Exam Report: 3.7.6 Practice Questions

Date: 3/6/2020 7:19:48 pm
Time Spent: 12:34

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Overall Performance

Your Score: 73%

Passing Score: 80%

View results by: Objective Analysis Individual Responses

Individual Responses

Question 1: Correct

Your motherboard has sockets for 184-pin DIMM RAM. Which type of RAM should you install?

- FPM
- SDRAM
- EDO
- DDR

Explanation

Double Data Rate-Synchronous Dynamic RAM (DDR) has 184 pins in a dual in-line memory module (DIMM) form factor. Extended Data Out (EDO), Fast Page Mode (FPM), and SDRAM are available in a 168-pin DIMM form factor and are interchangeable with each other.

References

TestOut PC Pro - 3.7 Memory
[e_mem_pp6.exam.xml Q_RAM_TYPES_01]

Question 2: Correct

What is the approximate bus speed of DDR2 memory rated at PC2-5300?

- 333 MHz
- 5300 MHz
- 400 MHz
- 533 MHz
- 667 MHz

Explanation

DDR2 memory rated at PC2-5300 has a bus speed of 333 MHz and an internal frequency of 667 MHz (or DDR2-667). The bandwidth is around 16 times the bus speed and eight times the DDR- designation. For DDR2, the PC2- designation identifies the bandwidth instead of a number derived from the bus speed. For DDR, DDR2, DDR3, and DDR4 the number following the DDR- designation is always twice that of the bus speed, specifying that the double data rate memory transfers double the data in a single clock cycle. This means that DDR2-667 has a bus frequency (speed) of 333 MHz.

References

TestOut PC Pro - 3.7 Memory
[e_mem_pp6.exam.xml Q_RAM_TYPES_02]

Question 3: Correct

Assuming the same operating frequency, what are the advantages of DDR3 over DDR2? (Select TWO.)

- [ ] DDR3 accepts four consecutive 64-bit words per bus clock cycle.
- [x] DDR3 uses less power than DDR2.
- [ ] DDR3 includes a buffer between the data bus and the memory.
- [x] DDR3 doubles the data transfer rate of DDR2.

Explanation

DDR3 doubles the data transfer rate of DDR2 and generally requires less voltage than DDR2 memory. DDR3 accepts eight consecutive 64-bit words per bus clock cycle, not four, as found in DDR2. Both DDR2 and DDR3 memory include a buffer between the data bus and the memory.

References

TestOut PC Pro - 3.7 Memory
[e_mem_pp6.exam.xml Q_RAM_TYPES_03]

Question 4: Incorrect

Which of the following memory ratings identifies the fastest memory?

- ( ) DDR2-667
- (•) ~~PC-3200~~
- ( ) DDR3-1600
- ( ) PC-2700
- ( ) PC-133

Explanation

DDR3-1600 has the fastest memory rating. It has a bus frequency of 800 MHz and bandwidth of 12800 MB/s. For DDR, DDR2, DDR3, and DDR4, the number following the DDR- designation is always twice that of the bus speed, specifying that the double data rate memory transfers double the data in a single clock cycle. This means that DDR2-667 has a bus frequency of 333 MHz. The older PC designation identified the bus frequency, so PC-133 has a frequency of 133 MHz. The newer PC- designation identifies the bandwidth, so PC-2700 has a bandwidth of 2700 MB/s. To get the frequency from the bandwidth, divide the bandwidth by 16, giving you 166 MHz for PC-2700 and 200 MHz for PC-3200.

References

TestOut PC Pro - 3.7 Memory
[e_mem_pp6.exam.xml Q_RAM_TYPES_04]

Question 5: Correct

Which memory rating identifies the fastest memory?

- ( ) DDR-400
- ( ) PC3-8500
- ( ) PC2-3200
- ( ) PC3-10600
- (•) DDR3-2000

Explanation

DDR3-2000 has the fastest memory rating. It has a bus frequency of 1000 MHz and a bandwidth of

16000 MB/s. For DDR, DDR2, DDR3, and DDR4, the number following the DDR- designation is always twice that of the bus speed, specifying that the double data rate memory transfers double the data in a single clock cycle. This means that DDR-400 has a bus frequency of 200 MHz. The newer PC- designation (used with all DDR2 and DDR3 memory) identifies the bandwidth, so PC3-8500 has a bandwidth of 8500 MB/s. To get the frequency from the bandwidth, divide the bandwidth by 16, giving you 533 MHz for PC3-8500 and 667 MHz for PC3-10600.

References

TestOut PC Pro - 3.7 Memory
[e_mem_pp6.exam.xml Q_RAM_TYPES_05]

Question 6: Incorrect

Which of the following BEST describes the theoretical capacity of a DDR4 standard system memory module?

- 512 MB
- 128 MB
- ~~256 GB~~
- 512 GB

Explanation

DDR4 theoretically allows for DIMMs of up to 512 GB in capacity. DDR3 has a theoretical capacity of 128 GB per DIMM.

References

TestOut PC Pro - 3.7 Memory
[e_mem_pp6.exam.xml Q_RAM_TYPES_06]

Question 7: Correct

Assuming the same operating frequency, what advantages does DDR4 have over DDR3? (Select TWO.)

- [x] DDR4 doubles the data transfer rate of DDR3.
- [ ] DDR4 accepts sixteen consecutive 64-bit words per bus clock cycle.
- [x] DDR4 uses less power than DDR3.
- [ ] DDR4 includes a buffer between the data bus and the memory.
- [ ] DDR4 accepts four consecutive 64-bit words per bus clock cycle.

Explanation

DDR4 doubles the data transfer rate of DDR3 and generally requires less voltage than DDR3 memory. DDR4 accepts eight consecutive 64-bit words per bus clock cycle, the same as found in DDR3. Both DDR3 and DDR4 memory includes a buffer between the data bus and the memory.

References

TestOut PC Pro - 3.7 Memory
[e_mem_pp6.exam.xml Q_RAM_TYPES_07]

Question 8: Correct

Which of the following are terms used to identify memory modules?

- SATA
- AGP
- DIMM

PATA

Explanation

A DIMM (dual in-line memory module) has pins on both sides of the module, with each pin being unique. A SODIMM (small outline dual in-line memory module) is a smaller DIMM used in laptops. PATA (Parallel ATA) and SATA (Serial ATA) are storage device interfaces. AGP (Accelerated Graphics Port) is a video card expansion bus.

References

TestOut PC Pro - 3.7 Memory
[e_mem_pp6.exam.xml Q_RAM_TYPES_08]

Question 9: Correct

A customer needs to use several applications. Currently, the computer cannot keep all the necessary applications open at the same time. Which of the following components should you consider upgrading?

- Hard disk drive
- Memory
- System board
- CPU

Explanation

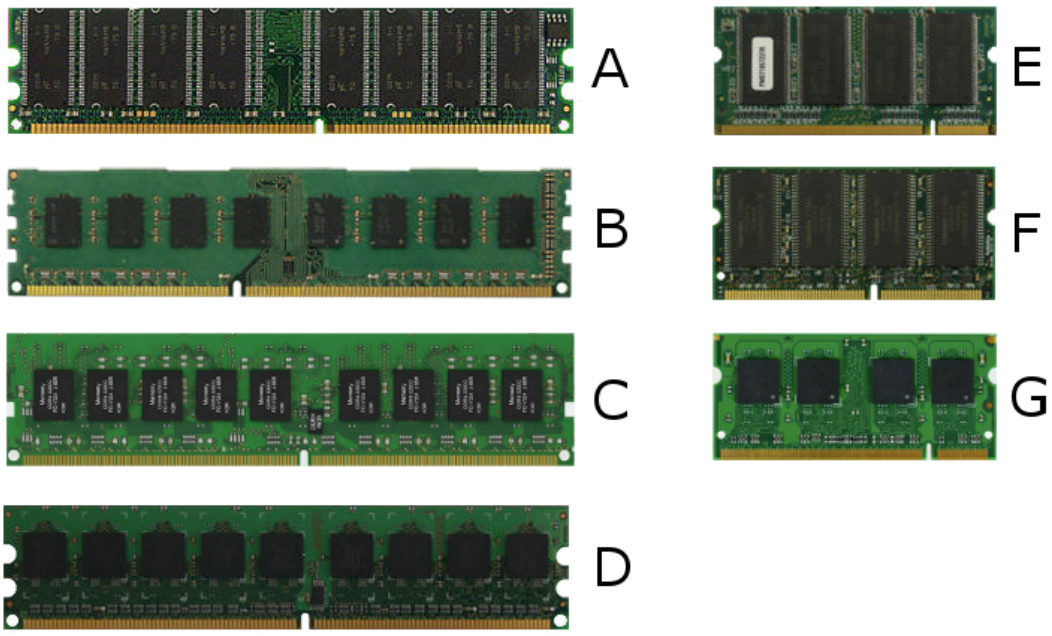
When an application is started, it is loaded into memory. If the computer does not have sufficient memory, the application cannot start. To remedy the problem, add more memory to the computer. Upgrade the hard disk to provide additional storage space for files. Upgrade the CPU to execute programs faster or to provide advanced processing features. Upgrade the system board to support new components, such as newer memory modules, CPUs, or bus types.

References

TestOut PC Pro - 3.7 Memory
[e_mem_pp6.exam.xml Q_RAM_TYPES_09]

Question 10: Incorrect

This question includes an image to help you answer the question. Close



Consider the memory modules shown in the image below.
Drag the label on the left and drop it on the letter on the right that best identifies the associated memory module form.

A
DDR DIMM

B
DDR3 DIMM

C
DDR4 DIMM

D
DDR2 DIMM

E
200-pin SODIMM

F
~~UniDIMM~~ 144-pin SODIMM

G
~~144-pin SODIMM~~ UniDIMM

Explanation

The memory modules have the following characteristics:

- DDR (Double-Data Rate Synchronous Dynamic RAM) DIMM: has a single notch, slightly off center. DDR memory has 184 pins.
- DDR2 DIMM: Has a notch slightly closer to the middle and has more pins (240) than DDR memory.
- DDR3 DIMM: Has a single notch that is more off-center than the notch for DDR or DDR-2. Like DDR2, DDR3 has 240 pins.
- DDR4 DIMM: Has a single notch slightly right of center. DDR4 has 288 pins.
- 144-pin SODIMM: Used in notebook computers. The notch is slightly off center.
- 200-pin SODIMM: The notch is farther off center than 144-pin SODIMM. These modules are used by DDR2 and DDR3 memory.
- UniDIMM: The notch is positioned similar to 200-pin SODIMM. UniDIMM supports both DDR3 and DDR4 memory.

References

TestOut PC Pro - 3.7 Memory
[e_mem_pp6.exam.xml Q_RAM_TYPES_10]

Question 11: Correct

You have just received an order of various system components from an order you placed several weeks ago. One of the components is labeled as SODIMM memory.

For which of the following was this memory MOST likely purchased?

- Servers
- Laptop computers
- Desktop workstations
- Printers

Explanation

Small outline dual in-line memory modules (SODIMM) is a compact form factor of DIMM. It is typically used in smaller computers, such as laptops.

References

TestOut PC Pro - 3.7 Memory
[e_mem_pp6.exam.xml Q_RAM_TYPES_11]

Question 12: Incorrect

A laptop that you previously purchased was shipped with SODIMM memory to accommodate the laptop's form factor. You would now like to upgrade the memory.

Which of the following is an upgrade to the SODIMM standard?

- ~~SODIMM2~~
- DDR4
- UniDIMM
- DDR3

Explanation

UniDIMM (Universal DIMM) is a specification for DIMMs and is designed to carry DRAM chips. UniDIMMs can be populated with either DDR3 or DDR4 chips, but do not support any additional memory control logic. Because of this, the computer's memory controller must support both DDR3 and DDR4 memory standards. UniDIMM:

- Is an upgrade to the current SODIMM standard.
- Allows mobile platform users to use both DDR3 and DDR4.

Despite the availability of UniDIMM specification and announced manufacturer support, as of April 2018, there are no commercial UniDIMM products available, and no release dates have been set by the manufacturers. As DDR3 has become more irrelevant after years of DDR4 availability, it is looking increasingly unlikely that manufacturers will ever implement UniDIMM.

References

TestOut PC Pro - 3.7 Memory
[e_mem_pp6.exam.xml Q_RAM_TYPES_12]