4.8 Checkpoint Review

Date: 11/23/2025, 5:23:37 AM

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Score: 80%

Passing Score: 80%

Question 1 ✓ Correct

You have a motherboard that uses a 24-pin ATX connector.

Which types of power supply could you use with this motherboard? (Select two.)

- [ ] A power supply with a 20-pin ATX connector only
- [x] A power supply with a 24-pin ATX connector only ✓ Correct
- [ ] A power supply with a 20-pin ATX and a 6-pin connector
- [ ] A power supply with a 20-pin ATX and a Molex connector
- [x] A power supply with a 20-pin ATX and a +4-pin connector ✓ Correct

Explanation

In this case, the motherboard needs either a 24-pin ATX connector or a 20-pin ATX and a +4-pin connector.

When selecting a power supply, make sure it includes the necessary connectors for your motherboard. Some motherboards and processors require an extra 4-pin and/or 8-pin connector in addition to the main 20- or 24-pin power connector.

A Molex connector is used by legacy components (such as IDE hard drives and PATA optical drives), case fans, and other accessory devices.

A 6-pin connector is used for video cards.

Related Content

3.1.4 Power Supply Connectors

3.1.5 20-pin to 24-pin Motherboard Adapter

resources\questions\q_pwr_cool_24-pin_atx.question.xml

Question 2 ✓ Correct

A company is planning to implement a secure method for storing cryptographic keys used in their data encryption processes. They have several computers that do not support Trusted Platform Module (TPM) technology.

The IT manager is considering using a Hardware Security Module (HSM) for this purpose.

Which of the following reasons BEST justifies the use of an HSM in this scenario?

- An HSM can be used to enhance the overall network bandwidth of the company.
- An HSM can be used to improve the processing speed of encryption algorithms.
- **An HSM provides a secure way to store cryptographic keys, especially for computers lacking TPM support.** ✓ Correct
- An HSM can be used to back up all company data to prevent data loss.

Explanation

A Hardware Security Module (HSM) is used to securely store cryptographic keys. It is particularly useful for computers that do not support TPM, providing a secure alternative for key storage and recovery.

An HSM is focused on secure storage of cryptographic keys, not on network performance.

The purpose of an HSM is specifically for securely storing cryptographic keys, not for general data backup.

An HSM is used for secure storage of cryptographic keys, which is unrelated to the speed of encryption processes.

Related Content

4.1.8 Trusted Platform Modules

resources\questions\q_trusted_platform_modules_06.question.xml

Question 3 ✓ Correct

A user reports that their laptop is not connecting to the office Wi-Fi network.

As part of "Questioning the Obvious," which of the following actions should you take first?

- ○ Reinstall the laptop's network drivers.
- ○ Escalate the issue to the network infrastructure team.
- ○ Replace the office Wi-Fi router with a new one.
- ◉ Verify that the Wi-Fi is enabled on the laptop. ✓ Correct

Explanation

"Questioning the Obvious" involves checking simple and obvious potential causes first. Ensuring that the Wi-Fi is enabled on the laptop is a basic step that could immediately resolve the issue without requiring more complex troubleshooting.

Reinstalling network drivers is a more advanced troubleshooting step. Before taking such action, you should check simpler causes, such as whether the Wi-Fi is enabled on the laptop.

Replacing the router is an extreme step that should only be considered after ruling out all other potential causes, including basic checks like verifying the laptop's Wi-Fi settings. D) Escalate the issue to the network infrastructure team.

Escalation is only necessary if the problem cannot be resolved after performing basic troubleshooting steps. "Questioning the Obvious" focuses on addressing simple potential causes before involving other teams.

Related Content

resources\questions\q_question_the_obvious_03.question.xml

Question 4 ✕ Incorrect

You have purchased a new notebook. This notebook system uses UEFI firmware and comes with Windows 11 preinstalled. However, you want to use Linux on this system.

You download your favorite distribution and install it on the system, removing all Windows partitions on the hard disk in the process. When the installation is complete, you find that the operating system won't load when the system is rebooted.

Which of the following would allow your computer to boot to Linux?

- (●) Enable Secure Boot in the UEFI configuration. ✕ Incorrect
- ( ) Set the boot order to boot from the hard disk first in the UEFI configuration.
- ( ) Enable the TPM chip on the motherboard.
- ( ) Disable Secure Boot in the UEFI configuration. ✓ Correct
- ( ) Reinstall Windows 11 on the system.

Explanation

In this scenario, you should disable the Secure Boot option in the UEFI configuration. Secure Boot requires the operating system installed on the hard drive to be digitally signed. If it isn't digitally signed, the UEFI firmware will not boot it by default.

Reinstalling Windows 11 does not meet the requirements of this scenario.

If Secure Boot is already enabled, the TPM chip on the motherboard must already be enabled as well.

The boot order configuration is not preventing the system from booting in this scenario.

Related Content

4.1.6 Boot Passwords and Secure Boot
resources\questions\q_boot_passwords_and_secure_boot_02.question.xml

Question 5 ✓ Correct

Which of the following drive configurations uses striping with parity for fault tolerance?

- RAID 1
- RAID 10
- RAID 5 ✓ Correct
- RAID 0

Explanation

RAID 5 uses disk striping, but provides fault tolerance for a single disk failure. Disk striping breaks data into units and stores the units across a series of disks by reading and writing to all disks simultaneously.

RAID 0 uses disk striping and offers no fault tolerance. A failure of one disk in the set means that all data is lost.

RAID 1 provides fault tolerance, but does not use striping.

A RAID 10 array nests a mirrored array within a striped array.

Related Content

3.2.5 Redundant Array of Independent Disks

3.2.6 RAID 0 and RAID 1

3.2.7 RAID 5 and RAID 10

resources\questions\q_stg_dev_trb_raid_5_striping_parity.question.xml

Question 6 ✓ Correct

Which of the following is the purpose of cache memory?

- ○ It provides fault tolerance.
- ○ It allows data to be kept in memory even when the computer loses power.
- ○ It provides dual copies of data for dual processors.
- ◉ It allow a processor to access data more quickly. ✓ Correct

Explanation

The increased speed of cache memory allows a processor to access frequently used data more quickly than by getting the data from system memory. Data is stored in the cache, where the data can be accessed more quickly than from RAM. Like RAM, cache memory is volatile, meaning that the contents of the memory are lost when the power is turned off.

Fault tolerance, data storage in memory, and dual copies of data are not features of cache memory.

Related Content

- 3.4.1 CPU Architecture
- 3.4.2 x86 CPU Architecture
- 3.4.4 ARM CPU Architecture
- 3.4.5 CPU Features

resources\questions\q_cpu_cache_mem_purpose.question.xml

Question 7 ✓ Correct

A user reports that their external monitor is not displaying anything when connected to their laptop.

After verifying that the monitor is powered on and the cable is securely connected, you decide to "Question the Obvious" further.

Which of the following actions would best help you analyze the issue and isolate the cause?

- Escalate the issue to the hardware support team for further investigation.
- Assume the monitor is defective and recommend purchasing a new one.
- Test the monitor with a different laptop. ✓ Correct
- Replace the monitor's HDMI cable with a new one without further testing.

Explanation

Testing the monitor with a different laptop allows you to analyze and isolate the issue. If the monitor works with another laptop, the problem is likely with the original laptop. If it does not work, the issue is likely with the monitor or the cable. This step helps you systematically eliminate potential causes.

Replacing the cable without testing does not analyze the issue systematically. While a faulty cable could be the cause, testing the monitor with another laptop first would provide more information and help isolate the problem.

Escalation should only occur after you have analyzed the issue and ruled out simpler causes. Testing the monitor with another laptop is a logical next step before involving another team.

Assuming the monitor is defective without further analysis is premature. Testing the monitor with another laptop or testing the cable would provide more evidence to support such a conclusion. "Questioning the Obvious" requires a systematic approach to eliminate potential causes before making assumptions.

Related Content

resources\questions\q_question_the_obvious_04.question.xml

Question 8 ✕ Incorrect

Which of the following BEST describes a key feature of the DisplayPort interface that is used for connecting video monitors to computers?

- DisplayPort can send both video and audio signals over the same cable. ✓ Correct
- DisplayPort is electrically equivalent to DVI and HDMI.
- DisplayPort utilizes the same connectors as HDMI.
- DisplayPort carries both analog and digital signals. ✕ Incorrect

Explanation

DisplayPort is an alternative to HDMI. Like HDMI, DisplayPort can send both video and audio signals over the same cable (if audio is supported by the video card and monitor).

DisplayPort uses a digital-only signal.

DisplayPort uses a different signal format than DVI or HDMI. However, DisplayPort supports sending DVI or HDMI signals over the same port using a simple adapter.

DisplayPort uses a different connector than HDMI. The connector is asymmetrical and has only one side beveled.

Related Content

2.1.10 HDMI and DisplayPort Video Cables

resources\questions\q_cable_conn_displayport_key_feature_pp7.question.xml

Question 9 ✓ Correct

Which of the following are true when working with dual-, triple-, and quad-channel memory module sets? (Select two.)

- [ ] You need to install memory modules next to each other in a set.
- [x] You should use the same capacity modules for a set. ✓ Correct
- [ ] You can mix modules with different capacities within a set.
- [x] You must install modules in matching sets (capacity and speed). ✓ Correct
- [ ] You can assign memory slots to memory modules in BIOS/UEFI.

Explanation

The memory modules within a set must be exactly the same in capacity and speed configuration, preferably from the same manufacturer and the same model.

You need to install memory modules in the slots specified in the motherboard documentation. Normally, the modules in a set are spaced one slot apart (such as slots 1 and 3).

While you can configure some memory parameters in BIOS/UEFI, you cannot re-assign memory slots to memory modules in BIOS/UEFI.

Related Content

resources\questions\q_sys_mem_insf_memory_module_sets.question.xml

Question 10

Correct

A customer complains that a recently purchased monitor no longer displays a picture. You verify that the monitor is powered on and that the video cable is securely fastened to the video port.

Which of the following actions is the BEST to take next?

- ◯ Return the monitor to the manufacturer.
- ◉ Check the brightness and contrast settings using the monitor's controls. ✓ Correct
- ◯ Unload and then reload the video card's software driver.
- ◯ Open the computer and switch the video card to a different slot.

Explanation

When troubleshooting a monitor that no longer displays a picture, it is important to start with the simplest and most accessible solutions before moving on to more complex or invasive steps. In this case, checking the brightness and contrast settings using the monitor's on-screen controls is the best next step. Sometimes, the brightness or contrast may have been accidentally adjusted to a level where the screen appears blank or too dim to see. This is a common and easily overlooked issue that can be resolved quickly without requiring any hardware changes or software adjustments. Additionally, the monitor's controls can also help verify if the monitor is functioning properly by allowing you to navigate its on-screen display (OSD) menu.

Returning the monitor to the manufacturer should only be considered as a last resort after all troubleshooting steps have been exhausted. Since the issue could be something as simple as incorrect brightness or contrast settings, returning the monitor at this stage would be premature and unnecessary.

Opening the computer and switching the video card to a different slot is a more advanced troubleshooting step that is not appropriate at this stage. The issue may not even be related to the video card, and such an action could introduce additional variables or risks (e.g., damaging components). It is better to rule out simpler causes, such as monitor settings, before attempting hardware changes.

Reloading the video card's driver is a software troubleshooting step that is more relevant if the issue is determined to be related to the video card or its driver. However, since the monitor itself is not displaying a picture, it is more logical to first verify the monitor's settings and functionality before addressing potential software issues.

Related Content

4.3.7 Troubleshoot Video Quality Issues

resources\questions\q_troubleshoot_video_quality_issues_04.question.xml

Question 11 ✕ Incorrect

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. ✕ Incorrect
- 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.

Related Content

2.1.3 Peripheral Devices

2.3.1 DVI and VGA Video Cables

2.3.4 Adapter Cables

resources\questions\q_dvi_and_vga_video_cables_03.question.xml

Question 12 ✓ Correct

During a network audit, you discover that several older network devices in your organization still rely on RS-232 serial ports for configuration and management.

You need to determine the potential limitations and challenges of continuing to use these serial connections in a modern IT environment.

Which of the following analyses BEST identifies a key limitation of using RS-232 serial connections?

- RS-232 serial connections are susceptible to electromagnetic interference, making them unreliable for secure data transmission in a modern IT environment.
- RS-232 serial connections are primarily used for video transmission, limiting their functionality in a modern IT environment.
- RS-232 serial connections require specialized cables and adapters, which may not be readily available or compatible with modern devices. ✓ Correct
- RS-232 serial connections support high-speed data transfer rates, which can lead to network congestion in a modern IT environment.

Explanation

As a legacy interface, RS-232 requires specific cables and adapters that may not be readily available or compatible with modern devices, posing a challenge in a modern IT environment.

RS-232 serial connections do not support high-speed data transfer rates; they are relatively slow compared to modern interfaces like USB or Ethernet. Therefore, network congestion due to high-speed data transfer is not a limitation of RS-232.

While electromagnetic interference can affect many types of connections, RS-232 is not particularly known for being more susceptible than other types. The primary limitation is not related to interference but rather to compatibility and availability.

RS-232 serial connections are not used for video transmission; they are used for data communication. Therefore, this statement does not accurately analyze the limitations of RS-232 in a modern IT environment.

Related Content

2.3.3 Serial Cables

resources\questions\q_serial_cables_03.question.xml

Question 13 ✕ Incorrect

As an IT technician for your company, you have been notified that the Windows domain does not seem to be functioning properly. Being familiar with domains, you are fairly confident you know what the issue is. But just to be safe, you take the applicable time to gather additional information and to identify what, if anything, has changed.

Which of the following is the BEST next step?

- ○ Determine the appropriate fix.
- ○ Create a hypothesis. ✓ Correct
- ○ Identify what has changed.
- ◉ Gather information. ✕ Incorrect

Explanation

According to the troubleshooting methodology, after gathering information and identifying any changes, the next step is to establish a theory of probable cause (or create a hypothesis). In this scenario, you have already gathered additional information and identified any changes, so the logical next step is to use that information to form a hypothesis about what might be causing the issue. This step allows you to focus your troubleshooting efforts on testing the most likely causes of the problem.

Gathering information is a critical first step in the troubleshooting process, but in this scenario, it has already been completed. The problem has been identified, and additional information has been gathered to understand the issue better. Since this step is already done, the next step is to create a hypothesis based on the information collected.

Identifying what has changed is another important step in the troubleshooting process, but it typically occurs alongside or immediately after gathering information. In this scenario, you have already taken the time to gather information and identify any changes, so this step has already been completed. The next step is to use that information to create a hypothesis about the probable cause of the issue.

Determining the appropriate fix is a step that occurs later in the troubleshooting process after creating a hypothesis and testing it to confirm the cause of the problem. Jumping directly to determining the fix without first creating and testing a hypothesis could lead to applying the wrong solution or overlooking the root cause of the issue. The methodology emphasizes a systematic approach to ensure the problem is resolved effectively.

Related Content

resources\questions\q_establish_and_test_a_theory_02.question.xml

Question 14 Correct

What is the primary purpose of escalating an issue during the troubleshooting process?

- [x] To involve senior staff or external resources when the problem cannot be resolved at the current level. ✓ Correct
- [ ] To document the problem for future reference without attempting to resolve it.
- [ ] To skip basic troubleshooting steps and focus on advanced diagnostics.
- [ ] To immediately replace faulty hardware without further testing.

Explanation

The purpose of escalation is to seek assistance from senior staff, subject matter experts, or external resources when the problem cannot be resolved after thorough troubleshooting. Escalation ensures that the issue is addressed efficiently without wasting time or resources.

Replacing hardware without proper testing is not part of the escalation process. Escalation involves seeking additional expertise or resources, not making assumptions about the cause of the problem.

Escalation occurs after basic and intermediate troubleshooting steps have been completed. Skipping steps is not aligned with the systematic approach outlined in the troubleshooting methodology.

While documentation is important, the purpose of escalation is to resolve the issue, not just to record it. Documentation supports the escalation process by providing a clear record of what has been attempted so far.

Related Content

resources\questions\q_establish_a_new_theory_or_escalate_04.question.xml

Question 15 Correct

An engineer is designing a new computer system and wants to provide active cooling to improve airflow and dissipate heat from around the components. What will the engineer use in the system?

- Thermal paste
- Thermal pads
- Heat sinks
- Fans ✓ Correct

Explanation

Fans are a type of active cooling because they move air across components to help dissipate heat. Heat sinks are a form of passive cooling that helps to dissipate heat through metal fins. Thermal pads and thermal paste help to transfer heat from the CPU to the heat sink.

Related Content

2.2.10 Motherboard Headers and Power Connectors

3.1.12 Fans

resources\questions\q_pwr_cool_active_cooling.question.xml

Question 16 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.

Related Content

2.1.10 HDMI and DisplayPort Video Cables

2.3.4 Adapter Cables

5.3.5 Copper Cabling Connectors

resources\questions\q_adapter_cables_03.question.xml

Question 17 ✓ Correct

You are evaluating the cooling strategy for a high-performance workstation that frequently runs intensive applications. The system currently uses the "Balanced" fan setting in the UEFI setup program.

Which of the following adjustments would you recommend to ensure optimal cooling performance while minimizing the risk of overheating?

- Switch to the "Quiet" setting to reduce noise and maintain current cooling levels.
- Change to the "Cool" setting to increase fan speed and enhance cooling performance. ✓ Correct
- Implement third-party software to override UEFI settings and manually control fan speeds.
- Maintain the "Balanced" setting as it provides an adequate compromise between noise and cooling.

Explanation

Switching to the "Cool" setting increases fan speed, providing better cooling performance, which is essential for a high-performance workstation running intensive applications. This adjustment minimizes the risk of overheating.

Switching to the "Quiet" setting would reduce fan speeds, potentially increasing the risk of overheating during intensive applications. This is not recommended for a high-performance workstation where cooling is critical.

While the "Balanced" setting offers a compromise, it may not provide sufficient cooling for a high-performance workstation under heavy load. Evaluating the need for enhanced cooling suggests a more proactive approach.

While third-party software can offer more granular control, it introduces complexity and potential conflicts with UEFI settings. The "Cool" setting in UEFI is a more straightforward and reliable solution for enhancing cooling performance.

Related Content

4.1.5 Fan Considerations

resources\questions\q_fan_considerations_and_temperature_monitoring_02.question.xml

Question 18 ✓ Correct

Susan works in the research and development department. She recently purchased a large high-speed external drive and has attached the drive to her computer using a USB cable. Her drive requires a minimum data transfer speed of 5 Gbps and needs to have access to 600 mA/15 volts of USB power to function properly.

Although the correct drivers are installed, when she plugs her drive into her workstation, the drive is not working. To troubleshoot the problem, she has connected her drive to her coworker's computer, where the drive functions properly. No additional cables are required for this drive.

Which of the following is the MOST likely reason that Susan's external hard drive is not working?

- Susan has connected her drive to a USB 3.2 port, but the drive is only made to work with a 2.0 port.
- Susan has connected her drive to a USB 2.0 port, which does not have the required data transfer speed. ✓ Correct
- Susan has connected her drive to a USB 3.2 port, which does not support the minimum data transfer speed required.
- Susan has connected her drive using a Type-C cable, which does not have enough power for her drive.

Explanation

Susan has connected her drive to a USB 2.0 port on her computer, which only supports up to 480 Mbps data transfer speeds. However, her external hard drive requires a minimum of 5 Gbps, which is provided by a 3.2 USB port.

Because the external hard drive requires 5 Gbps and 600 mA of USB power, the drive is most likely designed to be used with a 3.2 USB port.

A USB Type-C cable provides up to 20 volts of power, which meets the external hard drive requirements.

Related Content

2.1.4 Universal Serial Bus Cables

2.1.5 USB Standards

resources\questions\q_cable_conn_trbl_shoot_usb_2_port_pp7.question.xml

Question 19 Correct

You want to configure your computer so that a password is required before the operating system will load.

What should you do?

- (●) Configure a user password in the BIOS/UEFI. ✓ Correct
- ( ) Configure an administrator password in the BIOS/UEFI.
- ( ) Configure chassis instruction detection.
- ( ) Require complex passwords in the Local Security Policy.

Explanation

Configuring a user password in the BIOS/UEFI requires that a valid password is entered before the operating system will load.

When an administrative password is set, it must be entered in order to access the firmware setup program.

Chassis intrusion detection helps you identify when a system case has been opened.

Password settings in the Local Security Policy control passwords associated with user accounts that are configured within the operating system. These passwords are used after the system loads the operating system, not before.

Related Content

4.1.6 Boot Passwords and Secure Boot
resources\questions\q_boot_passwords_and_secure_boot_03.question.xml

Question 20 ✓ Correct

Which of the following is a benefit of good documentation?

- (●) It saves time and money in troubleshooting problems. ✓ Correct
- ( ) It reduces hardware maintenance.
- ( ) It reduces hardware replacement requirements.
- ( ) It eliminates the need to troubleshoot problems.

Explanation

By keeping adequate documentation, you can reduce the time and money spent troubleshooting.

While documentation can help reduce troubleshooting, it can never completely eliminate it.

Documentation helps you know when regular maintenance of hardware is required but does not eliminate maintenance.

Documentation helps you plan for hardware updates but does not reduce the requirements to replace the hardware.

Related Content

resources\questions\q_verify_and_document_03.question.xml