Exam Report: 3.8.8 Practice Questions

Date: 3/6/2020 7:54:34 pm
Time Spent: 21:37

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Overall Performance

Your Score: 64%

Passing Score: 80%

View results by: Objective Analysis Individual Responses

Individual Responses

Question 1: Incorrect

You want to build a new system that supports 6 GB of memory.

Which of the following will be the MOST important consideration when building the computer?

- 64-bit processor
- ~~Triple channel memory support~~
- DDR3 memory
- ECC memory

Explanation

To use over 4 GB of memory, you will 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 6 GB of memory will likely use DDR2, DDR3, or DDR4, this is not a requirement. Triple channel memory uses three memory controllers to improve memory performance. ECC memory includes error correction on the memory.

References

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_CHAR_01]

Question 2: Correct

What type of RAM might slow system performance because it holds memory addresses or data to improve stability on systems with more than 1 GB of RAM before it is transferred to the memory controller?

- EEPROM
- Unbuffered
- Parity RAM
- Buffered

Explanation

Buffered (or registered) RAM has a buffer that holds memory addresses or data before it is transferred to the memory controller. Buffered RAM improves stability on systems with a lot of RAM (over 1 GB), but it might slow system performance.

Unbuffered memory does not have a buffer to hold memory addresses or data before it is transferred to the memory controller. Unbuffered memory can be found in servers and high-end workstation. Parity memory is a type of memory that checks for common kinds of internal data corruption. It does not correct internal data corruption. Non-parity memory does not perform error checking. EEPROM is a

RAM chip that holds non-volatile memory used in computers and other electronic devices to store relatively small amounts of data.

References

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_CHAR_02]

Question 3: Correct

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?

- ○ Capacity
- ○ Clock cycle parity
- ➡ ◉ CAS latency
- ○ Frequency

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 is a fictional concept.

References

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_CHAR_03]

Question 4: Incorrect

You have a 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 as much memory as possible without replacing the existing modules.

Which of the following is the maximum total amount of RAM that can be installed in this system?

- ○ 3.5 GB
- ○ 4.5 GB
- ◉ ~~1.5 GB~~
- ○ 2 GB
- ➡ ○ 3 GB
- ○ 4 GB

Explanation

You can add more memory to the system, bringing the total to 3 GB. The system currently has 1 GB of RAM. Because the motherboard has a 4-GB memory limit, there is also a 1-GB limit for each memory slot. Adding two 1 GB modules brings the total to 3 GB.

References

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_CHAR_04]

Question 5: 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 and the internal memory divided into separate banks.

References

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_CHAR_05]

Question 6: Incorrect

A new computer is being purchased for Peter, the new administrative assistant. Peter primarily uses word processing, spreadsheets, presentation software, and a web browser to complete his job assignments.

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

- ~~Buffered memory is less expensive and slower than unbuffered memory.~~
- Buffered memory is faster and more reliable than unbuffered memory.
- Buffered memory is more expensive and slower than unbuffered memory.
- Buffered memory is faster and less reliable than unbuffered memory.

Explanation

Buffered memory is more expensive and slower, but it's highly reliable. Therefore, buffered memory is mostly used for servers and applications where it is more important to have reliability regardless of the price and slower performance.

Unbuffered memory is sufficient for most desktop computers, since the reliability isn't as important, and it's less expensive than buffered memory.

References

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_CHAR_06]

Question 7: Correct

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 to troubleshoot customer issues from, 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 is faster and less expensive.

- Buffered memory increases the load on the memory controller, but is faster and more stable.
- Buffered memory reduces the load on the memory controller, but due to the extra clock cycle used, 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 is 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

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_CHAR_07]

Question 8: Incorrect

Paul has just joined your company, and you are in the process of purchasing a laptop computer for his use. Paul will work as a sales rep in the sales department.

You have heard that some types of RAM are better than others. Which of the following types of RAM would BEST meet the needs of Paul's new computer?

- ~~ECC memory, as it will increase the computer's performance.~~
- Non-ECC memory, as it is less expensive and more reliable than ECC memory.
- ➡ Non-ECC memory, as it is less expensive, and parity is not required.
- ECC memory, as it less expensive than non-ECC memory.

Explanation

Non-ECC memory is best for Paul's computer. Since Paul is not running a mission-critical computer, the higher cost and decreased performance of ECC memory is not required.

References

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_CHAR_08]

Question 9: Correct

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 MOST likely be taken to make sure you get the right memory for the system? (Select TWO).

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

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

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_INSF_01]

Question 10: Correct

Which of the following are true regarding a dual-channel memory bandwidth configuration? (Select TWO).

- [ ] Bandwidth is doubled.
- [x] The memory controller must support dual-channels.
- [ ] Only DDR2 memory is supported.
- [x] Bandwidth is increased by 5-15%.

Explanation

Dual-channel systems increase the memory bandwidth by only 5-15%, although it does have a 100% theoretical increase. Dual-channel support is mainly a function of the motherboard, not the memory itself. DDR, DDR2, and DDR3 can all work in dual-channel systems (depending on the memory supported by the motherboard); a triple channel system can only use DDR3.

References

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_INSF_02]

Question 11: Correct

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.

In this environment, what is the greatest threat to these memory modules?

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

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, and memory modules are not susceptible to magnetic fields. Memory modules are not susceptible to electromagnetic interference.

References

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_INSF_03]

Question 12: Correct

You have a computer with a Pentium 4 CPU and two PC-2400 DDR modules. The motherboard has room for two additional memory modules, and you'd like to install two PC-4000 modules.

Which of the following statements is true?

- ➡ (●) All memory will operate at 300 MHz.
- ( ) All memory will operate at 500 MHz.
- ( ) You cannot mix memory modules with different ratings.
- ( ) Half of the memory will operate at 300 MHz, and the other half at 500 MHz.

Explanation

In this scenario, all memory will operate at 300 MHz. When you mix memory with different speed ratings, all memory will operate at the slowest frequency. Memory can operate at a frequency lower than its rating. The only way to get memory to operate at a higher frequency is to overclock the memory. However, memory is tested and rated at the highest frequency at which it is stable. While you can likely get some small performance gains through overclocking, it is unlikely that you will be able to push the PC-2400 memory up to PC-4000 and still have a stable system.

References

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_INSF_04]

Question 13: Correct

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

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

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

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_INSF_05]

Question 14: Correct

You want to upgrade all memory in your system with the fastest memory available. Which of the following should you choose?

- ➡ (●) Choose the type of memory that is supported by your motherboard.
- ( ) DDR4
- ( ) DDR2
- ( ) DDR3

Explanation

Different memory module forms are not interchangeable. A motherboard will only accommodate one type of memory. Subsequently, the fastest memory in this case is the memory that fits in the system.

References

TestOut PC Pro - 3.8 Memory Installation
[e_installmem_pp6.exam.xml Q_MEM_INSF_06]