2.3.5 Lesson Review

Date: 11/16/2025, 3:55:49 PM

Time Spent: 14:12

Score: 90%

Passing Score: 80%

Question 1 ✓ Correct

You are an IT professional tasked with setting up a conference room that includes both modern digital projectors and older analog video equipment.

You notice that the older equipment only has VGA ports, while the projectors have HDMI inputs.

Which solution would BEST address the connectivity issue using adapter cables?

- Use an HDMI to HDMI cable to connect the projectors to the older equipment.
- Use a VGA to HDMI adapter cable to connect the older equipment to the projectors. ✓ Correct
- Use an HDMI to VGA adapter cable to connect the projectors to the older equipment.
- Use a VGA to VGA cable to connect the older equipment directly to the projectors.

Explanation

Using a VGA to HDMI adapter cable to connect the older equipment to the projectors is appropriate because it involves using an adapter cable that converts the analog VGA signal from the older equipment to a digital HDMI signal compatible with the modern projectors.

HDMI to VGA adapters are less common and may not support the necessary signal conversion from digital to analog, which is more complex than the reverse.

Using a VGA to VGA cable to connect the older equipment directly to the projectors is not feasible because the projectors only have HDMI inputs, and a VGA to VGA cable would not be compatible with the HDMI ports.

Using an HDMI to HDMI cable to connect the projectors to the older equipment is not possible because, the older equipment does not have HDMI ports, so an HDMI to HDMI cable cannot be used for connectivity.

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Question 2 ✕ Incorrect

Which of the following statements accurately describes a key difference between DVI and VGA video cables?

- VGA cables are designed for digital flat-panel displays, whereas DVI cables are used for cathode ray tube (CRT) monitors.
- Both DVI and VGA cables are actively developed and commonly found on modern display devices.
- DVI cables support both video and audio transmission, whereas VGA cables support only video. ✕ Incorrect
- DVI cables can support both analog and digital signals, while VGA cables support only analog signals. ✓ Correct

Explanation

DVI supports both analog and digital outputs, whereas VGA is an analog-only interface. This accurately describes a key difference between the two cable types.

DVI and VGA support only video, not audio. Therefore, this statement is incorrect regarding DVI cables.

VGA was used for CRT monitors, which relied on analog signals, while DVI was designed to support both analog and digital outputs, making this statement incorrect.

DVI is no longer actively developed and is typically found on older display devices, and VGA is being phased out, making this statement incorrect.

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Question 3 ✓ Correct

Why are adapter cables important when integrating legacy devices with modern systems?

- They are used to upgrade the firmware of legacy devices to be compatible with modern systems.
- They ensure that legacy devices can operate at the same speed as modern devices.
- They increase the data transfer rate between legacy and modern devices.
- They allow legacy devices to connect to modern systems by converting incompatible interfaces. ✓ Correct

Explanation

Adapter cables are crucial for integrating legacy devices with modern systems because they convert signals between different types of interfaces, allowing devices that would otherwise be incompatible to connect and communicate.

Adapter cables do not increase data transfer rates. Their purpose is to enable connectivity between devices with different interfaces, not to enhance speed.

Adapter cables do not affect the operational speed of devices. They only facilitate the connection between different interfaces.

Adapter cables do not upgrade firmware. They are physical connectors that enable communication between different types of interfaces, not software tools for firmware updates.

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Question 4 ✓ Correct

You are an IT technician tasked with setting up a legacy network switch that only has a serial console port for configuration. You need to connect your modern laptop, which lacks a serial port, to this switch for initial setup.

Which of the following solutions would BEST allow you to achieve this task?

- (●) Use a USB to Serial adapter to connect the laptop's USB port to the switch's serial console port. ✓ Correct
- ( ) Use a VGA to Serial adapter to connect the laptop's VGA port to the switch's serial console port.
- ( ) Use an HDMI to Serial adapter to connect the laptop's HDMI port to the switch's serial console port.
- ( ) Use an Ethernet cable to connect the laptop's Ethernet port to the switch's serial console port.

Explanation

Since modern laptops often lack serial ports, a USB to Serial adapter allows you to connect the laptop's USB port to the switch's serial console port, enabling configuration.

HDMI is a video interface and is not compatible with serial data transmission. There is no standard HDMI to Serial adapter for this purpose.

VGA is a video interface and does not support serial data transmission. VGA to Serial adapters are not used for connecting to serial console ports.

Ethernet and serial ports use different protocols and interfaces. An Ethernet cable cannot be directly used to connect to a serial console port without additional conversion equipment.

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Question 5 Correct

You are an IT professional tasked with connecting an older projector to a modern laptop for a presentation. The projector only has a VGA input, while the laptop has a DVI output.

Which of the following solutions would BEST allow you to connect the two devices?

- Use a DVI to HDMI adapter to connect the laptop's DVI output to the projector's VGA input.
- Use a VGA to HDMI converter to connect the projector's VGA input to the laptop's DVI output.
- Use a VGA cable directly to connect the laptop's DVI output to the projector's VGA input.
- Use a DVI to VGA adapter to connect the laptop's DVI output to the projector's VGA input. ✓ Correct

Explanation

DVI supports both analog and digital outputs. Using a DVI to VGA adapter would allow the analog signal from the DVI output to be converted and transmitted to the VGA input of the projector.

Using a VGA to HDMI converter to connect the projector's VGA input to the laptop's DVI output is not applicable because the laptop has a DVI output, not HDMI. Additionally, a VGA to HDMI converter would not work in this scenario as it does not address the DVI to VGA connection needed.

A direct VGA cable cannot be used to connect a DVI output to a VGA input without an adapter, as the connectors and signal types are different.

A DVI to HDMI adapter would not be suitable for connecting to a VGA input, as HDMI is a digital interface and does not support the analog signals required by VGA.

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Question 6 ✓ Correct

Which of the following statements BEST describes the function and characteristics of a serial port?

- A serial port uses a 15-pin interface and is primarily used for connecting video devices to computers.
- A serial port transmits data one bit at a time over a single wire and is commonly used for connecting modern USB devices.
- A serial port supports high-speed data transmission rates similar to USB and is widely used in modern computing for connecting external modems.
- A serial port is a legacy connection interface that transmits data one bit at a time over a single wire and is known as Recommended Standard #232 (RS-232). ✓ Correct

Explanation

The serial port is a legacy connection interface that transmits data one bit at a time over a single wire and is known as RS-232.

While it is true that a serial port transmits data one bit at a time over a single wire, it is not commonly used for connecting modern USB devices. USB has largely replaced serial ports for many functions, but they are not the same interface.

Serial ports do not support high-speed data transmission rates similar to USB. They are considered legacy interfaces and have been largely replaced by USB for connecting external modems.

Serial ports do not use a 15-pin interface; they typically use a 9-pin or 25-pin interface. Additionally, they are not used for connecting video devices; VGA or DVI interfaces are used for video connections.

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Question 7 ✓ Correct

A support technician needs to connect the USB port on a portable monitor to an HDMI port on a laptop to extend the laptop's display.

What kind of cable should the technician use to accomplish this?

- ○ EIDE
- ◉ Adapter ✓ Correct
- ○ SCSI
- ○ DVI

Explanation

The technician should use an adapter cable to connect the HDMI port on the laptop with a USB port on the monitor. An adapter cable has connectors for two different cable types at each end.

A small computer system interface (SCSI) can connect both internal devices and external peripherals, such as scanners and printers, but must enable termination on the first and last devices in the chain.

An extended integrated drive electronics (EIDE) cable typically has three color-coded connectors and was the principal mass storage interface for desktop PCs for many years.

A digital visual interface (DVI) supports both analog and digital outputs. DVI is likely to be encountered on older display devices and video cards.

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Question 8 ✓ Correct

Which of the following statements is true about adapter cables?

- (●) Adapter cables are used to convert signals from one type of interface to another. ✓ Correct
- ( ) Adapter cables are used to enhance the speed of data transmission between devices.
- ( ) Adapter cables are only used for connecting audio devices.
- ( ) Adapter cables are primarily used to connect two devices with the same type of ports.

Explanation

Adapter cables allow devices with different types of interfaces to communicate by converting the signals appropriately.

Adapter cables are specifically designed to connect devices with different types of ports, not the same type. They facilitate compatibility between different interfaces.

Adapter cables are versatile and can be used for various types of connections, including video, audio, and data, not just audio devices.

Adapter cables do not enhance the speed of data transmission; they merely enable connectivity between different interfaces. The speed is determined by the interfaces and cables used, not by the adapter itself.

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Question 9 Correct

A support technician manages digital displays but has some older computers with video cards that can support both analog and digital monitors. What type of video interface do these older computers have?

- HDMI
- DisplayPort
- DVI ✓ Correct
- VGA

Explanation

The older computers have a digital visual interface (DVI) that supports both analog and digital outputs. DVI is no longer in active development and is only on older display devices and video cards.

The high-definition multimedia interface (HDMI) video interfaces only support digital displays. Older video interfaces, such as VGA, supported computer monitors driven by an analog signal.

The 15-pin video graphics array (VGA) port was the standard analog video interface for PC devices for a very long time, though it is starting to be phased out completely now.

DisplayPort video interfaces only support digital displays. Older video interfaces, like DVI, supported computer monitors and projectors that were predominantly of the cathode ray tube (CRT) type.

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Question 10 ✓ Correct

You are troubleshooting a display issue in an office where an older desktop computer is connected to a monitor using a DVI cable. The monitor occasionally displays a "No Signal" message.

Upon inspection, you notice that the computer's graphics card has both DVI and VGA ports, and the monitor supports both DVI and VGA inputs.

Which of the following analyses BEST identifies the potential cause of the issue and suggests an appropriate solution?

- The monitor might not support digital signals; switch to using a VGA cable to ensure compatibility.
- The monitor's resolution might be set too high for the DVI connection; lower the resolution to match VGA standards.
- **The DVI cable might be faulty; try replacing it with a new DVI cable to see if the issue persists.** ✓ Correct
- The graphics card might not support dual-link DVI; check the DVI cable type and replace it with a single-link DVI cable if necessary.

Explanation

DVI supports both analog and digital outputs, and a faulty cable could cause intermittent signal issues. Replacing the DVI cable is a logical first step in troubleshooting the "No Signal" message.

DVI supports both analog and digital outputs. If the monitor supports DVI, it should handle digital signals. Switching to VGA without confirming the issue might not be necessary.

Dual-link DVI is typically related to higher resolutions, not basic connectivity problems.

DVI can support high resolutions. Lowering the resolution to match VGA standards is not directly related to resolving a "No Signal" issue, especially if the monitor and graphics card are compatible with the current settings.

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