3.6.8 Practice Questions

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Score: 0%

Passing Score: 80%

Question 1. ✕ Incorrect

You want to build a new system that supports 16 GB of memory.

Which of the following is the MOST important consideration when building the computer?

→ ◯ 64-bit processor

◯ CAS latency

◯ ECC memory

◯ DDR3 memory

Explanation

To use over 4 GB of memory, you need a 64-bit processor and a 64-bit operating system. 32-bit processors support up to (or slightly below) 4 GB of memory.

While 16 GB of memory will likely use DDR2, DDR3, or DDR4, this is not a requirement.

ECC memory includes error correction.

CAS latency (CL) is a delay between the time data is requested and the time that the data is available on a memory module's output pins. While lower latency results in faster processing, CL is not the most important consideration in this scenario.

References

3.5.1 DRAM Types
3.5.2 Random Access Memory (RAM) Facts
3.6.1 Memory Characteristics
3.6.2 Memory Facts
q_mem_char_64-bit_processor_mem_pp7.question.fex

Question 2. ✕ Incorrect

You work as the IT administrator for a small corporate network.

Sam, an employee in the support department, wants to run a virtual machine on his computer for troubleshooting customer issues, and he needs a very stable computer from which to work. You need to decide whether to install buffered or non-buffered RAM in his computer.

Which of the following BEST describes the reason to choose buffered instead of unbuffered memory for this new computer?

- ○ Buffered memory increases the load on the memory controller, but is faster and more stable.
- ○ Buffered memory is faster and less expensive.
- ○ Buffered memory reduces the load on the memory controller, but due to the extra clock cycle, is less stable.
- → ○ Buffered memory reduces the load on the memory controller and allows the system to be more stable.

Explanation

To have a stable system from which Sam can test his virtual machines, it would be best to use buffered memory. Buffered memory reduces the electrical load on the memory controller and allows the system to be more stable. Each read or write is buffered for one cycle between the memory bus and the DRAM, so the registered RAM can be thought of as running one clock cycle behind the equivalent unregistered DRAM. However, this one cycle delay does not make buffered memory less stable.

Buffered memory does not increase the load on the memory controller and is more expensive than non-buffered memory.

References

- 3.5.1 DRAM Types
- 3.5.2 Random Access Memory (RAM) Facts
- 3.6.1 Memory Characteristics
- 3.6.2 Memory Facts

q_mem_char_choose_buffrd_mem_pp7.question.fex

Question 3. ✕ Incorrect

With a memory module read request, there is a delay between the time of the data request and the time the data is available for output from the memory module.

What is this delay called?

- Frequency
- Capacity
- Clock cycle parity
- → CAS latency

Explanation

A factor that affects the performance of memory is the latency associated with accessing data in RAM. With a memory module read request, there is a delay between the time the data is requested and the time that the data is available on the module's output pins. This delay is called the CAS latency (CL). CL is expressed in the number of clock cycles that pass between the time of the request and the moment the data is available. Given memory modules of the same type and frequency, a lower CL indicates which memory module is faster.

Frequency (also referred to as speed) is a major factor in measuring how fast or slow a memory module is.

Capacity (also referred to as size) indicates how much data a memory module can store.

Clock cycle parity does not exist as a measurement for memory modules.

References

3.5.1 DRAM Types
3.5.2 Random Access Memory (RAM) Facts
3.6.1 Memory Characteristics
3.6.2 Memory Facts

q_mem_char_data_request_delay_pp7.question.fex

Question 4. ✕ Incorrect

You have just upgraded the memory in one of your network servers by adding two 4-GB ECC memory cards.

Before purchasing the new memory, you made sure that the modules fit in the memory slots (packaging) and the speed (memory frequency) was supported by the memory controller.

What did you forget to check that would significantly impact the memory checking of your new ECC memory cards?

- Whether or not the existing memory modules support parity RAM.
- Whether or not the new memory modules are single- or double-sided.
- → Whether or not the existing memory modules support ECC.
- Whether or not the new memory modules are buffered.

Explanation

You forgot to check whether or not the existing memory cards support ECC. Mixing ECC and non-ECC memory would disable the error correction function on the new memory cards.

Parity RAM is an earlier version of error-checking memory that has been replaced by ECC.

Single- or double-sided RAM is simply the way the memory modules on the memory card are organized and accessed. This would not impact your new ECC memory cards' memory checking capability.

Buffered memory holds memory addresses or data in a buffer before being transferred to the memory controller. Buffered memory would not impact your new ECC memory cards' memory checking capability.

References

3.5.1 DRAM Types
3.5.2 Random Access Memory (RAM) Facts
3.6.1 Memory Characteristics
3.6.2 Memory Facts

q_mem_char_existing_modules_ecc_check_pp7.question.fex

Question 5. ✕ Incorrect

You have an older computer that has four DDR2 memory slots. Currently, there are two 512-MB memory modules installed. You check the motherboard documentation and find that the system has a 4-GB memory limitation. You want to add more memory to this system.

What is the maximum total amount of usable RAM you can have in this system by adding new memory modules (and without replacing the existing memory modules)?

- 2 GB
- 4 GB
- → 3 GB
- 4.5 GB
- 1.5 GB
- 3.5 GB

Explanation

The two existing modules total 1 GB of RAM. You have two remaining slots with which you can add memory to the system. Because the motherboard has a 4 GB memory limit, there is also a 1 GB limit for each memory slot. So, you could add (at most) two 1-GB modules in the remaining slots, which would bring the system's total RAM to 3 GB.

References

3.5.1 DRAM Types
3.5.2 Random Access Memory (RAM) Facts
3.6.1 Memory Characteristics
3.6.2 Memory Facts

q_mem_char_max_usable_ram_pp7.question.fex

Question 6. ✕ Incorrect

Which of the following statements is true regarding single- and double-sided memory?

- Double-sided RAM allows the computer to access all of the memory.
- → Single-sided memory uses half the number of memory modules as double-sided memory of the same capacity.
- Single-sided RAM can be organized into two banks.
- Double-sided RAM always has modules on both sides of the circuit board.

Explanation

Single-sided memory uses half the number of memory modules as double-sided memory of the same capacity. Single-sided RAM has memory modules that are organized into a single logical bank; double-sided RAM has modules organized into two banks.

Because the computer can only access data in one bank at a time, single-sided RAM allows access to all of the memory, while with double-sided RAM, the computer must switch between banks.

Originally, double-sided RAM had modules on both sides of the circuit board, and single-sided RAM had modules on only one side. However, you can also have double-sided RAM with modules on only one side with the internal memory divided into separate banks.

References


3.5.1 DRAM Types

3.5.2 Random Access Memory (RAM) Facts

3.6.1 Memory Characteristics

3.6.2 Memory Facts

q_mem_char_true_mem_statements_pp7.question.fex

Question 7. ✕ Incorrect

You are in a carpeted office lighted by fluorescent bulbs. You are preparing to add memory modules to a user's computer. The user has already unpacked the memory modules and stacked them on top of an old, unused CRT monitor.

What is the greatest threat to these memory modules in this environment?

- ○ The magnetic field around the CRT monitor.
- ○ Electromagnetic interference (EMI) from the fluorescent lights.
- ○ High-voltage discharge from the CRT monitor.
- → ○ Electrostatic discharge (ESD).

Explanation

Memory modules are very sensitive to ESD. It is possible that the memory modules have already been damaged by the possible lack of proper ESD prevention if the user removed the modules from the packaging while standing on the carpeted floor. But you can still take proper steps to prevent ESD before you proceed to install the modules.

The CRT monitor is not likely to emit a high-voltage discharge unless you take it apart.

An unused CRT monitor does not emit a strong magnetic field.

Memory modules are not susceptible to magnetic fields. Memory modules are not susceptible to electromagnetic interference.

References


2.1.1 Safety

2.1.2 Safety Measures

2.1.4 ESD Protection

2.1.5 ESD Facts

2.6.2 PC and Networking Tools Facts

3.6.6 Memory Installation Facts

q_mem_insf_mem_mod_threat_pp7.question.fex

Question 8. ✕ Incorrect

Which of the following is the most common method for removing RAM from a motherboard?

- Remove the screw from the one side; then pull straight up to remove the RAM.
- Tip the RAM module at a 45-degree angle while pulling on it.
- Pull the RAM module up from one corner and then twist to release the other corner.
- → Move the tabs holding the RAM out of the way; then pull straight up to remove the RAM.

Explanation

Most RAM is held in place with small tabs on either end. Push the tabs down to rotate them back and then pull the RAM straight up.

References


3.5.1 DRAM Types

3.5.2 Random Access Memory (RAM) Facts

3.5.3 Multi-Channel Memory Architecture Facts

3.6.6 Memory Installation Facts

q_mem_insf_remove_ram_from_mthbrd_pp7.question.fex

Question 9. ✕ Incorrect

You are trying to push a memory module into a memory slot, but it is not seating properly.

What is the MOST likely issue?

- You need to clear debris from the memory slot.
- You are trying to install a single-sided memory module in a double-sided slot.
- You need to push down the slot tabs and move them back.
- → You are trying to install the memory module backwards in the memory slot.

Explanation

Most memory is keyed to prevent it from being installed backwards or in incompatible slots. In this scenario, the most likely issue is that you are trying to install the memory module backwards in the memory slot.

There are no memory slots that are specific to single-sided or double-sided memory modules.

An empty slot normally has the slot tabs pushed down and back.

While there may be some debris in a memory slot, this is not likely the cause.

References

3.5.1 DRAM Types
3.5.2 Random Access Memory (RAM) Facts
3.5.3 Multi-Channel Memory Architecture Facts
3.6.6 Memory Installation Facts

q_mem_insf_seating_issue_pp7.question.fex

Question 10. ✕ Incorrect

You have an existing system that has a single DDR3 memory module installed. You would like to add more memory to the three remaining empty memory slots.

Which of the following steps should you take to make sure that you get the right memory for the system? (Select two.)

- ☐ Update the BIOS and then purchase the newest memory modules available.
- ☐ Purchase the fastest modules possible.
- → ☐ Purchase additional modules that are the same as what is currently installed.
- ☐ Purchase the slowest modules to ensure compatibility.
- → ☐ Check the motherboard documentation to find which modules are supported.

Explanation

To purchase the correct memory for your system, you can:

- Check the motherboard documentation or the motherboard manufacturer's website to identify supported memory modules.
- Purchase modules that are the same as what is currently installed. Be aware, however, that some motherboards may have limitations on the capacity of modules supported. For example, if a motherboard has four slots, you might be able to fill all slots only when memory modules are 1 GB or smaller. If you use larger modules, you may not be allowed to fill all of the slots.
- Use an online configuration tool from a leading memory manufacturer to identify supported modules. Updating the BIOS might enable the motherboard to support newer memory modules, but you will still need to verify which modules are supported.

References

3.5.1 DRAM Types
3.5.2 Random Access Memory (RAM) Facts

3.5.3 Multi-Channel Memory Architecture Facts

3.6.6 Memory Installation Facts

q_mem_insf_steps_right_mem_pp7.question.fex