3.9.8 Practice Questions

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Score: 0%   Passing Score: 80%

Question 1.   ✕ **Incorrect**

Which of the following is the biggest advantage of 64-bit processors over 32-bit processors?

- ◯ Use of the IA-32 instruction set.

→ ◯ The ability to use over 4 GB of memory.

- ◯ The ability to run multiple applications at the same time.

- ◯ Support for hyper-threading.

Explanation

The biggest advantage of 64-bit processors over 32-bit processors is the amount of memory that 64-bit processors can use. 32-bit processors have a limit of 4 GB. 64-bit processors have a theoretical limit of 16 EB.

Applications typically perform better on 64-bit systems, but this is not the biggest advantage.

Hyper-threading is a feature of some Intel processors that allows a single processor to run threads (instructions) in parallel, as opposed to processing threads linearly. Hyper-threading is not dependent on whether the processor is 32- or 64-bit.

32-bit processors use the IA-32 instruction set (also referred to as x86).

References

📄 3.9.2 CPU Facts

q_cpu_64-bit_over_32-bit_adv_pp7.question.fex

Question 2.   × **Incorrect**

You have a computer with a dual-core 64-bit processor that uses the x86-x64 instruction set. You want to install the 32-bit application on the computer.

Which of the following BEST describes the action that you should perform?

○ Replace the processor with a 32-bit processor.

○ Edit the BIOS and configure the processor to run in 32-bit mode.

→ ○ Install the application normally.

○ Install the 32-bit compatibility drivers during installation.

Explanation

You can install a 32-bit application on a system with a 64-bit processor. If the processor runs the x86-64 architecture, the processor itself is capable of running the 32-bit application without modifications.

Replacing the processor with a 32-bit processor and editing the BIOS are not necessary to install the application on a computer with a dual-core 64-bit processor.

There are no 32-bit compatibility drivers.

References

📄 3.9.2 CPU Facts

q_cpu_install_32-bit_app_pp7.question.fex

Question 3.   ✕ **Incorrect**

Which of the following is a characteristic of a multi-processor system?

○ Multiple cores on the same die.

○ Ability to use over 4 GB of memory.

○ Shared L2 cache.

→ ○ Multiple processor sockets on the motherboard.

Explanation

A multiple-processor system has multiple CPUs, with each CPU requiring a different processor socket on the motherboard.

A multi-core system is a processor with multiple CPUs on the same die. A multi-core system uses a single processor socket for multiple CPUs.

An L2 cache is shared between two or more cores in a multi-core system, but is not shared in a multiple-processor solution.

64-bit processors are required to be able to use more than 4 GB of memory.

References

📄 3.9.2 CPU Facts

q_cpu_multi-proc_sys_char_pp7.question.fex

Question 4.   ✕ **Incorrect**

Which statements are true of processor caches? (Select two.)

☐   L1 is the largest type of cache.

☐   L3 cache is typically on the motherboard.

☐   A processor with L2 cache performs better
      than a processor with L3 cache (all else being
      equal).

→ ☐   L3 is shared between all cores.

→ ☐   L1 is typically unique to a processor core.

Explanation

Level 1 (L1) cache is integrated on the processor die itself and is typically unique to the processor core on multi-core systems. Level 3 (L3) cache is shared between all cores.

The size of the cache increases as you move from L1 to L3, with L1 cache being the smallest. All three cache levels are located on the processor.

As a general rule, a processor with more cache performs better than a processor with less cache (all other things being equal).

References

📄   3.9.2 CPU Facts

q_cpu_proc_cache_true_statement_pp7.question.fex

Question 5.   ✕ **Incorrect**

You have overclocked the processor on your workstation to run at a higher speed. Now the workstation is overheating, and you are concerned that the processor might become damaged.

Which of the following is the BEST solution to this issue?

→ ◯   Upgrade the workstation cooling devices.

◯   Reset the clock time back to its original setting.

◯   Adjust the motherboard bus, processor, and memory settings.

◯   Run a benchmark test.

Explanation

The best solution in this scenario is to upgrade the workstation cooling devices to compensate for the additional heat that is generated by overclocking.

While you should adjust the motherboard bus, processor, and memory settings to match the overclock speed, this step does not resolve the overheating issue.

You can reset the clock time back to its original setting to reduce the amount of generated heat, but resetting the clock does not resolve the issue with the additional heat that is generated by overclocking.

Running a benchmark test gives you information about the speeds of the processor, graphics card, storage drives, and memory. However, a benchmark test does not resolve the issue of the additional heat that is generated by overclocking.

References

📄   3.9.2 CPU Facts
📄   3.9.3 CPU Performance Facts
📄   3.9.6 CPU Installation Facts

q_cpu_perf_overclock_overheat_issue_pp7.question.fex

Question 6.   ✕ **Incorrect**

Upon reviewing the specifications for a motherboard, you find that the motherboard uses a 1155 CPU socket.

Which of the following manufacturers' CPUs can you use for this motherboard?

○ Cyrix

○ IBM

○ AMD

→ ○ Intel

Explanation

The 1155 motherboard CPU socket is designed for Intel processors. The 1155 motherboard CPU is used by the Intel Pentium 4, Celeron, Core i3, Core i5, Core i7, Core i7 Extreme, and Xeon processors.

AMD and IBM processors are not compatible with Intel motherboard sockets. Even if the AMD or IBM processor fits in the Intel socket, AMD and IBM processors are electrically different and likely to be destroyed upon power-up.

Cyrix made CPUs in the mid-1990s, but Cyrix was acquired by another semi-conductor company and stopped making CPUs in the late 1990s.

References

📄 3.9.4 CPU Socket Facts

q_cpu_sockets_1155_cpu_socket_intel_pp7.question.fex

Question 7.   ✕ **Incorrect**

Which of the following BEST describes the purpose of a CPU socket?

○ A CPU socket expands a computer's functionality, much like a video card, network card, or sound card.

→ ○ A CPU socket is a single connector between a microprocessor and the motherboard.

○ A CPU socket allows computer memory (RAM) to be inserted in the computer.

○ A CPU socket allows the connection of external devices, such as the monitor, speakers, keyboard, and mouse.

Explanation

The processor socket (also called a CPU socket) is the connector on the motherboard that houses the CPU and forms the electrical interface and contact with the CPU. Common sockets include pin grid array (PGA) and land grid array (LGA) sockets.

References

📄 3.3.4 Motherboard Facts
📄 3.9.4 CPU Socket Facts
💻 3.9.5 Install a Processor
▶ 3.10.1 Processor Troubleshooting
▶ 3.14.3 Identify Power Supply Components

q_cpu_sockets_cup_socket_purpose_pp7.question.fex

Question 8.   ✕ Incorrect

The processor you have just purchased has a series of pins in an array on the underside of the processor package. You notice that the pins insert into corresponding receptacles within the processor socket on the motherboard.

Which type of socket is this processor configured to use?

- ○ Ball grid array (BGA)

→ ○ Pin grid array (PGA)

- ○ Zero insertion force (ZIF)

- ○ Land grid array (LGA)

Explanation

You have purchased a processor that inserts into a pin grid array (PGA). PGA processors have a series of pins in an array on the underside of the processor package. The pins insert into corresponding receptacles within the processor socket on the motherboard.

A land grid array (LGA) socket moves the connecting pins from the processor package to the socket. Conducting pads on the bottom of the processor contact the protruding pins from the processor socket.

A zero insertion force (ZIF) socket is an evolution of PGA. The pins are carried by the microprocessor and insert into the socket connectors. A lever acts as a safety device so that no force is exerted when installing or removing the processor.

A ball grid array (BGA) socket is technically not a socket because the microprocessors are permanently mounted in this socket. Since copper balls are soldered directly to the motherboard, a ball grid array socket is impossible to upgrade or replace. Ball grid array sockets are used in laptops, mobile devices, memory chips, and other small electronic boards.

References

📄 3.3.4 Motherboard Facts
📄 3.9.4 CPU Socket Facts
🖥 3.9.5 Install a Processor
▶ 3.10.1 Processor Troubleshooting
▶ 3.14.3 Identify Power Supply Components

q_cpu_sockets_pga_description_pp7.question.fex

Question 9.   ✕ **Incorrect**

Which of the following should you always do to avoid damage when you prepare to install a CPU? (Select two.)

→ ☐   Use anti-static protection.

→ ☐   Ensure that the CPU and motherboard socket type match.

☐   Run a benchmark test.

☐   Make sure that the memory (RAM) modules are seated properly.

☐   Adjust the motherboard bus, processor, and memory settings.

Explanation

When you prepare to install a CPU, always use anti-static protection and ensure that the CPU and motherboard socket type match.

Running a benchmark test gives you information about the speeds of the processor, graphics card, storage drives, and memory. A benchmark test is not related to preparing to install a CPU.

Adjusting the motherboard bus, processor, and memory settings is often done when overclocking a processor. Adjusting the motherboard is not a step to avoid damage when preparing to install a CPU.

While you might want to make sure that the memory modules are seated properly after installing the CPU, making sure that the memory modules are seated properly is not associated with avoiding damage to the CPU.

References

📄   3.9.2 CPU Facts
📄   3.9.3 CPU Performance Facts
📄   3.9.6 CPU Installation Facts

q_cpu_inst_cpu_install_prep_pp7.question.fex

Question 10.   ✕ **Incorrect**

You have been using the same computer for several years. To improve performance, you decide to upgrade the processor. You check the motherboard documentation and purchase the fastest processor that is supported by the motherboard. However, when you try to start the computer, it beeps regularly, and nothing is displayed on the screen.

Which of the following actions will MOST likely resolve this issue? (Select two.)

- ☐   Replace the CPU with a new one.

→ ☐   Reinstall the old processor in the motherboard.

- ☐   Replace the motherboard.

- ☐   Press F8 while booting the computer.

→ ☐   Flash the UEFI firmware.

Explanation

Flashing the BIOS or UEFI firmware is often required to upgrade system components, such as upgrading to a faster processor. If the motherboard documentation lists the processor as supported, but the processor is not correctly recognized, updating the BIOS or UEFI firmware to the latest version might fix the problem. Before you can do this, you must reinstall the old processor in the system to get the system back up and running again.

Only replace the CPU if you have determined that the CPU is faulty.

Pressing F8 while booting the system displays the advanced boot menu on older versions of Windows.

Replacing the motherboard is probably not required because the motherboard was working correctly with the older CPU, and the documentation indicates that the new CPU is compatible.

References

📄   3.9.2 CPU Facts
📄   3.9.3 CPU Performance Facts
📄   3.9.6 CPU Installation Facts

q_cpu_inst_flash_uefi_firmware_pp7.question.fex

Question 11.   ✕ **Incorrect**

Where do you install the heat sink and fan once you insert the CPU into the motherboard
socket?

○   You install the heat sink on top of the CPU and
       the fan to the side of the CPU.

○   You install both to the side of the CPU.

→ ○   You install both on top of the CPU.

○   You install the fan on top of the CPU and the
       heat sink to the side of the CPU.

Explanation

You install both the heat sink and fan on top of the CPU.

References

📄 3.9.2 CPU Facts
📄 3.9.3 CPU Performance Facts
📄 3.9.6 CPU Installation Facts

q_cpu_inst_heat_sink_fan_position_pp7.question.fex

Question 12.   ✕ **Incorrect**

Your computer has a single core processor installed. The motherboard supports processors with up to four cores.

You want to upgrade your computer to a quad-core system.

Which of the following is part of the configuration steps?

→ ○ Replace the existing processor with one that has four cores.

○ Configure the system to use dual-channel memory.

○ Add a second processor that matches the speed of the first processor.

○ Remove the terminating resistor from slots where the new processor is located.

Explanation

A multi-core system supports processors that have multiple processors on a single processor die. Multi-core systems have a single processor slot. To upgrade this system, you need to remove the existing processor and replace it with a processor that has four cores.

Multi-processor systems have multiple processor slots on the motherboard. All processors in the system should be of the same speed. Fill unused slots with a terminating resistor.

Dual-channel memory does not affect dual processors or dual-core processors.

References

📄 3.9.2 CPU Facts
📄 3.9.3 CPU Performance Facts
📄 3.9.6 CPU Installation Facts
q_cpu_inst_replace_proc_pp7.question.fex