissions can reach up to 356 meters, depending upon the 802.11 standard used and interference present in the environment.

Infrared wireless transmissions work best for devices within 1 meter, but can operate up to 30 meters in areas without ambient light interference.

The maximum Bluetooth transmission distance depends on the device class:

- Class 3 devices transmit up to 1 meter.
- Class 2 devices transmit up to 10 meters.
- Class 1 devices transmit up to 100 meters.

References

LabSim for PC Pro, Section 6.9.
[pcpro2016_all_questions_en.exm BLUETOOTH_07]

▼ **Question 12:**   <u>Correct</u>

You are installing a satellite connection so your home office can connect to the Internet. Which of the following statements is true?

- ◯ You must have at the least one available phone line for data uploads.

➡ ◉ The satellite dish must be pointed in the correct direction for communicating with the satellite.

- ◯ The connection between the satellite modem and dish uses a USB cable and connector.

- ◯ The connection to your computer from the satellite modem may be RJ-11 or F-type.

Explanation

During installation, the satellite dish must be pointed in the correct direction for communicating with the satellite. With a single line satellite installation, the satellite connection is used for downloads, and a phone line with a modem is used for uploads. Connect a satellite modem/router to the satellite disk using coaxial cable (RG-6) and an F-type connector. Connect the modem/router to your computer using a USB or Ethernet connection.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm SATELLITE_CONN_01]

▼ **Question 13:**   <u>Incorrect</u>

Which of the following are used to connect a cable modem to the Internet connection? (Select two.)

➡️ ☑ F-type connectors

☐ RJ-11 connectors

☐ Cat5 UTP cable

➡️ ☐ RG-6 coaxial cable

☐ Cat6 UTP cable

☑ ~~RJ-45 connectors~~

Explanation

Cable modems connect to the service provider using coaxial cable (RG-6) and an F-type connector. DSL routers and dial-up modems use RJ-11 connectors. Ethernet uses Cat5 and Cat6 UTP cables and RJ-45 connectors.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm CABLE_CONN_01]

▼ **Question 14:**　　　　　Correct

To access the Internet through the Publicly Switched Telephone Network (PSTN), what kind of connectivity device must you use?

○ CSU/DSU

○ TDM

➡️ ⦿ Modem

○ Switch

○ DTE

Explanation

To establish a connection to the Internet through the PSTN/POTS you must use a modem (modulator/demodulator) which converts digital PC data into analog signals that can be transmitted through standard telephone lines. A CSU/DSU (Channel Service Unit/Data Service Unit) is a digital-interface device used to connect a router to a digital circuit such as a T1 or T3 line. Data terminal equipment (DTE) is an end instrument that converts user information into signals for transmission or reconverts received signals into user information. Time-Division Multiplexing (TDM) is a type of digital or (rarely) analog multiplexing in which two or more signals or bit streams are transferred apparently simultaneously as sub-channels in one communication channel, but physically are taking turns on the channel. A switch is a device for changing the course (or flow) of a circuit.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm MODEM_01]

▼ **Question 15:**　　　　　Correct

You are talking with a customer support technician on the telephone. The technician recommends downloading a particular driver from Internet. When you try to connect to the Internet using your modem, you can't. What is the problem?

➡️ ◉ You need to hang up.

⭕ You need to disable call waiting.

⭕ You need to install and configure TCP/IP.

⭕ The ISP access number is incorrect.

Explanation

You cannot talk on the telephone over the same line that the modem needs to use. When you try to connect with the modem, the line will be in use and the connection will fail because the modem can't dial the destination device. When troubleshooting a modem connection: Verify that the modem gets a dial tone. Verify that the modem dials the correct number. Verify that the receiving device answers the call. Verify network connection parameters (such as TCP/IP settings or connection settings). Verify any authentication or logon parameters.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm DIALUP_01]

▼ **Question 16:**   Correct

Which type of network medium is used by an Integrated Services Digital Network (ISDN) adapter?

⭕ Wireless radio waves

➡️ ◉ Copper telephone wire

⭕ Infrared light waves

⭕ Cable TV coaxial cable

⭕ Fiber-optic cable

Explanation

ISDN is a set of standards that allow digital data to be sent and received over copper wiring.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm ISDN_01]

▼ **Question 17:**   Incorrect

Which of the following network technologies is packaged as part of a BRI plan?

➡️ ⭕ ISDN

⭕ Cable modem

⭕ Dial-up

◉ ~~DSL~~

Explanation

ISDN is a digital service operating over standard telephone company copper wiring offered in a variety of configurations. ISDN consists of multiple 64 Kbps channels. Basic Rate Interface (BRI) is a standard ISDN offering for household service.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm ISDN_02]

▼ **Question 18:**   <u>Incorrect</u>

Which of the following are features of Basic Rate ISDN (BRI)? (Select three.)

➡ ☑ Dial-up connection

   ☑ ~~Three control channels~~

   ☑ ~~Always-on connection~~

   ☐ Up to 24 data channels

➡ ☐ One control channel

➡ ☐ Two data Channels

Explanation

Basic Rate ISDN service is a dial-up service consisting of two 64 Kbps data (bearer) channels and a single control (delta) channel. The two data channels can be used independently of each other or bonded together to provide a total bandwidth of 128 Kbps. Primary Rate ISDN (PRI) shares many of the features of BRI, but includes up to 24 data channels.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm ISDN_BRI_01]

▼ **Question 19:**   <u>Correct</u>

When configuring an ADSL installation, where should you to install the DSL filters?

➡ ⦿ On connections leading to an analog phone

   ◯ On all F-type connectors

   ◯ On the connection leading to the DSL router

   ◯ After the DSL router but before any computers

Explanation

For ADSL installations, place filters (splitters) on the line everywhere that an analog phone is used. Do not install a filter on the line connected to the DSL router or DSL card. An F-type connector is used in cable Internet and TV connections.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm ADSL_01]

▼ **Question 20:**   <u>Correct</u>

Which actions allow you to access the Internet on your laptop via a cellular network?

   ◯ Connect the cell phone to the PHONE port on the dialup modem in your office, and connect the laptop to the LINE port on the modem.

   ◯ Connect your wireless access point to the cellular network with a USB dongle, then connect the laptop to the access point using an 802.11b/g/n connection.

   ◯ Connect the laptop to the RJ-11 jack in your office.

➡ ◉ Install a cellular USB adapter in a open port on the laptop.

Explanation

To access content on your computer (laptop):

- • Install a cellular adapter in a PCMCIA, ExpressCard, or USB slot.
- • Install and configure the software to use the card.

An RJ-11 connection is typically for analog phones, and is used for DSL, ISDN, and Dialup Internet connections. Dialup Internet connections use two ports on the modem:

- • The LINE port connects the modem to the wall jack.
- • The PHONE port connects the modem to the analog phone.

You can't typically connect a USB device, such as a cellular adapter, to a wireless access point.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm CELLULAR_01]

▼ **Question 21:**   Incorrect

You are configuring an ADSL connection. Which of the following will be part of the configuration? (Select two.)

➡ ☑ Filters or splitters

➡ ☐ RJ-11 connectors

☐ RG-6 cable

☐ Analog modem

☑ ~~F-type connectors~~

Explanation

To connect to the Internet through a DSL connection:

- • Install an internal DSL card in a single computer, or connect a DSL router to the phone line.
- • Use a phone cable with an RJ-11 connector to connect the DSL card or router to the phone line. For ADSL, place filters (splitters) on the line everywhere that an analog phone is used.
- • Do not install a filter on the line connected to the DSL router.

Analog modems are used for dial-up Internet access. F-type connectors and RG-6 cable are used for cable Internet access.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm ADSL_02]

▼ **Question 22:**   Correct

A healthcare organization provides mobile clinics throughout the world and needs to transfer patient statistical data to a central database via the Internet. Which network technology should you select to ensure network connectivity for any clinic located anywhere in the world, even remote areas?

➡ ◉ Satellite

◯ ISDN

○ DSL

○ Dial-up

○ Cable modem

Explanation

Satellite capability is available even in areas that do not have a local network infrastructure. Satellite requires a local portable transmitter with an antenna directed skywards to a satellite. Satellite service providers offer nearly 100% global network coverage by maintaining a series of satellites circling the earth in geosynchronous orbit. Dial-up, ISDN and cable modem, require a local network infrastructure provided by either the telephone company or cable television company.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm SATELLITE_01]

▼ **Question 23:** <u>Correct</u>

Which of the following types of Internet connection services can allow you to be truly mobile while maintaining your Internet connection?

➡ ◉ Cellular

○ ISDN BRI

○ Satellite

○ Mobile hot spot

○ Wi-Fi

Explanation

Cellular networking uses the cellular phone infrastructure for Internet access. The computing device, such as a notebook or tablet, must have a cellular antennae to connect directly to the cellular network. You can travel anywhere and stay connected to the network, as long you are within the coverage area of the cellular service provider. You can also connect a computing device to a cellular network by tethering it to a smartphone or by using a smartphone as a wi-fi hot-spot.

Mobile hot-spots are devices that can be used to connect to a cellular network. Wi-fi is a technology that provides wireless access to a computer network but is limited to the range of the wireless access point. Satellite networking requires a satellite dish, which is not truly mobile. ISDN is a land line based technology.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm CELLULAR_03]

▼ **Question 24:** Incorrect

Which of the following are options for connecting a computing device, such as a notebook computer or a tablet, to a cellular network? (Select all that apply.)

➡ ☑ Use a USB cellular antennae to connect the device directly to the cellular network

☑ ~~Use the device's wi-fi to connect to the cellular network through a cable modem's wi-fi antennae~~

☐ Use a USB cable to connect the device to the cellular network through a cable modem

➡ ☑ Use an integrated cellular antennae to connect the device directly to the cellular network

➡ ☐ Use the device's wi-fi to connect to the network through a cellular wi-fi hot spot

☐ Use an integrated transmitter to connect the device directly to the cellular network through a satellite

☐ Use a USB transmitter to connect the device directly to the cellular network through a satellite

➡ ☐ Use a USB cable to connect the device to the network through a smartphone

Explanation

You can connect a computing device, such as a notebook computer or a tablet, to a cellular network by using any of these four options:

- Use a USB cable to connect the device to the network through a smartphone
- Use the device's wi-fi to connect to the network through a cellular wi-fi hot spot
- Use a USB cellular antennae to connect the device directly to the cellular network
- Use an integrated cellular antennae to connect the device directly to the cellular network

A transmitter antennae, or a dish, to communicate with a satellite will connect you to a satellite network, not a cellular network. Connecting to the cable service will also not connect you to a cellular network. Cable is a separate type of networking service.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm CELLULAR_02]

▼ **Question 25:**   Correct

Your network follows the 1000Base-T specifications for Gigabit Ethernet. What is the maximum cable segment length allowed?

○ 2,000 meters

○ 412 meters

➡ ◉ 100 meters

○ 500 meters

○ 1,000 meters

Explanation

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

References

LabSim for PC Pro, Section 6.4.
[pcpro2016_all_questions_en.exm 1000BASE-T_01]

▼ **Question 26:**   Correct

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

☐ The network operates at one kilobit per second

➡ ☑ The network uses copper UTP cables

➡️ ☑ The network operates at one gigabit per second

☐ The network operates at ten 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

LabSim for PC Pro, Section 6.4.
[pcpro2016_all_questions_en.exm 1000BASE-T_02]

▼ **Question 27:**   <u>Correct</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 will support 10 Gigabit Ethernet at the necessary segments lengths while keeping costs as low as possible?

➡️ ⦿ Multimode fiber optic

◯ Single-mode fiber optic

◯ Twisted pair Category 6

◯ Twisted pair Category 7

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--not long enough for this scenario.

References

LabSim for PC Pro, Section 6.4.
[pcpro2016_all_questions_en.exm FIBER TYPES_01]

▼ **Question 28:**   <u>Correct</u>

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

◯ 10GBaseSR multimode

➡️ ⦿ 10GBaseER single-mode

◯ 10GBaseLR single-mode

◯ 10GBaseT twisted pair Category 7

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

LabSim for PC Pro, Section 6.4.
[pcpro2016_all_questions_en.exm FIBER TYPES_02]

▼ **Question 29:**   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

~~Router~~ | Bridge

Connects two network segments that have different subnet addresses

~~Bridge~~ | Router

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

✔ Hub

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

✔ 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 the following:

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

LabSim for PC Pro, Section 6.4.
[pcpro2016_all_questions_en.exm NETWORK COMPONENTS_01]

▼ **Question 30:**		Incorrect

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

○ AC Circuit Switch

➡ ○ Ethernet over Power

◉ ~~Power over Ethernet~~

○ Ethernet multiplexer

○ AC-enabled switch

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 in to 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

LabSim for PC Pro, Section 6.4.
[pcpro2016_all_questions_en.exm NETWORK COMPONENTS_02]

▼ **Question 31:**		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)?

○ Ethernet multiplexer

○ AC Circuit Router

➡ ◉ Power over Ethernet

○ Ethernet over Power

○ AC-enabled switch

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

LabSim for PC Pro, Section 6.4.
[pcpro2016_all_questions_en.exm NETWORK COMPONENTS_03]

▼ **Question 32:**   <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?

➡ ⦿ Ethernet

     ◯ 802.11n

     ◯ Bluetooth

     ◯ ArcNet

     ◯ Token Ring

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

LabSim for PC Pro, Section 6.4.
[pcpro2016_all_questions_en.exm PC 2016 ETHERNET]

▼ **Question 33:**   <u>Incorrect</u>

Which of the following statements about the Dynamic Host Configuration Protocol (DHCP) are true? (Select two.)

     ☐ The DHCP server detects workstations when they attach to the network and automatically delivers IP addressing information to them.

     ☐ It cannot be configured to assign the same IP address to the same host each time it boots.

➡ ☐ It can deliver a DNS server address in addition to the host IP address.

     ☑ ~~It can only deliver IP addresses to hosts.~~

➡ ☑ A workstation must request addressing information from a DHCP server.

Explanation

DHCP servers deliver IP addresses as well as other host configuration information to network hosts. DHCP can be configured to assign any available address to a host, or it can assign a specific address to a specific host. DHCP clients, typically workstations, must send a request to a DHCP server before it will send IP addressing information to them.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm DHCP_01]

▼ **Question 34:**   Correct

You are setting up a small network in your office with one Windows server and 50 Windows workstations. You want to spend as little time as possible configuring the workstations with IP addressing information. What should you do?

➡ ⦿ Install the DHCP service on your server.

◯ Install the WINS service on your server.

◯ Install the DHCP service on each workstation.

◯ Assign each user an IP address and instruct the user to enter the IP address in his or her computer.

Explanation

The DHCP protocol allows you to assign IP addresses automatically. In this scenario, you should configure the DHCP service to run on the network server. The DHCP client on each workstation can then contact the DHCP server when the workstations connect to the network to be automatically assigned IP addressing information. You could instruct each user to manually enter IP addressing information but there is a higher chance of error and will likely require more administrative overhead.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm DHCP_02]

▼ **Question 35:**   Correct

Which TCP/IP configuration parameter identifies the router that is used to reach hosts on remote networks?

◯ WINS server address

➡ ⦿ Default gateway

◯ Subnet mask

◯ DNS server address

◯ Host name

◯ Alternate IP address

Explanation

The default gateway identifies the router to which packets for remote networks are sent. The subnet mask identifies which portion of the IP address is the network address. The WINS server address identifies the WINS server that is used to resolve NetBIOS host names to IP addresses. The DNS server address identifies the DNS server that is used to resolve host names to IP addresses. The alternate IP address identifies IP addressing information to be used in the event the DHCP server can't be reached. The host name identifies the logical name of the local system.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm DEFAULT GATEWAY_01]

▼ **Question 36:**   Incorrect

Which tool would you use in Windows Vista/7 to manage network connections?

➡ ◯ Network and Sharing Center

◯ Internet Options

⦿ ~~My Network Places~~

○ Network Neighborhood

Explanation

Use the Network and Sharing Center in Windows Vista/7 to view and manage network connections. My Network Places is in Windows XP, and Network Neighborhood is in Windows 98. Use Internet Options to configure Internet and Internet Explorer settings.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm MANAGE CONNECTIONS_01]

▼ **Question 37:**   Correct

Which service can you use on your network to automatically assign IP addresses to hosts and to help prevent the same address from being assigned to two different hosts?

○ IGMP

○ TCP

➡ ◉ DHCP

○ ICMP

Explanation

You can use the Dynamic Host Configuration Protocol (DHCP) to set up a DHCP server that will assign IP addresses automatically to network hosts. DHCP servers will not assign the same IP address to two different hosts. ICMP is chiefly used by networked computers' operating systems to send error messages. The Transmission Control Protocol (TCP) is one of the core protocols of the Internet protocol suite. The Internet Group Management Protocol (IGMP) is a communications protocol used to manage the membership of Internet Protocol multicast groups.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm DHCP_03]

▼ **Question 38:**   Correct

Which mechanisms could you use to resolve a hostname into its associated IP address? (Select two.)

☐ DHCP

➡ ☑ hosts file

➡ ☑ DNS

☐ BOOTP

☐ FTP

Explanation

You can use the Domain Name System (DNS) to get the IP address from a given host name. You can also use the local hosts file to map host names into IP addresses. On Windows systems, this file is located in C:\Windows\system32\drivers\etc\. You can use either the DHCP protocol or the BOOTP protocol to assign IP address and other configuration information to hosts automatically. Use FTP to transfer files.

References

LabSim for PC Pro, Section 6.6.

[pcpro2016_all_questions_en.exm NAME RESOLUTION_01]

▼ **Question 39:**   Incorrect

You are the computer specialist in a small business. Your company server is named FS1 and has an IP address of 10.0.0.2. The hardware in your company server has started to experience intermittent failures, so you transferred the shares on the server to a spare server and took the main server offline. The spare server has an IP address of 10.0.0.3. You edit the existing A record for FS1 on your company's DNS server and redirect the hostname to the spare server's IP address of 10.0.0.3.

After doing so, most users are able to access the shares on the spare server by hostname, but several users cannot. Instead, they see an error message indicating the FS1 server could not be found.

Enter the command you can run from the command prompt on these workstations that will allow them to access the shares on FS1 without performing a full restart.

	ipconfig /flushdns

Explanation

Workstations maintain a cache of recently-resolved DNS names. When you use a DNS name, the computer first checks its cache. If the name is in the cache, the corresponding IP address will be used. This can sometimes cause problems if the IP address of a host has changed. Old values in the cache might continue to be used for a time, making communication using the DNS name impossible. To correct this problem on a Windows computer, run **ipconfig /flushdns** to delete the local DNS name cache.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm IPCONFIG_01]

▼ **Question 40:**   Correct

A Windows workstation is configured to receive its IP configuration information from a DHCP server on the company network. The user at the workstation reports that she cannot use email and is unable to reach the Internet. Using the ipconfig command you see that the workstation has been assigned the following special IP configuration:

- IP address: **169.254.0.1**
- Subnet mask: **255.255.0.0**

What is this special IP configuration called?

Automatic Private IP Addressing (APIPA) ▼	✔

Why did the workstation receive this type of configuration?

The workstation was unable to contact the DHCP server ▼	✔

Explanation

If a Windows client is configured to receive an IP address from a DHCP server, but cannot contact a DHCP server, it will automatically assign itself an IP address within the range of 169.254.0.1 to 169.254.255.254 with the subnet mask 255.255.0.0. You can use APIPA instead of a DHCP server, but it should only be used on a small network that does not need default gateway or DNS server settings configured.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm APIPA]

▼ **Question 41:**   Correct

You have a host on your network that provides a service that requires the server to always use a specific IP address. Which IP addressing method can you use to manually assign the specific IP address?

○ Dynamic IP Addressing

○ APIPA IP Addressing

➡ ◉ Static IP Addressing

○ Alternate IP Configuration

○ Link-local Addressing

Explanation

With *static IP addressing*, you manually assign all configuration values. Static addressing is prone to error and should only be used under the following conditions:

- The network has a small number of hosts.
- The network will not change or grow.
- You have some hosts that must always use the same IP address.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm STATIC IP]

▼ **Question 42:**   Incorrect

You have a user who takes his laptop home every day after work. When he's working in the office, the laptop must get an IP address from the DHCP server so you configure it to obtain IP and DNS information automatically. When he's working from home, the laptop must use IP and DNS information that connects with his home network.

Which IP addressing method can you use to make sure he gets a network connection at home?

◉ ~~APIPA IP Addressing~~

○ Dynamic IP Addressing

○ Static IP Addressing

○ Link-local Addressing

➡ ○ Alternate IP Configuration

Explanation

With an *Alternate IP Configuration*, the system's IPv4 Properties are configured on the General tab to use DHCP to automatically obtain TCP/IP configuration information. If a DHCP server cannot be contacted, the static IP configuration information on the IPv4 Properties' Alternate Configuration tab is used.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm ALTERNATE IP]

▼ **Question 43:**   Correct

Which of the following are valid IPv6 addresses? (Select two.)

➡ ☑ 6384:1319:7700:7631:446A:5511:8940:2552

➡ ☑ 141:0:0:0:15:0:0:1

☐ A82:5B67:7700:AH0A:446A:779F:FFE3:0091

☐ 165.15.78.53.100.1

☐ 343F:1EEE:ACDD:2034:1FF3:5012

Explanation

An IPv6 IP address is a 128-bit address listed as eight 16-bit hexadecimal sections. Leading zeros can be omitted in each section. Therefore, 6384:1319:7700:7631:446A:5511:8940:2552 and 141:0:0:0:15:0:0:1 are both valid IPv6 IP addresses. A single set of all-zero sections can be abbreviated with two colons (::). Therefore, 141::15:0:0:1 would be a valid way of writing that address. Digits in a hexadecimal system range from 0-9 and A-F. H is not a valid hexadecimal number. 343F:1EEE:ACDD:2034:1FF3:5012 is too short, having only six sections instead of eight.

References

LabSim for PC Pro, Section 6.7.
[pcpro2016_all_questions_en.exm IPV6_01]

▼ **Question 44:**   *Incorrect*

Which of the following is a valid IPv6 address?

○ FEC0:AB98::A7::9845:4567

◉ ~~FEC0:9087:AB04:9900:7GA2:7788:CEDF:349A~~

○ 199.12.254.11

○ FEC0:AB04:899A

➡ ○ FEC0::AB:9007

Explanation

FEC0::AB:9007 is a valid IPv6 address. The :: in the address replaces blocks of consecutive 0's. The longer form of this address would be FEC0:0000:0000:0000:0000:0000:00AB:9007. Leading 0's within a quartet can also be omitted. You can only omit one block of 0's using the double colon. Each number in the IPv6 address must be between 0-9 or A-F; G is not a valid number for the IPv6 address. An address without double colons should have a total of 32 hexadecimal numbers in 8 blocks.

References

LabSim for PC Pro, Section 6.7.
[pcpro2016_all_questions_en.exm IPV6_02]

▼ **Question 45:**   *Incorrect*

Which of the following correctly describe the most common format for expressing IPv6 addresses? (Select two.)

☐ Binary numbers

➡ ☑ Hexadecimal numbers

☐ Decimal numbers

☑ ~~128 numbers, grouped using colons~~

➡ ☐ 32 numbers, grouped using colons

Explanation

IP version 6 addresses are made up of 32 hexadecimal numbers, organized into 8 quartets. The quartets are separated by colons. An IPv6 address is a 128-bit number (128 binary digits). IP version 4 addresses use decimal numbers, organized into 4 octets and separated by periods.

References

LabSim for PC Pro, Section 6.7.
[pcpro2016_all_questions_en.exm IPV6_03]

▼ **Question 46:**   Correct

Which of the following describes an IPv6 address? (Select two.)

☐ Four decimal octets

☐ 32-bit address

☐ 64-bit address

➡ ☑ Eight hexadecimal quartets

➡ ☑ 128-bit address

Explanation

IP version 6 addresses are 128-bit addresses. They are commonly written using 32 hexadecimal numbers, organized into 8 quartets. Each quartet is represented as a hexadecimal number between 0 and FFFF. The quartets are separated by colons. IP version 4 addresses are 32-bit addresses. They have four octets, each octet being a binary number of 8 digits. Each octet has a decimal value between 0 and 255.

References

LabSim for PC Pro, Section 6.7.
[pcpro2016_all_questions_en.exm IPV6_04]

▼ **Question 47:**   Correct

Which of the following identifies the Interface ID component of an IPv6 address? (Select two.)

☐ The fourth quartet of an IPv6 address

➡ ☑ The last 64 bits of an IPv6 address

☐ The first 4 quartets of an IPv6 address

☐ The last quartet of an IPv6 address

➡ ☑ The last 4 quartets of an IPv6 address

☐ The first quartet of an IPv6 address

Explanation

An IPv6 address is a 128-bit binary number that uses the first 64 bits as the address prefix and the last 64 bits of the address as the interface ID. The 128-bit binary number is organized into 32 hexadecimal numbers that are organized further into 8 quartets. The last 4 quartets correspond with the last 64 bits of the IPv6 address.

References

LabSim for PC Pro, Section 6.7.
[pcpro2016_all_questions_en.exm IPV6_05]

▼ **Question 48:**   Incorrect

Which of the following identifies the prefix component of an IPv6 address? (Select two.)

➡ ☐ The first 64 bits of an IPv6 address

☐ The last 4 quartets of an IPv6 address

☑ ~~The first quartet of an IPv6 address~~

☐ The last 64 bits of an IPv6 address

☐ The last quartet of an IPv6 address

➡ ☑ The first 4 quartets of an IPv6 address

Explanation

An IPv6 address is a 128-bit binary number that uses the first 64 bits as the address prefix and the last 64 bits of the address as the interface ID. The 128-bit binary number is organized into 32 hexadecimal numbers that are organized further into 8 quartets. The first 4 quartets correspond with the first 64 bits of the IPv6 address.

References

LabSim for PC Pro, Section 6.7.
[pcpro2016_all_questions_en.exm IPV6_06]

▼ **Question 49:**   Correct

The following is an example of an IPv6 address:

FEC0:1319:7700:F631:446A:5511:CC40:25AB

Which part of the example IPv6 address is the prefix?

| FEC0:1319:7700:F631 ▼ | ✔ |

Which quartet in the example IPv6 prefix is used to identify the subnet?

| F631 ▼ | ✔ |

Which part of the example IPv6 address is the interface ID?

| 446A:5511:CC40:25AB ▼ | ✔ |

Explanation

In this example of an IPv6 address, FEC0:1319:7700:F631:446A:5511:CC40:25AB

- The prefix is **FEC0:1319:7700:F631**
- The quartet used to identify the subnet is **F631** (the last quartet in the prefix)
- The interface ID is **446A:5511:CC40:25AB**

References

LabSim for PC Pro, Section 6.7.
[pcpro2016_all_questions_en.exm IPV6_07]

▼ **Question 50:**   Correct

Which of the following describes the part of the IPv6 address that identifies the subnet address?

◯ The first quartet in the IPv6 address interface ID

◯ The first quartet in the IPv6 address prefix

➡️ 🔘 The last quartet in the IPv6 address prefix

⚪ The last quartet in the IPv6 address interface ID

Explanation

The part of the IPv6 address that identifies the subnet address is the last quartet in the prefix.

For example in the following address, FEC0:1319:7700:F631:446A:5511:CC40:25AB, the quartet used to identify the subnet is **F631**.

References

LabSim for PC Pro, Section 6.7.
[pcpro2016_all_questions_en.exm IPV6_08]

▼ **Question 51:**   Correct

Which of the following is a valid IP address? (Select two.)

➡️ ☑ 2.2.2.2

☐ 256.0.0.1

☐ 10.384.0.3

☐ 1.254.1.1024

☐ 192.168.1.512

➡️ ☑ 172.16.1.26

☐ 254.7.1.417

Explanation

A valid IPv4 address consists of 4 8-bit (1 byte) numbers separated by periods. For example, 10.0.0.65. Because they are 8 bits long, these numbers are frequently called octets. Even though we typically express these numbers using decimal notation, it's important to remember that these numbers are binary numbers. The lowest value one of these numbers can have is 00000000. The decimal equivalent for this number is simply 0. The highest value one these numbers can take is 11111111. The decimal equivalent of this number is 255. Therefore, in decimal notation, each octet must contain a number between 0 and 255 inclusively.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm IP ADDR_01]

▼ **Question 52:**   Correct

Which of the following are not valid IP addresses? (Select three.)

➡️ ☑ 45.22.156.256

☐ 132.64.32.8

☐ 122.0.0.0

☐ 116.0.0.116

➡️ ☑ 257.0.122.55

➡️ ☑ 145.8.260.7

☐ 1.55.254.3

Explanation

IP addresses have a value between 0 and 255 within each octet. In this list, 45.22.156.256, 145.8.260.7, and 257.0.122.55 are not valid IP addresses.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm IP ADDR_02]

▼ **Question 53:**   <u>Correct</u>

Which of the following best describes an IP address class?

◯ The class refers to the range of IP addresses that a DHCP server has been authorized to assign.

➡ ⦿ The class defines the default network address portion of the IP address.

◯ The class is the version of IP addressing standard used by the address.

◯ The class defines the type of device that the address is assigned to (i.e. server, printer, workstation).

Explanation

The address class defines the default network address portion of the IP address. For example, a class A address uses the first octet as the network address, and the remaining octets as the available host addresses.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm IP ADDR CLASS_01]

▼ **Question 54:**   <u>Incorrect</u>

Which of the following IP addresses are Class C addresses? (Select three.)

➡ ☐ 223.16.5.0

☑ ~~240.0.0.0~~

➡ ☐ 222.55.0.0

☐ 189.189.5.2

➡ ☐ 192.15.5.55

☐ 125.166.11.0

Explanation

The following are Class C addresses: 192.15.5.55, 222.55.0.0, and 223.16.5.0. The first octet of Class C addresses is in the range of 192 to 223. The first octet of Class A addresses range from 1-126. The first octet of Class B addresses range from 128-191.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm IP ADDR CLASS_02]

▼ **Question 55:**   <u>Incorrect</u>

Which of the following IP addresses are Class B addresses? (Select three.)

- ☑ ~~115.33.0.0~~
- ☐ 224.15.55.2
- ➡ ☐ 190.65.2.0
- ➡ ☑ 129.0.0.0
- ➡ ☑ 132.12.0.0
- ☐ 195.155.0.0
- ☐ 64.2.2.64

Explanation

The following are Class B addresses: 129.0.0.0, 132.12.0.0, and 190.65.2.0. The first octet of Class B addresses is in the range of 128 to 191. The first octet of Class C addresses is in the range of 192 to 223. The first octet of Class A addresses range from 1-126.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm IP ADDR CLASS_03]

▼ **Question 56:**   Correct

Which of the following IP addresses belong to the Class A network 114.0.0.0? (Select three.)
(**Tip**: Assume the network is indicated by the default Class A portion of the IP address.)

- ➡ ☑ 114.58.12.0
- ☐ 115.0.0.66
- ➡ ☑ 114.0.0.15
- ☐ 115.77.89.4
- ➡ ☑ 114.122.66.12
- ☐ 115.88.0.55

Explanation

With a Class A network, the first octet indicates the network address. All hosts on the network must have the same value in the first octet (114).

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm IP ADDR CLASS_04]

▼ **Question 57:**   Incorrect

Which of the following IP addresses have a default subnet mask of 255.255.0.0? (Select three.)

- ➡ ☐ 191.168.2.15
- ☐ 123.254.19.6
- ➡ ☐ 129.0.0.1

☐ 1.6.45.254

➡ ✓ 168.16.5.1

☐ 228.62.18.6

Explanation

IP addresses are divided into classes. The most common of these are classes A, B, and C. Each address class has a different default subnet mask. To identify the class of an IP address, look at its first octet. Class A networks use a default subnet mask of 255.0.0.0 and have 0-126 as their first octet. Class B networks use a default subnet mask of 255.255.0.0 and have 128-191 as their first octet. Class C networks use a default subnet mask of 255.255.255.0 and have 192-223 as their first octet. In this question, the IP addresses that fall in the Class B IP address range are 191.168.2.15, 129.0.0.1, and 168.16.5.1.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm SUBNETMASKING_01]

▼ **Question 58:** <u>Correct</u>

Which of the following IP address ranges is reserved for Automatic Private IP Addressing?

○ 192.168.0.0 - 192.168.255.254

➡ ◉ 169.254.0.1 - 169.254.255.254

○ 169.192.0.0 - 169.192.254.255

○ 192.168.0.1 - 192.168.254.255

○ 169.168.0.1 - 169.168.255.255

Explanation

The Internet Assigned Numbers Authority (IANA) has reserved 169.254.0.1 through 169.254.255.254 for Automatic Private IP Addressing (APIPA). APIPA also sets the subnet mask on the network to 255.255.0.0.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm APIPA_01]

▼ **Question 59:** <u>Incorrect</u>

Given that your Windows workstation has Automatic Private IP Addressing (APIPA) implemented using default settings, which of the following TCP/IP addresses could be automatically assigned to the system should your DHCP server go down or become inaccessible?

○ 172.16.1.26

➡ ○ 169.254.1.26

○ 192.168.1.22

○ 10.0.0.65

○ 169.198.1.23

◉ ~~168.254.10.25~~

Explanation

In the event that a DCHP server is not available, Windows workstations can use APIPA to automatically provide themselves with an IP address. The default address range used by APIPA is 169.254.0.1 to 169.254.255.254. Of the options presented, only 169.254.1.26 falls within this range.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm APIPA_02]

▼ **Question 60:**   Correct

You have a small home network that uses 192.168.1.0 with the default subnet mask for the network address. The default gateway address is 192.168.1.254, and the router is providing DHCP on the network. The Wrk2 computer has been assigned the IP address of 192.168.1.55. Which of the following is considered the loopback address for the Wrk2 computer?

- ○ 192.168.1.0

- ○ 192.168.1.254

- ○ 192.168.1.255

➡ ● 127.0.0.1

- ○ 192.168.1.55

Explanation

127.0.0.1 is the loopback address for any device. This special address means "this host." If you ping the loopback address, the TCP/IP configuration will be tested. A successful test means that TCP/IP is correctly configured on the host. 192.168.1.55 is the current IP address assigned to the host. You can ping this address, but the address is not considered the loopback address. Also, to ping the host's IP address, you must first know the address. Pinging the loopback address always tests the current host regardless of its current IP address. 192.168.1.255 is the broadcast address for the network meaning "any host" on the network.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm LOOPBACK]

▼ **Question 61:**   Correct

You want to use your Windows workstation to browse the web sites on the Internet. You use a broadband DSL connection to access the Internet. Which network protocol must be installed on your workstation to do this?

- ○ PPP

➡ ● IP

- ○ IPX/SPX

- ○ SLIP

- ○ NetBIOS

Explanation

The IP is the protocol of the Internet. If you want to use the Internet, your computer must have the IP protocol installed and configured. The Serial Line Internet Protocol (SLIP) is a mostly obsolete encapsulation of the Internet Protocol designed to work over serial ports and modem connections. The Point-to-Point Protocol (PPP) is also commonly used with modem connections.

IPX/SPX is the protocol suite used on legacy NetWare networks. NetBIOS is the term used to describe the combination of two protocols: NetBEUI and NetBIOS. NetBIOS was used in early Windows networks. Because NetBIOS is a non-routable protocol, it was often combined with TCP/IP or IPX/SPX to enable internetwork communications.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm IP PROTOCOL]

▼ **Question 62:**   Correct

Which protocols are used on the Internet to transmit Web pages from Web servers to Web browsers running on client workstations? (Select two.)

- ☐ NNTP

- ☐ SMTP

➡ ☑ HTTPS

➡ ☑ HTTP

- ☐ XML

- ☐ HTML

Explanation

The HyperText Transfer Protocol (HTTP) is used by Web servers and browsers to transmit Web pages over the Internet. This is often confused with HTML or HyperText Markup Language, which is the markup language used to create Web content. XML is also a markup language. SMTP is used to route electronic mail through the internetwork. E-mail applications provide the interface to communicate with SMTP or mail servers. The Network News Transfer Protocol or NNTP is an Internet application protocol used primarily for reading and posting Usenet articles.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm HTTP PROTOCOL_01]

▼ **Question 63:**   Incorrect

You want to allow your users to download files from a server running the IP protocol. You want to protect access to the files by requiring user authentication to access specific directories on the server. Which IP protocol should you implement to provide this capability?

- ○ SNMP

- ○ TFTP

- ○ SMTP

➡ ○ FTP

- ◉ ~~SSH~~

- ○ LDAP

Explanation

You should implement the File Transfer Protocol (FTP). It enables file transfers and supports user authentication. The Trivial File Transfer Protocol (TFTP) also enables file transfer, but does not support user authentication. The Simple Mail Transfer Protocol (SMTP) is used to transfer email message from email clients to email servers. The Lightweight Directory Access Protocol is

used to access information about network resources stored in a directory server. The Secure SHell protocol (SSH) is used to securely access the console prompt of a remote computer system. The Simple Network Management Protocol (SNMP) is used to remotely monitor and manage network devices and hosts.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm FTP PROTOCOL]

▼ **Question 64:**   *Incorrect*

What protocol is used to send e-mail messages from a mail client to a mail server?

- ⦿ ~~POP3~~
- ◯ SNMP
- ◯ IMAP
- ➡ ◯ SMTP
- ◯ FTP

Explanation

SMTP sends e-mail from a mail client to a mail server. FTP provides a generic method of transferring files. SNMP is used in network management systems to monitor network-attached devices for conditions that warrant administrative attention. POP3 and IMAP are both e-mail protocols used by mail clients to retrieve e-mail from a mail server; however they can't be used to send mail from the client to the server. The Trivial File Transfer Protocol (TFTP) is used for network file transfers.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm SMTP PROTOCOL]

▼ **Question 65:**   *Correct*

Which of the following protocols is used by an e-mail client to retrieve messages from an e-mail server and gives users the option to keep mail messages on the server?

- ◯ SMTP
- ◯ POP3
- ◯ NTP
- ➡ ⦿ IMAP

Explanation

IMAP allows a mail server to keep a copy of a user's messages on the server after they are downloaded to the mail client. A POP3 server is also used by a mail client to retrieve messages from a mail server, but it requires that the messages be deleted from the server after they have been downloaded. SMTP allows a user to send e-mail to a server, but it can't be used to retrieve messages from the server. The NTP protocol synchronizes the clocks of all computers on a network.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm IMAP PROTOCOL]

▼ **Question 66:**   *Incorrect*

You want to implement name resolution on the Linux workstations in your company. Which protocol will you use to do this?

➡ ○ DNS

○ LMHOSTS file

○ SMTP

○ WINS

◉ ~~NTP~~

Explanation

You can use DNS name resolution for Linux workstations (as well as for most other operating systems). NetBIOS name resolution (LMHOSTS files or WINS) is typically used on Windows-based networks. The Lmhosts file is a local text file that maps Internet Protocol (IP) addresses to NetBIOS names of remote servers with which you want to communicate over the TCP/IP protocol. A WINS server address is only needed if you have older Windows clients on multiple networks. Network Time Protocol (NTP) is a means of transmitting time signals over a computer network. Simple Mail Transfer Protocol (SMTP) is used to route electronic mail through the internetwork. E-mail applications provide the interface to communicate with SMTP or mail servers.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm DNS PROTOCOL]

▼ **Question 67:**   Incorrect

Which IP protocol is used by Web browsers and Web servers to exchange files?

○ HTML

◉ ~~SMTP~~

➡ ○ HTTP

○ SSL

Explanation

HTTP is used by Web browsers and Web servers to exchange files (such as Web pages) through the network.

HTML is a data format that is used to create hypertext documents that can be viewed from multiple platforms. SSL secures messages being transmitted on the network. SMTP is used to route electronic mail through an internetwork.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm HTTP PROTOCOL_02]

▼ **Question 68:**   Correct

Which of the following protocols is non-routable and requires another protocol to enable internetwork communications?

○ IPX

➡ ◉ NetBIOS

○

IP

◯ AppleTalk over IP

Explanation

NetBIOS is a non-routable protocol. It is often combined with IPX or IP to enable internetwork communications. NetBIOS was used in earlier versions of Windows. NetBIOS is rarely used today because nearly every operating system supports IP. IP is the protocol suite used on the Internet and is supported by all major operating systems. IPX is the protocol suite used by legacy NetWare servers. AppleTalk over IP is the protocol used to allow older AppleTalk computers to use IP for internetwork communication.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm NETBIOS]

▼ **Question 69:** <u>Correct</u>

Which of the following protocols do e-mail clients use to download messages from a remote mail server?

◯ FTP

➡ ◉ POP3

◯ SMTP

◯ SNMP

Explanation

The POP3 protocol is part of the IP protocol suite and used to retrieve e-mail from a remote server to a local client over a network connection. SNMP is a protocol used to monitor network traffic. SMTP is an IP protocol used to send e-mail. FTP is used to transfer files.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm POP3 PROTOCOL]

▶ **Question 70:** <u>Incorrect</u>

▶ **Question 71:** <u>Incorrect</u>

▼ **Question 72:** <u>Correct</u>

You've enabled Remote Desktop on a Windows workstation. Which port must be opened in the server's firewall to allow remote clients to access the desktop?

◯ 123

◯ 389

◯ 110

➡ ◉ 3389

Explanation

The RDP protocol runs on port 3389 by default. Port 110 is used by the POP3 protocol. Port 389 is used by the LDAP protocol. Port 123 is used by the NTP protocol.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm PORT 3389]

▼ **Question 73:**   Correct

You are a software developer and you are creating a multimedia streaming application. Data will be streamed from your streaming server to streaming clients over IP networks. Which transport protocol should your application use to send data between the clients and the server?

- ○ ICMP

➡ ● UDP

- ○ SNMP

- ○ TCP

Explanation

The User Datagram Protocol (UDP) protocol can be used with the IP protocol to create unacknowledged connections between the server application and its clients. Because the packets are sent unacknowledged, latency will be dramatically reduced, providing better streaming performance. The Transmission Control Protocol (TCP) uses acknowledged connections, which would introduce considerable latency and reduce streaming performance. The Simple Network Management Protocol (SNMP) is used to monitor and manage network devices. The Internet Control Message Protocol is used to send and receive error messages on an IP network.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm UDP PROTOCOL]

▼ **Question 74:**   Correct

Which of the following protocols carry phone calls over an IP-based network?

➡ ● VoIP

- ○ RTSP

- ○ TCP

- ○ HTTP

Explanation

Voice over IP (VoIP) is a method for carrying phone calls over an IP-based network. RTSP is used to stream multimedia content over IP networks. HyperText Transfer Protocol (HTTP) is used by Web browsers and Web servers to exchange files (such as Web pages) through the World Wide Web and intranets. Transmission Control Protocol (TCP) is a protocol which guarantees that data arrives at a destination without errors. VoIP is usually implemented on top of UDP instead of TCP to reduce latency.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm VOIP_01]

▼ **Question 75:**   Incorrect

Match the port numbers on the left with the protocols associated with them on the right.

Secure Shell (SSH)

~~427~~	22

Apple Filing Protocol (AFP)

✔ 548

HTTP over SSL (HTTPS)

✔ 443

Hypertext Transfer Protocol (HTTP)

✔ 80

Server Message Block (SMB/CIFS) directly over TCP

✔ 445

Service Location Protocol (SLP)

~~22~~   427

Internet Message Access Protocol (IMAP)

✔ 143

Explanation

The default ports match with the following protocols:

- Port 22: Secure Shell (SSH)
- Port 80: Hypertext Transfer Protocol (HTTP)
- Port 443: HTTP over SSL (HTTPS)
- Port 445: Server Message Block (SMB/CIFS) directly over TCP
- Port 143: Internet Message Access Protocol (IMAP)
- Port 427: Service Location Protocol (SLP)
- Port 548: Apple Filing Protocol (AFP)

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm PORTS_PROTOCOLS_01-PB]

▶ **Question 76:**   Correct

▼ **Question 77:**   Correct

What device is used to create a physical star topology?

➡ 🔘 Switch

⭕ Repeater

⭕ Bridge

⭕ Router

Explanation

A physical star topology uses a switch or a hub. Routers are used to connect multiple subnets together. A repeater regenerates a network signal so that it can be transmitted for longer distances.

References

LabSim for PC Pro, Section 6.2.
[pcpro2016_all_questions_en.exm PC 2016 SWITCH_01]

▼ **Question 78:**   Correct

Which network component connects a device to the transmission media and allows it to send and receive messages?

○ Protocol

➡ ◉ Network interface card

○ Switch

○ Bridge

Explanation

The network interface card (NIC) allows a device to send and receive messages over the transmission media.

References

LabSim for PC Pro, Section 6.2.
[pcpro2016_all_questions_en.exm NET DEVICE_01]

▼ **Question 79:**   Correct

Which of the following statements accurately describes how a modem works? (Select two.)

☐ It transmits digital signals over ordinary telephone copper wiring at a rate up to 128 Kbps.

➡ ☑ It demodulates analog data from a telephone network into digital PC data.

☐ It modulates digital data from a telephone network into analog data that a PC can use.

☐ It communicates over a telephone network using digital signals.

☐ It demodulates analog PC data into digital data that can be transmitted through a telephone network.

➡ ☑ It modulates digital data from the PC into analog data and transmits it on a telephone network.

Explanation

Modem is shorthand for modulator/demodulator. Its job is to convert (or modulate) digital data from a PC into analog telephone signals and transmit them through a telephone network. It also receives analog data from the telephone network and converts (or demodulates) it into digital PC data.

References

LabSim for PC Pro, Section 6.2.
[pcpro2016_all_questions_en.exm NET DEVICE_02]

▼ **Question 80:**   Incorrect

Which of the following is a valid MAC address?

◉ ~~83-5A-5B-0B-31-55-F1~~

○ 73-99-12-61-15

➡ ○ C0-34-FF-15-01-8E

○ 192.168.12.15

○ 34-9A-86-1G-B3-24

○ 255.255.255.0

Explanation

A MAC or hardware address is a unique identifier hard coded on every network adapter card. A valid MAC address has a total of 12 hexadecimal numbers. Hexadecimal numbers contain the numbers 0 to 9 and the letters A to F. Valid values in a MAC address range anywhere from 00 to FF. Note that one of the answers would be a valid MAC address except it uses a G value, which is beyond the range of a hexadecimal number.

References

LabSim for PC Pro, Section 6.2.
[pcpro2016_all_questions_en.exm NET DEVICE_03]

▼ **Question 81:**   Correct

A host wants to send a message to another host with the IP address 115.99.80.157. IP does not know the hardware address of the destination device. Which protocol can be used to discover the MAC address?

- ◯ DNS

- ◯ BOOTP

➡ ◉ ARP

- ◯ DHCP

Explanation

Hosts use the Address Resolution Protocol (ARP) to discover the hardware address of a host.

References

LabSim for PC Pro, Section 6.2.
[pcpro2016_all_questions_en.exm NET PROTOCOLS_01]

▼ **Question 82:**   Correct

Which of the following LAN devices receives a signal on one port, and forwards that signal only to the port where the destination device is connected?

➡ ◉ Switch

- ◯ Router

- ◯ Hub

- ◯ Network adapter

Explanation

A switch offers guaranteed bandwidth to each port; unlike a hub which shares bandwidth among all the network ports.

References

LabSim for PC Pro, Section 6.2.
[pcpro2016_all_questions_en.exm NET DEVICE_04]

▼ **Question 83:**   Correct

Which of the following best describes how a switch functions?

➡ ◉ It connects multiple cable segments (or devices), and forwards frames to the appropriate segment.

- ◯ It connects multiple segments of different architectures. It translates frames, and

broadcasts them to all of its ports.

○ It connects multiple segments of different architectures. It translates frames, and forwards them to the appropriate segment.

○ It connects multiple cable segments (or devices), and broadcasts frames to all of its ports.

Explanation

Switches have multiple ports and can connect multiple segments or devices. The switch forwards frames to the appropriate port. They function similarly to a hub, except instead of sending packets to all ports, switches send packets only to the destination computer's port.

References

LabSim for PC Pro, Section 6.2.
[pcpro2016_all_questions_en.exm NET DEVICE_05]

▶ **Question 84:**   Correct

▼ **Question 85:**   Incorrect

How do switches and bridges learn where devices are located on a network?

○ When a frame enters a port, the source IP address is copied from the frame header.

➡ ○ When a frame enters a port, the source MAC address is copied from the frame header.

⦿ ~~When a frame enters a port, the destination MAC address is copied from frame header.~~

○ When a frame enters a port, the destination IP address is copied from the frame header.

Explanation

Bridges and switches learn addresses by copying the MAC address of the source device and placing it into the MAC address table. The port number which the frame entered is also recorded in the table and associated with the source MAC address. The switch or the bridge cannot record the destination MAC address because it does not know the port that is used to reach the destination device. Bridges and switches operate at Layer 2 and do not use IP addresses (which exist at Layer 3).

References

LabSim for PC Pro, Section 6.2.
[pcpro2016_all_questions_en.exm NET DEVICE_07]

▼ **Question 86:**   Correct

An 8-port switch receives a frame on port number 1. The frame is addressed to an unknown device. What will the switch do?

○ Drop the frame.

○ Send the frame out the destination port.

➡ ⦿ Send the frame out ports 2-8.

○ Send the frame out all 8 ports.

Explanation

Because the switch does not know the port that is used to reach the destination device, it will

send the frame out all ports except for the port on which the frame was received. After the switch learns the port that is used to reach the destination device, it will send the frame out only that port.

References

LabSim for PC Pro, Section 6.2.
[pcpro2016_all_questions_en.exm NET DEVICE_08]

▼ **Question 87:**   Correct

Which kind of connector do you use to connect a modem to a standard telephone line?

- ◯ RG-58

- ◯ F-type

- ◯ RJ-45

➡ ◉ RJ-11

Explanation

A standard telephone line connector is an RJ-11. RJ-45 jacks are used for Ethernet twisted pair cables. Video cards and monitors with a built-in TV tuner have an F-type video connector. RG-58 is used for 10Base2 Ethernet networking (also called Thinnet).

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm RJ-11]

▼ **Question 88:**   Correct

Which of the following situations is more likely to justify the investment in Category 6a cable instead of Category 6?

- ◯ Users will be streaming a lot of video.

➡ ◉ The work area has a lot of electromagnetic interference (EMI).

- ◯ The cable needs to be run though under the floor.

- ◯ Users will be doing a lot of high resolution printing.

Explanation

Category 6a cable is designed to be less susceptible to electromagnetic interference (EMI) than Category 6. Network performance can be greatly diminished by higher than average EMI.

When cable is run under the floor, it must be Plenum insulated to be fire resistant and non-toxic, but doesn't need to be Cat6. Streaming video doesn't justify the extra cost of Category 6a cable when Category 6 can handle the same bandwidth.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm CAT 6A FOR EMI]

▼ **Question 89:**   Correct

Which connector is used with unshielded twisted pair (UTP) cable?

- ◯ BNC

- ◯ DIX

➡ ◉

RJ-45

◯ AUI

Explanation

An RJ-45 connector is used with unshielded twisted pair (UTP) cable.

BNC and AUI are used with coaxial cables. DIX is an Ethernet protocol.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm RJ-45]

▼ **Question 90:**   Correct

What type of cabling can be used for an Ethernet 100Base-T (100 Mbps) network? (Select two.)

➡ ☑ Category 5e UTP

☐ RG-8 coaxial cable

☐ RG-58 coaxial cable

☐ Category 3 UTP

➡ ☑ Category 5 UTP

Explanation

Ethernet 100Base-T uses category 5 and 5e cabling. Cat 3 is designed for use with 10 megabit Ethernet or 16 megabit token ring. Coaxial cabling is used with 10Base2 or 10Base5 Ethernet.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm CAT5 CAT5E CABLING]

▼ **Question 91:**   Correct

Which of the following are advantages of using fiber optic cabling for a network, as opposed to other types of cabling? (Select two.)

➡ ☑ Greater cable distances without a repeater

➡ ☑ Immunity to electromagnetic interference

☐ Faster installation

☐ Lower installation cost

☐ Increased flexibility

Explanation

Compared to other types of cabling, fiber optic cabling allows greater cable distances without a repeater and is immune to electromagnetic interference.

However, installation costs more and takes longer. In addition, fiber optic cabling is much less flexible than other cabling.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm FIBER OPTIC_01]

▼ **Question 92:**   Correct

What is a major benefit of STP over UTP?

➡ ◉ Greater resistance to interference

◯ Safer for installations in overhead ceiling spaces

◯ Ability to install longer cable lengths

◯ Lower cost

Explanation

Shielded Twisted Pair (STP) has a grounded outer copper shield around the bundle of twisted pairs or around each pair. This provides added protection against EMI. Unshielded Twisted Pair (UTP) does not have a grounded outer copper shield.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm STP VS UTP]

▼ **Question 93:**   Correct

You are installing networking cable in the air space between the ceiling and the roof of a building. Which type of cabling should you use?

◯ PVC

◯ STP

➡ ◉ Plenum

◯ Multi-mode fiber

Explanation

Plenum cable is fire resistant and non-toxic, making it optimal for wiring above ceiling tiles. PVC cable cannot be used to wire above ceilings because it is toxic when burned. Both STP and fiber optic cables can be rated for plenum areas, but are not in themselves fire resistant.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm PLENUM]

▼ **Question 94:**   Incorrect

Which of the following are characteristics of coaxial network cable? (Choose two.)

☐ The conductors within the cable are twisted around each other to eliminate crosstalk.

➡ ☐ It has a conductor made from copper in the center of the cable.

☐ It is made of plastic or glass in the center of the cable.

➡ ☑ It uses two concentric metallic conductors.

☑ ~~It is totally immune to Electromagnetic Interference (EMI).~~

Explanation

Coaxial cable is composed of a central copper conductor surrounded by an insulator which is then surrounded by a second metallic mesh conductor. The name coaxial is derived from the fact that both of these conductors share a common axis.

Twisted-pair cables are twisted around each other to reduce the effects of Electromagnetic Interference (EMI) and crosstalk. Fiber optic cables have a plastic or glass center, known as the core. Only fiber optic cables are totally immune to Electromagnetic Interference (EMI), because light pulses, instead of electrical signals, represent the data.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm COAXIAL CABLING]

▼ **Question 95:**   Correct

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

- ○ BNC
- ○ RJ-45
- ○ RJ-11
- ○ ST
- ➡ ◉ F-type

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 RJ-11 connector for modem connections to a phone line. Use an RJ-45 connector for an Ethernet network that uses twisted pair cable. Use ST and SC connectors for fiber optic cables.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm F-TYPE CONNECTOR]

▼ **Question 96:**   Correct

Which network type uses light pulses to transmit data?

- ➡ ◉ Fiber optic
- ○ Wireless
- ○ Cable
- ○ Satellite

Explanation

Fiber optic networks transmit light pulses rather than electricity to communicate. Satellite networks use radio signals sent and received from a satellite. Cable networks use a cable TV connection and electric signals to send data. Wireless networks use radio waves for sending network data within a local area network.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm FIBER OPTIC_02]

▼ **Question 97:**   Correct

What type of cable configuration is shown here and what is it used for?

○ RJ-11 configuration. Used to connect wireless routers to phone line connections.

➡ ◉ Crossover cable configuration. Used to connect computers directly to one another for networking.

○ Patch (or straight-though) cable configuration. Used the connect computers to network devices, such as switches and hubs.

○ Rollover cable configuration. Used to connect computers to routers for console management.

Explanation

This is a crossover cable configuration. Using this, computers can connect directly to one another. The easiest way to create a crossover cable is to arrange the wires in the first connector using the T568A standard and arrange the wires in the second connector using the T568B standard.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm NET MEDIA_01-PB]

▼ **Question 98:**   Incorrect

Match the fiber optic cable types on the left with the appropriate characteristics on the right. Each cable type may be used once, more than once, or not at all.

Data transfers through the core using more than one light rays

✔ Multimode

The core diameter is around 10 microns

~~Multimode~~   Single mode

Cable lengths can extend a great distance

✔ Single mode

Cable lengths are limited in distance

~~Dual mode~~   Multimode

At distance up to 3 km, delivers data rates up to 10 Gbps

✔ Single mode

At distance of under 2 km, delivers data rates up to 1 Gbps

~~Dual mode~~   Multimode

Explanation

Single mode fiber optic cable has the following characteristics:

- Data transfers through the core using a single light ray (the ray is also called a mode)
- The core diameter is around 10 microns
- At distances up to 3 km, single mode delivers data rates up to 10 Gbps
- Cable lengths can extend a great distance

Multimode fiber optic cable has the following characteristics:

- Data transfers through the core using multiple light rays
- The core diameter is around 50 to 100 microns
- At distances of under 2 km, multimode delivers data rates up to 1 Gbps
- Cable lengths are limited in distance

Fiber optic cable does not have a "dual mode" type.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm NET MEDIA_02]

▼ **Question 99:**   Incorrect

You are using a crimper to attach an RJ-45 connector to a Cat 6 UTP cable. You need to use the T568A standard to connect the individual wires to the connector. Which wire should be connected to pin 1?

➡ ○ Green with white

   ◉ ~~Orange with white~~

   ○ Green

   ○ Blue

Explanation

According to the T568A standard, the green with white wire should be connected to pin 1 in the RJ-45 connector.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm PC16 T568A STANDARD]

▼ **Question 100:**   Correct

Which of the following is the best definition for a LAN?

   ○ The interconnection of components, such as laptops, printers, keyboards, and other wireless devices within a personal range (typically 10 meters or less).

➡ ◉ A network in a small geographic area, like in an office.

   ○ A network whose computers and servers are separated geographically, but still connected.

   ○ An extension of a private network over a shared or public network such as the Internet.

Explanation

A LAN is a network in a small geographic area, like in an office.

A WAN is a network whose computers and servers are geographically far apart but still connected. A PAN (personal area network) is the interconnection of components, such as laptops, mobile devices, printers, mice, keyboards, and other Bluetooth equipped devices, using

some form of wireless technology within a personal range (typically 10 meters or less). A VPN is the extension of a private network over a shared or public network such as the Internet.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm PC 2016 WHAT IS LAN?]

▼ **Question 101:**   <u>Incorrect</u>

Which of the following terms refers to a network resource sharing model that uses access control lists saved on each computer? (Select two.)

- ☑ ~~Domain~~
- ☑ ~~Client/server~~
- ➡ ☐ Workgroup
- ☐ Directory
- ➡ ☐ Peer-to-peer

Explanation

Access to shared resources are controlled separately on each computer in the workgroup or peer-to-peer models. For example, each computer in a peer-to-peer network maintains its own set of user accounts.

A domain is a collection of computers that share a common security database. Access is controlled by maintaining access control lists in a centralized directory. The client/server model places shared resources on a server. Resources are accessed by clients.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm PC 2016 NETWORK MODEL]

▼ **Question 102:**   <u>Correct</u>

Which of the following is a rating of the amount of data that can be sent over a network in a period of time?

- ○ Latency
- ➡ ⦿ Bandwidth
- ○ Jitter
- ○ Broadband

Explanation

The network bandwidth is a rating of how much data can be sent over a network.

Broadband is a signaling scheme that divides a single network media into multiple transmission channels. Latency measures the delay between transmission and reception of network data. Jitter measures how much variation occurs in a network's latency measurement over time.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm BANDWIDTH_01]

▼ **Question 103:**   <u>Correct</u>

Which of the following terms describes a group of computers and users that utilize centralized resources, administration, and security settings? (Select two.)

- ☐ Local area network

- ☐ Peer-to-peer

➡ ☑ Domain

- ☐ Workgroup

➡ ☑ Directory

Explanation

A domain and a directory both identify a group of computers that utilize centralized resources, administration, and security settings. For example, Active Directory is a service that provides a centralized database of resources for a domain.

A Local Area Network (LAN) is a network in a small geographic area, like in an office. A peer-to-peer network is a decentralized network where each host has its own user accounts and shared network resources. A peer-to-peer network does not utilize centralized resources, administration, and security settings. A workgroup is an example of a peer-to-peer network. In a workgroup, each computer controls access to its own resources. Security controls on each computer identify who can have access to the computer's resources.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm DOMAIN_DIRECTORY]

▼ **Question 104:**   Correct

Which of the following are advantages of using a domain to manage a network? (Select two.)

➡ ☑ Scalability

- ☐ Little or no configuration

➡ ☑ Centralized administration

- ☐ Decentralized administration

- ☐ Peer-to-peer sharing of network resources

Explanation

A domain is an example of client/server networking where shared resources reside on special computers called servers. Other computers, called clients, connect to the server to access resources. Security controls on the server identify which clients can have resource access. Advantages of client/server networks include:

- Scalability
- Centralized administration
- Centralized network services and resources

Setup with little or no configuration is a characteristic of a peer-to-peer network, as is decentralized administration.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm DOMAIN ADVANTAGES]

▼ **Question 105:**   Correct

You have a network that uses a logical ring topology. How do messages travel through the

network?

- ○ Messages are sent to all devices connected to the network.

- ➡ ◉ Messages travel from one device to the next until they reach the destination device.

- ○ Messages are sent to a central device which then forwards the message to the destination device.

- ○ Messages are sent directly to the destination device only.

Explanation

In a logical ring topology, messages travel to each device in turn. If the message is not intended for that device, the message is forwarded to the next device on the network.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm PC 2016 LOGICAL RING]

▼ **Question 106:**   Correct

You have a network that uses a logical bus topology. How do messages travel through the network?

- ○ Messages are sent to a central device which then forwards the message to the destination device.

- ○ Messages travel from one device to the next until they reach the destination device.

- ○ Messages are sent directly to the correct destination device.

- ➡ ◉ Messages are broadcast to all devices connected to the network.

Explanation

Messages sent using a physical bus topology are broadcast to all devices in the network. The device in the middle of the star (typically a hub), receives the message and forwards it on to all other devices.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm PC 2016 LOGICAL BUS]

▼ **Question 107:**   Correct

Which of the following topologies connects each network device to a central hub?

- ➡ ◉ Star

- ○ Ring

- ○ Bus

- ○ Mesh

Explanation

Star topologies connect each device on the network to a central hub.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm PC 2016 STAR TOPOLOGY_01]

▼

Question 108:   <u>Correct</u>

You have implemented an ad-hoc wireless network that doesn't employ a wireless access point. Every wireless network card can communicate directly with any other wireless network card on the network. What type of physical network topology has been implemented in this type of network?

➡ ⊙ Mesh

○ Tree

○ Star

○ Ring

○ Bus

Explanation

This type of network uses a physical mesh topology. There's no central connecting point. Any host can communicate directly with any other host on the network. A mesh network, such as this one, is usually impractical on a wired network. Each host would have to have a separate, dedicated network interface and cable for each host on the network. However, a mesh topology can be implemented with relative ease on a wireless network due to the lack of wires.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm PC 2016 MESH TOPOLOGY_01]

▼ **Question 109:**   <u>Correct</u>

You have been asked to implement a network infrastructure that will accommodate failed connections. Which of the following network topologies provides redundancy for a failed link?

➡ ⊙ Mesh

○ Ring

○ Star

○ Bus

Explanation

In a mesh topology, each network device is interconnected to all other network nodes. This creates multiple data paths and in the event of a failed link, the data has an alternate route to arrive at its destination.

The star topology connects network devices to the network with a single patch cable and the failure of a patch cable will make the connected device unavailable. The bus topology has a single point of failure, if there is a break in the network media, the network will be unavailable. A single break in a physical ring topology will disable the network.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm PC 2016 MESH TOPOLOGY_02]

▼ **Question 110:**   <u>Correct</u>

What type of network describes a workgroup?

➡ ⊙ Peer-to-peer network

○ Ad-hock network

○ Server-based network

○ Client-based network

Explanation

A workgroup is a type of peer-to-peer network. Network resources are distributed among all the hosts in the network. Any given host can both provide and consume network services at the same time.

Client-server networks clearly delineate the server role from the client role in the network. An ad-hock network is a special type of wireless network where wireless interfaces communicate directly with each other without using an access point.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm WHAT IS A WORKGROUP]

▼ **Question 111:** **Correct**

Match the network types on the left with the descriptions on the right. Each network type may be used once, more than once, or not at all.

A network in a small geographic area that typically uses wires to connect systems together

✔ Local Area Network (LAN)

A small network used for connecting devices, such as a notebook computer, a wireless headset, a wireless printer, and a smartphone

✔ Personal Area Network (PAN)

A network that is typically owned and managed by a city as a public utility

✔ Metropolitan Area Network (MAN)

A group of networks that are geographically isolated, but are connected to form a large internetwork

✔ Wide Area Network (WAN)

Similar to a standard LAN, but uses radio signals instead of wires to connect systems together

✔ Wireless Local Area Network (WLAN)

A network that covers an area as small as a few city blocks to as large as an entire city

✔ Metropolitan Area Network (MAN)

A set of subnets connected to each other, typically by wires, using at least one router

✔ Local Area Network (LAN)

Explanation

The following network types are defined by the geographical area they cover:

Personal Area Network (PAN): A very small network used for communicating between personal devices. For example, a PAN may include a notebook computer, a wireless headset, a wireless printer, and a smartphone. A PAN is limited in range to only a few feet.

Local Area Network (LAN): A network in a small geographic area, like an office. A LAN typically uses wires to connect systems together. For example, a LAN is usually a set of subnets connected to each other using routers to connect the subnets.

Wireless Local Area Network (WLAN): A network that covers an area that is roughly the same size as a standard LAN. However, it uses radio signals instead of wires to connect systems together.

Metropolitan Area Network (MAN): A network that covers an area as small as a few city blocks to

as large as an entire metropolitan city. MANs are typically owned and managed by a city as a public utility.
Wide Area Network (WAN): A group of LANs that are geographically isolated, but are connected to form a large internetwork.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm NETWORK TYPES_01]

▼ **Question 112:**   Incorrect

Which of the following methods can be used to connect a printer to a network? (Select two.)

☐ Plug a network cable into your printer's serial port.

➡ ☑ Plug an Ethernet cable into the network port in the printer.

➡ ☐ Connect your printer to an external print server device that is connected to the network.

☑ Plug a USB-to-Ethernet adapter in your printer's USB port.

☐ Plug a network cable into your printer's USB port.

Explanation

There are two common ways to make a printer a network printer. Most printers come with an integrated network card or have a slot for adding a network card. Otherwise it is possible to connect it to the network using an external printer server. The external print server functions as a gateway between the printer's parallel interface and the network topology. While a USB-to-Ethernet adapter can be used to connect a workstation to a wired network, it won't work with a printer as software drivers must be loaded on the host for the adapter to work.

References

LabSim for PC Pro, Section 7.3.
[pcpro2016_all_questions_en.exm PRT_NETWORK_01]

▼ **Question 113:**   Correct

Which of the following is an advantage of connecting a printer to a network?

○ You can use a less-costly printer.

○ Printing speed is increased.

○ Troubleshooting costs are decreased.

➡ ◉ Multiple users can print to the same printer.

Explanation

Connecting a printer to a network lets multiple users print to the same printer. Network printers are often more expensive than non-networked printers. In many cases, you can purchase networked or non-networked versions of the same printer. While it is common to purchase a larger and a faster printer to be used on the network, network printers by themselves are not faster than equivalent non-networked printers.

References

LabSim for PC Pro, Section 7.3.
[pcpro2016_all_questions_en.exm PRT_NETWORK_02]

▼ **Question 114:**   Correct

Which connector is most commonly used to connect printers to desktop PC systems?

   ○ 802.11 wireless card

   ○ Firewire

   ○ Ethernet network card

   ○ IEEE 1284

➡ ◉ USB

Explanation

Most printers use a USB connector to connect directly to a desktop PC system.

In the past, IEEE 1284 connectors were the most commonly used connectors, but that is no longer the case. A limited number of Firewire printers are available, but they are not as common as USB. 802.11 wireless and Ethernet cards are used to connect printers to computer networks.

References

LabSim for PC Pro, Section 7.3.
[pcpro2016_all_questions_en.exm PRT_INSTALL_CONFIG_04]

▼ **Question 115:**   Correct

If a printer is connected directly to a Windows workstation, what can be done to allow other workstations on the same network to send print jobs to this printer?

   ○ Configure the workstation as a print driver.

➡ ◉ Configure the printer to be a shared printer.

   ○ Configure the printer to be a print server.

   ○ The printer can only be shared by disconnecting it from the workstation and connecting it to the network.

Explanation

You can configure a printer attached to a Windows workstation as a network printer by configuring it to be a *shared printer*. This is done by accessing the Devices and Printers panel on the workstation; then opening the printer's Properties window and configuring the settings on the Sharing tab.

References

LabSim for PC Pro, Section 7.3.
[pcpro2016_all_questions_en.exm PRT_NETWORK_03]

▼ **Question 116:**   Correct

If a printer is not Wi-Fi capable, how can it be set up to provide the most reliable wireless printing?

➡ ◉ If the printer is Ethernet capable, it can be connected to the network through a wireless router

   ○ If the printer is Bonjour-enabled, it can be discovered by workstations using the Bonjour service

   ○ Share the printer from a computer that has a wireless network connection

   ○ If the printer has a USB port, plug in a USB wireless adapter

Explanation

If the printer is not Wi-Fi capable but has an Ethernet port it can be connected to the network through a wireless router. Just use an Ethernet cable to connect the printer to a port on the wireless router. Users on the same network as the wireless router will be able to send jobs to the printer the same as if the printer has a wired connection. (All users will have to install the driver for that printer on their workstations.)

The wireless router option is more reliable than connecting the printer to a workstation that has a wireless connection to the network and then sharing the printer from that workstation. The workstation performs the same role as the wireless router but the workstation will be shut down a lot more often than the wireless router would be.

A USB wireless adapter will not provide a wireless connection for a printer because the adapter needs to be connected to a device with an operating system and the capacity to install drivers. Bonjour can only be used for wireless printing if the printer is already using a Wi-Fi connection to the network.

References

LabSim for PC Pro, Section 7.3.
[pcpro2016_all_questions_en.exm PRT_NETWORK_04]

▼ **Question 117:**   Incorrect

Which of the following tools allow for remote management of servers? (Select two.)

➡ ☑ Telnet

☑ ~~LDAP~~

☐ POP3

➡ ☐ SSH

☐ FTP

Explanation

Both Telnet and SSH are tools for remote management of servers. However, you should avoid using Telnet as it sends all data, including authentication information, clear text on the network. POP3 is for retrieving e-mail from a remote server, and FTP is for transferring files. LDAP is a protocol used to access information about network resources from a directory service.

References

LabSim for PC Pro, Section 6.12.
[pcpro2016_all_questions_en.exm NETUTIL_01]

▼ **Question 118:**   Correct

Which of the following utilities can you use from the command line on a Linux system to see a list of the installed network interfaces, along with their current status and configuration?

○ netinfo

➡ ⦿ ifconfig

○ iflookup

○ netstat

○ netconfig

○ ipconfig

Explanation

ifconfig is used on Linux (and Mac OS) systems to display the installed network interfaces, their current status, and the current configuration settings for each interface, including the MAC address, IP address, broadcast address, and subnet address.

ipconfig is used on Windows systems to view the installed network interfaces and their IP address, subnet mask, and default gateway configuration. **netstat** is used on a Windows system to display IP-related statistics. netconfig, iflookup and netinfo are not the names of real networking utilities.

References

LabSim for PC Pro, Section 6.12.
[pcpro2016_all_questions_en.exm NETUTIL_02]

▼ **Question 119:** <u>Correct</u>

Which utility would you use to view current connections and active sessions and ports on a computer?

- ◯ ipconfig

- ◯ ping

- ◯ nslookup

➡ ◉ netstat

Explanation

Netstat shows IP-related statistics including:

- Incoming and outgoing connections
- Active sessions, ports, and sockets
- The local routing table

Ipconfig displays IP configuration information for network adapters. Use ipconfig to view IP address, subnet mask, and default gateway configuration. Nslookup resolves (looks up) the IP address of a host name. Ping sends an ICMP echo request/reply packet to a remote host. A response from the remote host indicates that both hosts are correctly configured and a connection exists between them.

References

LabSim for PC Pro, Section 6.12.
[pcpro2016_all_questions_en.exm NETUTIL_03]

▼ **Question 120:** <u>Incorrect</u>

You need to view detailed IP configuration information on Windows workstation. In addition to the IP address, subnet mask, and default gateway configuration, you need to know see the network card's MAC address and the addresses of the DHCP and DNS servers the workstation is communicating with.

What command would you enter at the command line to see this detailed information?

| | ✔

When you see the address of the DNS server, you realize that this information needs to be updated. Earlier in the day, you implemented a new DNS server with a new IP address. The workstation will update this information in 24 hours. What command can you enter at the command line to update the DNS server information right away?

| | ipconfig /flushdns

Explanation

Use **ipconfig /all** to view detailed configuration information including the MAC address and the DHCP and DNS servers the workstation is communicating with.

Use **ipconfig /flushdns** to flush (or remove) all the entries in the workstation's current DNS cache. If the IP address of a network server is changed, your local cache will contain the old IP address until the cache is updated (every 24 hours) or the flushdns option is used.

References

LabSim for PC Pro, Section 6.12.
[pcpro2016_all_questions_en.exm NETUTIL_04]

▼ **Question 121:**   Incorrect

Match the utility on the left with the corresponding descriptions on the right. Each utility may be used once, more than once, or not at all.

Resolves (looks up) the IP address of the specified hostname

✔ nslookup

Tests connectivity between devices and shows the routers in the path between the two devices

✔ tracert

Sends an ICMP echo request/reply packet to a remote host

~~tracert~~   ping

Displays current connections and incoming and outgoing connections

~~ipconfig~~   netstat

A few simple replies to this request from the remote host indicates that a connection exists between sender and receiver

✔ ping

Displays active sessions, ports, sockets and the local routing table

✔ netstat

When used with the -t option, performs a continuous connection test

✔ ping

Explanation

ping sends an ICMP echo request/reply packet to a remote host. A response from the remote host indicates that both hosts are correctly configured and a connection exists between them. Using **ping -t** performs a continuous connection test (press **Ctrl+C** to stop sending the ping requests).

tracert is similar to the ping utility in that it tests connectivity between devices; however, tracert also shows the routers in the path between the two devices. Responses from each hop on the route are measured three times to provide an accurate representation of how long the packet takes to reach, and be returned by, the specific host.

nslookup resolves (looks up) the IP address of the specified hostname. It also displays additional name resolution information, such as the DNS server used for the lookup request.

netstat displays the following IP-related statistics:

- Current connections
- Incoming and outgoing connections
- Active sessions, ports, and sockets

- The local routing table

ipconfig displays IP configuration information for network adapters.

References

LabSim for PC Pro, Section 6.12.
[pcpro2016_all_questions_en.exm NETUTIL_05]

▼ **Question 122:**   Incorrect

Which of the following utilities would you use to do the following?

- Establish a remote server management session
- Send unencrypted (clear text) transmissions to the remote server
- Use mostly to manage specialized industrial and scientific devices

➡ ◯ Telnet

◯ RUMBA

◯ SSH

◯ xterm

◉ ~~PuTTY~~

Explanation

The **Telnet** utilities is used to do the following:

- Establish a remote server management session
- Send unencrypted (clear text) transmissions to the remote server
- Use mostly to manage specialized industrial and scientific devices

SSH is similar to Telnet. It is used for remote server management; however, SSH encrypts all communications and is much more secure. PuTTY, xterm, and RUMBA are all terminal emulators.

References

LabSim for PC Pro, Section 6.12.
[pcpro2016_all_questions_en.exm NETUTIL_06]

▼ **Question 123:**   Incorrect

What is name of the utility, which is similar to Telnet, that you can use to establish a secure remote server management session?

[   ]   SSH

Explanation

Similar to Telnet, the **SSH** utility is used for remote server management; however, SSH encrypts all communications and is much more secure.

References

LabSim for PC Pro, Section 6.12.
[pcpro2016_all_questions_en.exm NETUTIL_07]

▼ **Question 124:**   Correct

Which of the following are good reasons to enable NAT?

◯ To prevent hackers from accessing your network

◯ To cache web pages

○ To limit public access to just your DHCP server instead of your whole network

➡ ◉ To translate between Internet IP addresses and the IP addresses on your private network

Explanation

NAT translates the Internet IP addresses and the IP addresses on your private network. This allows for multiple computers to share the single IP address used on the Internet. Firewalls prevent unauthorized users from accessing private networks connected to the Internet, including the DHCP server. A proxy server caches web pages.

References

LabSim for PC Pro, Section 6.11.
[pcpro2016_all_questions_en.exm NAT_01]

▼ **Question 125:**   Correct

Which of the following is not one of the ranges of IP addresses defined in RFC 1918 that are commonly used behind a NAT router?

○ 10.0.0.1 - 10.255.255.254

➡ ◉ 169.254.0.1 - 169.254.255.254

○ 172.16.0.1 - 172.31.255.254

○ 192.168.0.1 - 192.168.255.254

Explanation

169.254.0.1 - 169.254.255.254 is the range of IP addresses assigned to Windows DHCP clients if a DHCP server does not assign the client an IP address. This range is known as the Automatic Private IP Addressing (APIPA) range. The other three ranges listed in this question are defined as the private IP addresses from RFC 1918 which are commonly used behind a NAT server.

References

LabSim for PC Pro, Section 6.11.
[pcpro2016_all_questions_en.exm NAT_02]

▼ **Question 126:**   Incorrect

You have a computer that is connected to the Internet through a NAT router. You want to use a private addressing scheme for your computer. Which of the following IP addresses could you assign to the computer? (Select three.)

☑ ~~240.12.188.1~~

☐ 32.188.99.10

☑ ~~224.15.166.12~~

➡ ☑ 192.168.12.253

➡ ☐ 172.18.188.67

➡ ☐ 10.0.12.15

☐ 127.0.0.1

Explanation

Of the addresses listed here, the following are in the private IP address ranges: 10.0.12.15 (private range = 10.0.0.0 to 10.255.255.255) 172.18.188.67 (private range = 172.16.0.0 to 172.31.255.255) 192.168.12.253 (private range = 192.168.0.0 to 192.168.255.255).

References

LabSim for PC Pro, Section 6.11.
[pcpro2016_all_questions_en.exm NAT_03]

▼ **Question 127:**   Incorrect

You recently installed a small office home office wireless router. To avoid security holes and bugs, what should you do to the router?

- ○ Configure port triggering
- ➡ ○ Update the firmware
- ◉ ~~Configure the DHCP service~~
- ○ Enable NAT

Explanation

You should update the firmware on the router to fix bugs or security holes. You will typically download the firmware and use a Web browser to update the firmware. Enable the DHCP service to assign IP addresses to hosts on the private network. Enable NAT so multiple computers can share the single IP address used on the Internet. Configure port triggering to dynamically open incoming ports based on outgoing traffic from a specific private IP address and port.

References

LabSim for PC Pro, Section 6.11.
[pcpro2016_all_questions_en.exm SOHO_WIRELESS_01]

▼ **Question 128:**   Correct

You need to add security for your wireless network. You would like to use the most secure method. Which method should you implement?

- ○ WEP
- ○ WPA
- ➡ ◉ WPA2
- ○ Kerberos

Explanation

Wi-Fi Protected Access 2 (WPA2) is currently the most secure wireless security specification. WPA2 includes specifications for both encryption and authentication. WPA was an earlier implementation of security specified by the 802.11i committee. WEP was the original security method for wireless networks. WPA is more secure than WEP, but less secure than WPA2. Kerberos is an authentication method, not a wireless security method.

References

LabSim for PC Pro, Section 6.11.
[pcpro2016_all_questions_en.exm SOHO_WIRELESS_02]

▼ **Question 129:**   Correct

A customer has called and indicated that he thinks his neighbor is connecting to his wireless access point (WAP) to use his high-speed Internet connection. Which of the following will help

resolve this issue? (Select two.)

☐ Install radio signal jamming equipment between his house and the neighbor's house.

☐ Use the WAP configuration utility to change the signal channel.

➡ ☑ Disable SSID broadcast on the WAP.

➡ ☑ Implement WPA2.

☐ Upgrade to an 802.11g access point.

Explanation

You should disable SSID broadcast. Disabling SSID broadcast will make the WAP not appear when the unauthorized user is looking for available wireless networks. Implementing WPA2 will enable encryption and authentication on the WAP. Without the correct passphrase, the neighbor will not be able to connect to the wireless access point. Changing the signal channel sometimes helps eliminate interference problems with neighboring wireless systems. However, network cards automatically detect the channel, so changing the channel offers no security benefits. By itself, 802.11g is no more secure than any other wireless networking standard.

References

LabSim for PC Pro, Section 6.11.
[pcpro2016_all_questions_en.exm SOHO_WIRELESS_03]

▼ **Question 130:** Incorrect

You have a small wireless network that uses multiple access points. The network uses WPA and broadcasts the SSID. WPA2 is not supported by the wireless access points. You want to connect a laptop computer to the wireless network. Which of the following parameters will you need to configure on the laptop? (Select two.)

☑ ~~BSSID~~

➡ ☐ TKIP encryption

☐ AES encryption

➡ ☐ Preshared key

☑ ~~Channel~~

Explanation

To connect to the wireless network using WPA, you will need to use a preshared key and TKIP encryption. When using a preshared key with WPA, it is known as WPA-PSK or WPA Personal. AES encryption is used by WPA2. The channel is automatically detected by the client. The Basic Service Set Identifier (BSSID) is a 48-bit value that identifies an AP in an infrastructure network or a STP in an ad hoc network. The client automatically reads this and uses it to keep track of APs when roaming between cells.

References

LabSim for PC Pro, Section 6.11.
[pcpro2016_all_questions_en.exm SOHO WIRELESS_04]

▼ **Question 131:** Incorrect

You have a small wireless network with less than 50 client computers. You upgraded the hardware on two wireless devices so you can use a better security standard than WEP. Now you need to implement the new security standard. You need the greatest amount of security with the least amount of effort, and without replacing any of the wireless infrastructure. What should you do? (Select two.)

➡ ☐ Configure each client with the same key

   ☑ ~~Implement WPA-PSK~~

   ☑ ~~Configure each client to use a different key~~

   ☐ Implement WPA2-Enterprise

➡ ☐ Implement WPA2-AES

Explanation

In this case, implementing WPA2 with AES and using the same pre-shared key on each client provides the greatest amount of security with the least amount of effort, and does not require the replacement of any of the wireless infrastructure. WPA2-Enterprise uses 802.1x for authentication and requires the configuration of an authentication server. WPA2 is more secure than WPA-PSK.

References

LabSim for PC Pro, Section 6.11.
[pcpro2016_all_questions_en.exm SOHO WIRELESS_05]

▼ **Question 132:**   <u>Correct</u>

Which of the following is the primary device needed to set up a SOHO network?

➡ 🔘 Wireless router

   ⚪ DHCP server

   ⚪ NAT router

   ⚪ Firewall/DMZ appliance

   ⚪ Cable modem

   ⚪ DSL modem

Explanation

A wireless router, or wireless access point, is the primary device that is needed to set up a SOHO network. The router is the device that provides the connection that computers, printers, and mobile devices use to communicate with each other. (A wireless router can be a multifunctioning device that also functions as a modem, 4 port switch, NAT router, DHCP server, and a firewall.)

A cable or DSL modem provides the needed Internet connection, but a modem only gives one device access to the Internet. A SOHO network isn't possible unless the device you connect to the modem is a wireless router. A NAT router, a DHCP server, and a firewall are all very useful SOHO network services; wireless routers are available that include these functions.

References

LabSim for PC Pro, Section 6.11.
[pcpro2016_all_questions_en.exm SOHO_01]

▼ **Question 133:**   Incorrect

List the general steps that are used to configure a SOHO router and set up the network.
(Assume that the wireless router does not also function as a modem.)

Use the arrows to move the correct steps from the left to right. Use the up and down arrows to put the steps in the correct order, from the first step at the top to last step at the bottom.

Tip: Not all steps on the left will be used.

Configure the Internet connection   ~~blank~~
Configure the wireless router   ~~blank~~
Enable NAT   ~~blank~~
Configure DHCP   ~~blank~~
Secure the SOHO network   ~~blank~~

Explanation

The general steps you would use to configure a SOHO router and set up the network are as follows:

• **Configure the Internet connection**--Begin by connecting the wireless router to the DSL or cable modem that provides the Internet connection, using the router's WAN port. If the router does not automatically detect and configure the Internet connection, follow the configuration instructions provided by the Internet Service Provider.
• **Configure the wireless router**--Before setting up the network, the default administrator username and password should be changed and the firmware on the router should be updated to fix bugs or security vulnerabilities.
• **Enable NAT**--Before the network host devices (computers, mobile devices, and printers) can receive IP addresses, NAT must be enabled on the router. NAT allows multiple computers to share a single public IP address used on the Internet. The host devices will communicate with each other using private network addresses from one of the private address ranges.
• **Configure DHCP**--after NAT is configured to use a range of private network addresses, DHCP can be configured to assign IP addresses from that range to the host devices.
• **Secure the SOHO network**--Secure the SOHO network by; configuring the firewall on the router, configuring content filtering and parental controls, and physically securing the router.

There are other wireless communication technologies, but Wi-Fi based on the 802.11 standard is the only practical option for the typical SOHO environment. A SOHO network does not need a server so you will generally not configure a network server. A SOHO network only uses one subnet, so there is no need to design a subnetting scheme. Using a wireless router means the physical network star topology is already determined.

References

LabSim for PC Pro, Section 6.11.
[pcpro2016_all_questions_en.exm SOHO_02-PB]

▼ **Question 134:**   Incorrect

When you enable quality of service (QoS) on a SOHO network, which of the following is an example of a network feature that could be implemented?

○ Cause all incoming port traffic to be forwarded to the specified DMZ host.

➡ ○ Give VoIP network traffic higher priority and more bandwidth than HTTP (web browser) traffic.

◉ ~~Enable devices to easily discover each other on the network and share data and media content.~~

○ Prevent hosts from accessing specific websites or using a specific Internet service, such as chat, torrent, or gaming applications.

Explanation

Enable quality of service (QoS) on a SOHO network allows you to prioritize certain network communications over others. For example, you could give VoIP network traffic higher priority and more bandwidth than HTTP (web browser) traffic.

Enabling and configuring a demilitarized zone (DMZ) would allow you to cause all incoming port traffic to be forwarded to a specified DMZ host. Enabling the Universal Plug and Play (UPnP) networking protocol, allows devices to easily discover each other on the network and share data and media content. Configuring content filtering and parental controls allows you to prevent hosts from accessing specific websites or using a specific Internet service, such as chat, torrent, or gaming applications.

References

LabSim for PC Pro, Section 6.11.
[pcpro2016_all_questions_en.exm SOHO_03]

▼ **Question 135:**   <u>Correct</u>

You need to attach an RJ-45 connector to the end of a Cat 6 UTP cable. Which tool should you use?

- ○ Tone probe

- ○ Multimeter

➡ - ◉ Crimper

- ○ Punchdown tool

Explanation

A crimper is used to attach an RJ-45 connector to the end of a UTP cable. It pushes down on the pins in the RJ-45 connector, causing them to pierce the insulation of the individual wires in the UTP cable.

A multimeter is used to measure electrical voltage and resistance. A tone probe is used to trace a UTP cable through walls and ceilings. A punchdown tool is used to connect UTP cabling to a punchdown block.

References

LabSim for PC Pro, Section 2.3.
[pcpro2016_all_questions_en.exm PC16 CRIMPER]

▼ **Question 136:**   <u>Incorrect</u>

You need to trace the route that a Cat 6 UTP cable takes through the ceiling and walls of your building. Which tool should you use?

- ○ Multimeter

- ◉ ~~Cable tester~~

➡ - ○ Tone probe

- ○ Punchdown tool

Explanation

A tone probe is used to trace a UTP cable through walls and ceilings. A tone generator is attached to one end of the cable. Then the probe is used to audibly trace the wire.

A multimeter is used to measure electrical voltage and resistance. A cable tester tests UTP cables for continuity and resistance. A punchdown tool is used to connect UTP cabling to a punchdown block.

References

LabSim for PC Pro, Section 2.3.
[pcpro2016_all_questions_en.exm PC16 TONE PROBE]

▼

Question 137:   <u>Correct</u>

You need to connect the end of a Cat 6 UTP cable to a 110 punch down block. Which tool should you use?

   ⚪ Loopback plug

   ⚪ Crimper

   ⚪ Cable tester

➡ ⦿ Punchdown tool

Explanation

A punchdown tool is used to connect UTP cabling to a punchdown block.

A crimper is used to attach an RJ-45 connector to the end of UTP cable. A cable tester is used to test UTP cables for continuity and resistance. A loopback plug returns a transmitted electrical sign from a connector back to the receptor pins on the same connector.

References

LabSim for PC Pro, Section 2.3.
[pcpro2016_all_questions_en.exm PC16 PUNCHDOWN TOOL]

▼ **Question 138:**   <u>Correct</u>

What are loopback plugs used for?

   ⚪ Removing broken pins from within sockets.

   ⚪ Grabbing and lifting small objects.

   ⚪ Connecting computers together without using network cards or modems.

➡ ⦿ Testing ports by returning output signals as input.

Explanation

Loopback plugs are used to test ports by returning output signals as input. Use a loopback plug to test the functionality of serial ports or networking ports. Null modem cables are used to connect computers using their serial ports without the need for a modem and phone line connection. A 3-prong holder is a tweezers-like tool with three prongs used for grabbing and lifting small objects. An IC extractor is a tweezer-like tool, usually spring loaded in the open position, used to remove integrated circuit chips.

References

LabSim for PC Pro, Section 2.3.
[pcpro2016_all_questions_en.exm PC 2016 LOOPBACK PLUGS]

▼ **Question 139:**   <u>Correct</u>

Which of the following features on a wireless network allows or rejects client connections based on the hardware address?

   ⚪ WEP

   ⚪ DHCP

➡ ⦿ MAC address filtering

   ⚪ SSID

Explanation

MAC address filtering allows or rejects client connections based on the hardware address. Wi-Fi Protected Access II (WPA2) provides encryption and user authentication for wireless networks. Wired Equivalent Privacy (WEP) also provides security, but WPA2 is considered more secure than WEP. The SSID is the network name or identifier.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm MAC ADDRESS FILTER]

▼ **Question 140:**   Correct

Which of the following is used on a wireless network to identify the network name?

- ◯ WPA2 passphrase

- ◯ WEP key

- ◯ MAC address

➡ ◉ SSID

Explanation

Wireless devices use the SSID (Service Set Identification) to identify the network name. All devices on a wireless network use the same SSID. The MAC address is a unique physical device address. The WPA2 Personal passphrase and the WEP key are both mechanisms used to secure wireless communications.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm SSID]

▼ **Question 141:**   Correct

Which type of configuration would you use if you wanted to deploy 802.11n technology to communicate directly between two computers using a wireless connection?

- ◯ WEP

- ◯ Infrastructure

➡ ◉ Ad hoc

- ◯ WAP

Explanation

Configure an ad hoc connection to connect one computer directly to another using a wireless connection. An infrastructure configuration uses a Wireless Access Point (WAP) to create a network. Devices communicate with each other through the WAP. WEP is a security mechanism used for authentication.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm AD HOC WIRELESS]

▼ **Question 142:**   Correct

Which wireless standard can stream data at a rate of up to 54 Mbps using a frequency of 5 GHz?

- ◯ 802.11g

- ◯ 802.11n

➡ ⦿ 802.11a

　　◯ 802.11b

Explanation

802.11a can stream data at a rate of up to 54 Mbps using a frequency of 5 GHz. 802.11b can stream data at a rate of up to 11 Mbps using a frequency of 2.4 GHz. 802.11g can stream data at a rate of up to 54 Mbps using a frequency of 2.4 GHz. 802.11n can stream data at a rate of up to 600 Mbps using a frequency of 2.4 GHz or 5 GHz.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm 802.11A]

▶ **Question 143:**　　　　**Correct**

▼ **Question 144:**　　　　**Correct**

You are designing a wireless network for a client. Your client needs the network to support a data rate of at least 150 Mbps. In addition, the client already has a wireless telephone system installed that operates 2.4 GHz. Which 802.11 standard will work best in this situation?

　　◯ 802.11b

　　◯ 802.11g

　　◯ 802.11a

➡ ⦿ 802.11n

Explanation

802.11n is the best choice for this client. 802.11b and 802.11g both operate in the 2.4 GHz to 2.4835 GHz range, which will cause interference with the client's wireless phone system. 802.11a operates in the 5.725 GHz to 5.850 GHz frequency range, which won't interfere with the phone system. However, its maximum speed is limited to 54 Mbps.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm 802.11N]

▼ **Question 145:**　　　　**Incorrect**

Which IEEE wireless standards specify transmission speeds up to 54 Mbps? (Select two.)

➡ ☑ 802.11g

➡ ☐ 802.11a

　　☐ Bluetooth

　　☑ ~~802.11b~~

　　☐ 802.1x

Explanation

Both the 802.11a and the 802.11g wireless standards specify maximum transmission speeds up to 54 Mbps. Bluetooth is a wireless standard commonly used to connect peripheral devices and operates at 720 Kbps. The 802.11b wireless standard provides transmission speeds of 11 Mbps. 802.1x is a wireless security standard that provides an authentication framework for 802-based networks.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm 802.11A_802.11G]

▼ **Question 146:** Incorrect

Which of the following are characteristics of the 802.11g wireless standard? (Select three.)

➡ ☑ Maximum bandwidth of 54 Mbps

☑ ~~Backwards compatible with 802.11a devices~~

➡ ☐ Backwards compatible with 802.11b devices

➡ ☑ Operates in the 2.4 GHz range

☐ Operates in the 5.75 GHz range

☐ Maximum bandwidth of 11 Mbps

Explanation

802.11g wireless networks:

- Operate in the 2.4 GHz range
- Have a maximum bandwidth of 54 Mbps
- Are backwards compatible with 802.11b networks

802.11b provides 11 Mbps bandwidth. 802.11a operates in the 5.75 GHz range. For this reason, 802.11a is not compatible with 802.11b or 802.11g.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm 802.11G]

▼ **Question 147:** Correct

Which of the following is true when the DHCP setting is disabled in a wireless network?

➡ ⦿ Wireless clients must use a static IP address within the correct IP address range to connect to the network.

○ Wireless clients must use the correct wireless access point identifier (i.e., SSID) to connect to the network.

○ Wireless clients with specific MAC addresses are denied access to the network.

○ Wireless clients must use the correct encryption key with its packets.

Explanation

Disabling DHCP prevents addresses from being automatically assigned to wireless systems. If DHCP is disabled, clients must use a static IP address and only those who know the IP address range and other parameters will be able to connect. Enabling MAC address filtering denies access to clients with unauthorized MAC addresses. Encryption keys are only needed when wireless networks implement some type of encryption (i.e., WEP, WPA, and WPA2). The SSID is the identifier for the wireless access point, and is used to associate wireless clients to the access point.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm WIRELESS STATIC ADDRESS]

▼ **Question 148:**   Correct

You need to place a wireless access point in your two-story building. While trying to avoid interference, which of the following is the best location for the access point?

    ◯ In the kitchen area

    ◯ In the basement

➡ ◉ In the top floor

    ◯ Near the backup generators

Explanation

In general, place access points higher up to avoid interference problems caused by going through building foundations. Do not place the access point next to sources of interference such as other wireless transmitting devices (cordless phones or microwaves) or other sources of interference (motors or generators).

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm WIRELESS_06]

▼ **Question 149:**   Correct

Which of the following locations will contribute the greatest amount of interference for a wireless access point? (Select two.)

➡ ☑ Near backup generators

    ☐ Near exterior walls

➡ ☑ Near cordless phones

    ☐ Near DCHP servers

    ☐ In the top floor of a two-story building

Explanation

Other wireless transmitting devices (such as cordless phones or microwaves) and generators cause interference for wireless access points. In general, place access points higher up to avoid interference problems caused by going through building foundations. DHCP servers provide IP information for clients and will not cause interference.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm WIRELESS_07]

▼ **Question 150:**   Correct

Which of the following is not an example of wireless networking communications?

    ◯ Infrared

    ◯ 802.11n

    ◯ Bluetooth

➡ ◉ DSL

Explanation

DSL or Digital Subscriber Line is not a form of wireless networking communications. Rather it is a form of high-speed WAN connection used to connect remote systems to the Internet. Wireless communications are those types of networking technologies that do not rely upon wires or cables to connect computers together in a networking relationship. 802.11n is the primary wireless standard used. 802.11-compliant networks employ communication signals of 2.4GHz or 5.7 GHz radio waves. Infrared and Bluetooth are other forms of wireless networking communications.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm WIRELESS_08]

▼ **Question 151:**   Correct

Which of the following recommendations should you follow when placing wireless access points (WAPs) to provide wireless access for users within your company building?

     ○ Place WAPs in the basement.

     ○ Place multiple WAPs in the same area.

     ○ Place WAPs near outside walls.

➡   ◉ Place WAPs above where most clients are.

Explanation

Devices often get better reception from WAPs that are above or below. If possible, place WAPs higher up to avoid interference problems caused by going through building foundations. For security reasons, do not place WAPs near outside walls. The signal will extend outside beyond the walls. Placing the WAP in the center of the building decreases the range of the signals available outside of the building. When using multiple WAPs, place access points evenly through the area, taking care to minimize the overlap of the broadcast area while ensuring adequate coverage for all areas.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm WIRELESS_10]

▼ **Question 152:**   Correct

You have been contacted by OsCorp to recommend a wireless Internet solution. The wireless strategy must support a transmission range of 150 feet, use a frequency range of 2.4 GHz, and provide the highest possible transmission speeds. Which of the following wireless solutions would you recommend?

     ○ 802.11b

➡   ◉ 802.11n

     ○ 802.11a

     ○ 802.11g

Explanation

Of the technologies listed, only the IEEE 802.11n wireless standard addresses the desired requirements. The 802.11a wireless standard offers maximum speeds of 54 Mbps and uses the 5 GHz frequency range. The 802.11g wireless standard offers maximum speeds of 54 Mbps. 802.11b uses the 2.4 GHz frequency range but supports only 11 Mbps transfer speeds.

References

LabSim for PC Pro, Section 6.8.

[pcpro2016_all_questions_en.exm 802.11 SPECS_01]

▼ **Question 153:**   Correct

Which wireless standard has the highest data transfer rates?

    ○ 802.11b

    ○ 802.11a

    ○ 802.11g

➡ ◉ 802.11n

Explanation

802.11n has the highest data transfer rates, up to (theoretically) 600 Mbps. 802.11a and g have speeds up to 54 Mbps or 108 Mbps when using channel bonding. 802.11b has speeds up to 11 Mbps.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm 802.11 SPECS_02]

▼ **Question 154:**   Correct

You are designing a wireless network for a client. Your client needs the network to support a data rate of at least 54 Mbps. In addition, the client already has a wireless telephone system installed that operates 2.4 GHz. Which 802.11 standards will work best in this situation? (Select two.)

➡ ☑ 802.11a

    ☐ 802.11g

    ☐ 802.11d

➡ ☑ 802.11n

    ☐ 802.11b

Explanation

802.11a or 802.11n are the best choices for this client. While both 802.11a and 802.11g each operate at 54 Mbps, 802.11g operates in the 2.4 GHz to 2.4835 GHz range, which will cause interference with the client's wireless phone system. 802.11a and 802.11n, on the other hand, operate in the 5.725 GHz to 5.850 GHz frequency range, which won't interfere with the phone system. 802.11n can operate at speeds up to 300 Mbps.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm 802.11 SPECS_03]

▼ **Question 155:**   Correct

You are designing an update to your client's wireless network. The existing wireless network uses 802.11b equipment, which your client complains runs too slowly. She wants to upgrade the network to run at 150 Mbps. Due to budget constraints, your client wants to upgrade only the wireless access points in the network this year.

Next year, she will upgrade the wireless network boards in her users' workstations. She has also indicated that the system must continue to function during the transition period.

Which 802.11 standard will work best in this situation?

➡ ◉ 802.11n

◯ 802.11d

◯ 802.11b

◯ 802.11a

◯ 802.11g

Explanation

802.11n is the best choice for this client. Both 802.11a and 802.11g each operate at a maximum speed of 54 Mbps. 802.11a isn't compatible with 802.11b network boards. 802.11n access points, on the other hand, are backwards-compatible with 802.11b equipment and run at speeds of up to 300 Mbps. Using this type of access point will allow the wireless network to continue to function during the transition.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm 802.11 SPECS_04]

▼ **Question 156:**   <u>Correct</u>

Which of the following wireless networking standards uses a frequency of 5 GHz and supports transmission speeds up to 1.3 Gbps?

➡ ◉ 802.11ac

◯ 802.11g

◯ 802.11n

◯ 802.11b

◯ 802.11a

Explanation

The *802.11ac* standard uses the 5 GHz frequency and supports data transmission speeds up to 1.3 Gbps.

802.11n supports data transmission speeds up to 600 Mbps. 802.11g and 802.11a both support data transmission speeds up to 54 Mbps. 802.11b supports data transmission speeds up to 11 Mbps.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm 802.11AC_01]

▼ **Question 157:**   <u>Incorrect</u>

The 802.11ac wireless networking standard provides increased bandwidth and communication speeds by using which of the following technologies? (Select two.)

➡ ☑ Channel bonding to combine more channels in the 5 GHz band to allow for up to 160 MHz wide channels

☐ OFDM modulation to allow several parallel data channels to stream data

☐ Peer-to-peer mode to allow each host to communicate directly with other hosts

➡ ☐ MU-MIMO to allow multiple users to use the same channel

✅ ~~Dual band transmission to allow data to be transmitted at two frequencies at the same time~~

Explanation

The 802.11ac wireless network standard increases bandwidth and communication speeds by using the following technologies:

- *MU-MIMO* is an enhancement to MIMO that allows multiple users to use the same channel. In addition to adding MU-MIMO, 802.11ac doubled the number of MIMO radio streams from four to eight.
- *Channel bonding* is used to combine even more channels in the 5 GHz band, allowing for up to 160 MHz wide channels. (Even though 160 MHz wide channels are supported, most 802.11ac networks use 80 MHz wide channels.)

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm 802.11AC_02]

▼ **Question 158:**　　　　　　<u>Correct</u>

To answer this question, complete the lab using information below.
You have completed this lab and may go on to the next question.

| **Launch Lab** |

You completed the lab correctly.

| **View Lab Report** |

Recently, you created a wireless network at your home to allow laptops and mobile devices to make a connection to the wired network and the Internet. However, without additional configuration, the wireless access point will allow connections from *any* laptop or mobile device. Because you recognize this as a vulnerability, you now need to secure the wireless network from unauthorized connections.

Your task in this lab is to secure the wireless network as follows:

- Change the settings on the wireless access point:
    - Use **PoliceSurveillanceVan** for the SSID. **Note**: The SSID name is case sensitive.
    - Use **WPA2-PSK** authentication, with **AES** for encryption.
    - Configure **S3CuR31!** as the security key. **Note**: The security key is case sensitive.
- Change the administrator authentication credentials on the wireless access point to:
    - Username: **@dm1n**
    - Password: **p@SSw@Rd**

To view and configure the wireless access point, use Internet Explorer and go to **192.168.0.100**. Enter username: **admin** and password: **password**.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm WIRELESS2-PB]