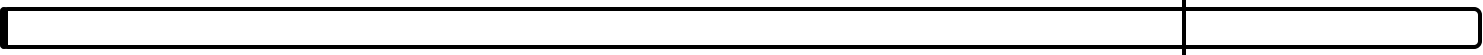# 3.10.5 Practice Questions

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Date: 1/23/2024, 10:06:11 PM • **Time Spent:** 00:17

Score: 0%

Passing Score: 80%

Question 1.   ✕ **Incorrect**

Lately, your computer has been spontaneously shutting down after only a few minutes of use.

What is the likely cause? (Select two.)

→ ☐ The heat sink and fan were not installed correctly.

☐ Someone unplugged the computer without performing a proper shutdown first.

☐ The CPU is bad.

☐ The CPU is not supported by the BIOS.

→ ☐ The power connector for the fan was not connected to the motherboard.

Explanation

An improperly installed fan or heat sink can cause CPU overheating, which would likely cause the computer to shut down shortly after power-on. Dust buildup and improper ventilation can also cause CPU overheating.

A bad CPU or a CPU that is not supported by the BIOS can cause the computer to display a blank screen during power-on, which would prevent even a few minutes of use.

Although you should always shut down your computer using the proper steps, it is unlikely that this would cause the computer to shut down after a few minutes of use.

References

▷ 3.4.1 Motherboard Troubleshooting
📄 3.4.2 Motherboard Troubleshooting Facts
▷ 3.7.1 Memory Troubleshooting
📄 3.7.3 Memory Troubleshooting Facts
📄 3.10.2 Processor Troubleshooting Facts

q_trb_proc_computer_shutdown_pp7.question.fex

Question 2.   ✕ **Incorrect**

Since it has no moving parts, a CPU will usually work properly for several years.

Which of the following is a common factor that might cause a CPU to fail prematurely?

- ○ Unsupported memory modules

- ○ Electromagnetic interference

→ ○ Electrostatic discharge (ESD)

- ○ Magnetic field

- ○ High CPU usage

Explanation

Electrostatic discharge is the only listed factor that can cause a CPU to fail prematurely. Be careful to avoid ESD by working on a static mat grounded with a wrist strap while working on your CPU.

References

📄 2.6.2 PC and Networking Tools Facts
▶ 3.4.1 Motherboard Troubleshooting
📄 3.4.2 Motherboard Troubleshooting Facts
📄 3.10.2 Processor Troubleshooting Facts
📄 3.14.2 Power Supply Facts

q_trb_proc_cpu_fail_esd_pp7.question.fex

Question 3.   × **Incorrect**

You work at a computer repair store. You have just upgraded the processor (CPU) in a customer's Windows-based computer. The customer purchased the latest AMD Ryzen processor, and you installed it in the computer. But when you power the computer on, you only see a blank screen.

Which of the following is MOST likely causing the computer to display the blank screen? (Select two.)

- ☐ The heat sink and fan were not installed correctly.

→ ☐ The CPU is not supported by the BIOS.

→ ☐ The CPU is bad.

- ☐ The power connector for the fan was not connected to the motherboard.

- ☐ Someone unplugged the computer without performing a proper shutdown first.

Explanation

A bad CPU or a CPU that is not supported by the BIOS can cause the computer to display a blank screen during power-on. If the processor is not supported by the BIOS, you might be able to perform a BIOS update to make it recognize the new processor. However, you would need to install a supported processor first, flash the BIOS, and then re-install the new processor.

An improperly installed fan or heat sink can cause issues shortly after power-on, but this will not cause the computer to boot to a blank screen.

Although you should always shut down your computer using the proper steps, it is unlikely that this would cause the computer to boot to a blank screen.

References

📄 3.4.2 Motherboard Troubleshooting Facts
📄 3.7.3 Memory Troubleshooting Facts
📄 3.10.2 Processor Troubleshooting Facts
▶️ 12.7.1 Common Laptop Issues

q_trb_proc_cpu_not_supported_bios_pp7.question.fex

Question 4.   ✕ **Incorrect**

After working without problems for a couple of years, your computer has begun to lock up. You suspect that it is a thermal issue, but you can't find any component that is not functioning correctly.

You have not replaced the CPU or installed any new devices. The CPU cooling fan and the power supply fan are working properly. The lock-ups are happening with increasing frequency.

Which of the following is the MOST common condition that explains these symptoms?

○ The power supply has been switched to the wrong voltage setting.

→ ○ An accumulation of dust has gradually built up.

○ The BIOS has never been flashed and has gotten more and more out of date.

○ The internal temperature sensor is beginning to malfunction intermittently.

Explanation

Over time, an accumulation of dust can gradually build up and cause significant overheating (which results in lock-ups) by constricting airflow through the system case. Vent holes and heat sinks can become clogged with dust, which prevents heat dissipation. Remove the dust with compressed air or with an anti-static vacuum.

You should always flash the BIOS when firmware updates become available, but failing to do so will not lead to system overheating.

Switching the power supply to the wrong voltage can damage system components, but this would not lead to the system locking up more frequently over time. The damage would happen immediately.

A malfunctioning heat monitor could cause the system to lock up, but the frequency is likely to be intermittent, not consistently increasing.

References

⏵ 3.4.1 Motherboard Troubleshooting

📄 3.4.2 Motherboard Troubleshooting Facts

📹 3.10.1 Processor Troubleshooting

📄 3.10.2 Processor Troubleshooting Facts

q_trb_proc_dust_acc_pp7.question.fex

Question 5.   ✕ **Incorrect**

Steve, a computer technician, receives a help desk ticket for a computer that will not start. When Steve powered the computer on, there was one long and two short beeps.

Which of the following programs is reporting this error condition?

    ○ CMOS

    ○ ESP

    ○ initramfs

→ ○ POST

Explanation

The Power-On Self Test (POST) is a software process initiated by the BIOS during the boot process that verifies that computer hardware works properly. When a device has failed, a series of beeps indicates the type of problem. In this case, one long and two short beeps typically indicates a failed video card.

initramfs is the first root file system that your machine has access to. It is used for mounting the real rootfs, which has all of your data.

Complementary Metal-Oxide Semiconductor (CMOS) is a technology for constructing integrated circuits. This refers to the system configuration stored in a battery-powered memory chip on computers.

Extensible Firmware Interface Partition (ESP) is a partitioning scheme used by UEFI. ESP is the format used for the boot sector where the operating system and utilities for starting a computer are stored.

References

  ▷ 3.4.1 Motherboard Troubleshooting
  ▤ 3.4.2 Motherboard Troubleshooting Facts
  ▤ 3.7.3 Memory Troubleshooting Facts
  ▷ 3.10.1 Processor Troubleshooting
  ▤ 3.10.2 Processor Troubleshooting Facts

q_trb_proc_long_short_beeps_pp7.question.fex

Question 6.   ✕ **Incorrect**

To improve system performance, you have configured a motherboard to run with a higher multiplier than what the CPU is specified to use. Since doing this, the system has become unstable and crashes frequently.

Which of the following should you do to restore system stability?

→ ○ Back off on the overclocking settings until the system runs in a stable manner.

○ Make sure the BIOS firmware supports the overclocking settings you're using.

○ Make sure the switch on the power supply is set to the correct voltage.

○ Replace the CMOS battery to make sure that the real-time clock has the correct time.

Explanation

Configuring a motherboard to run with a higher multiplier than what the CPU specifies is called overclocking. If the system becomes unstable and crashes frequently, the multiplier may be set higher than the CPU can handle. To resolve this issue, lower the overclocking multiplier until the system becomes stable again.

The real-time clock on the motherboard is not a factor in this scenario and has no role in overclocking.

If the power supply is set to the wrong voltage, system components can be damaged, but not cause the behavior described in the scenario.

BIOS firmware is not a factor in overclocking issues.

References

▷ 3.4.1 Motherboard Troubleshooting
📄 3.4.2 Motherboard Troubleshooting Facts
▷ 3.7.1 Memory Troubleshooting
📄 3.7.3 Memory Troubleshooting Facts
📄 3.10.2 Processor Troubleshooting Facts

q_trb_proc_overclock_set_backoff_pp7.question.fex

Question 7.   ✕ **Incorrect**

Your system crashes at various times. It happens sometimes on startup, sometimes when running a software application, and sometimes when a certain group of applications is running.

You suspect a malfunctioning CPU, but none of the common issues seem to be present. You have not configured overclocking. There is no overheating. The CPU is seated correctly and locked into its socket.

What is the BEST step you can take to determine if the CPU is causing the system crashes?

→ ○ Replace the suspect CPU with a known good CPU of the same make and model.

○ Switch to a comparable CPU from a different manufacturer.

○ Throttle the processor to reduce the operating frequency and minimize power consumption.

○ Downgrade to a CPU that has fewer cores and is less demanding on your system resources.

Explanation

Replacing the suspect CPU with a known good CPU of the same make and model is the best way to determine if the CPU is the problem. There is only one variable in this test. If the system stops crashing after the CPU was replaced, it is safe to assume that the suspect CPU was not functioning properly.

Any other action introduces more variables to the environment. If intermittent problems continue to occur, you are no closer to finding the cause.

References

📼 3.4.1 Motherboard Troubleshooting
📄 3.4.2 Motherboard Troubleshooting Facts
📼 3.7.1 Memory Troubleshooting
📄 3.7.3 Memory Troubleshooting Facts
📄 3.10.2 Processor Troubleshooting Facts

q_trb_proc_replace_cpu_pp7.question.fex

Question 8.   ✕ **Incorrect**

Zoey has brought her computer in for servicing. When she dropped off her computer, she mentioned that it spontaneously reboots and freezes occasionally.

Which of the following is the MOST likely cause of these problems?

- ○ Failed UPS
- ○ Failing drive
→ ○ Overheated CPU
- ○ Bad network card

Explanation

An overheated CPU can cause a spontaneous reboot or intermittent system crashes. A spontaneous reboot can also be caused by a bad power supply or device driver.

A clicking noise when reading or writing data from the hard disk is an early sign of a failing drive.

A failed UPS (or failed battery in the UPS) would result in a complete loss of power to the computer if the outlet (or wall) power were lost.

A system notification would indicate whether there is a failed drive, as it would not allow reading or writing.

References

▷ 3.4.1 Motherboard Troubleshooting
▤ 3.4.2 Motherboard Troubleshooting Facts
▷ 3.10.1 Processor Troubleshooting
▤ 3.10.2 Processor Troubleshooting Facts

q_trb_proc_trblsht_overheated_cpu_pp7.question.fex

Question 9.   ✕ **Incorrect**

You have just upgraded your computer's CPU. You consulted the motherboard documentation to make sure that the CPU was compatible with the motherboard. However, when you turn the system on, it locks up shortly after startup.

Which of the following are the BEST steps to try first while troubleshooting this issue? (Select two.)

→ ☐   Make sure that the CPU is seated properly, oriented correctly, and locked in to the socket.

→ ☐   Look for something that could be causing the new CPU to overheat.

☐   Test the power supply using a multimeter.

☐   Make sure that the power cord is plugged in and that the power supply switch is in the On position.

☐   Replace the CMOS battery.

Explanation

The most common issues that occur when a new CPU has been installed are:
1. The system locks up because it gets too hot. You should check for the following:

- The heat sink and fan are not placed correctly or are in poor condition.
- Thermal paste or the thermal pad have not been used between the processor and the heat sink.
- The heat sink is not firmly attached to the processor.

2. The system locks up because the CPU is not properly seated or is oriented incorrectly.

Power supply issues would probably not cause a system lockup.

A failed CMOS battery can cause problems such as the computer giving an incorrect date and time. However, it is unlikely that a failed CMOS battery is the cause of a system lockup.

References

🎞 3.4.1 Motherboard Troubleshooting
📄 3.4.2 Motherboard Troubleshooting Facts

3.10.1 Processor Troubleshooting

3.10.2 Processor Troubleshooting Facts

q_trb_proc_trblsht_startup_lock_up_pp7.question.fex

Question 10.   ✕ **Incorrect**

A few of your employees have complained that their computers sometimes shut down spontaneously.

You have noticed that these employees all work in a part of the building where the air conditioning does not adequately cool the room. These employees also use CPU-intensive programs. You suspect that the spontaneous shutdowns are caused by overheating.

Which of the following is the simplest way to monitor the temperature of these computers' CPUs?

→ ◯   View the temperature from within the BIOS.

◯   Place thermostats on the CPUs.

◯   Place thermostats on the PCs at the warmest locations.

◯   Touch the PCs with your hand or fingers.

Explanation

An easy way to check the temperature of a computer's CPU is to boot to the BIOS and locate the Hardware Monitor section. Different BIOS programs have different section labels. Some of the more common labels are H/W Monitor, Status, and PC Health. From within this section, you can view a CPU's temperature.

The other methods listed will not give you an accurate CPU temperature.

References

▶ 3.4.1 Motherboard Troubleshooting
📄 3.4.2 Motherboard Troubleshooting Facts
▶ 3.10.1 Processor Troubleshooting
📄 3.10.2 Processor Troubleshooting Facts

q_trb_proc_view_bios_temp_pp7.question.fex