Exam Report: 3.3.6 Practice Questions

Date: 2/24/2020 9:17:06 pm
Time Spent: 28:07

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Overall Performance

Your Score: 79%

Passing Score: 80%

View results by: Objective Analysis Individual Responses

Individual Responses

Question 1: Correct

Which function does a motherboard's chipset perform?

- Maintains an accurate system time and date.
- Facilitates communication between the processor, memory, and peripheral devices.
- Initializes devices during the boot process.
- Controls devices and functions attached to the motherboard.

Explanation

The chipset is a group of chips that facilitates communication between the processor, memory, and peripheral devices.

The BIOS is responsible for initializing devices during the boot process. Devices and functions on the motherboard are controlled by the CMOS configuration settings. The CMOS battery is responsible for maintaining an accurate system time and date.

References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_FACT_01]

Question 2: Correct

Which expansion slot is best for high-end dedicated video cards?

- PCI-X
- AGP
- PCIe x1
- PCIe x16

Explanation

The PCIe x16 expansion bus is the preferred bus for high-speed video cards.

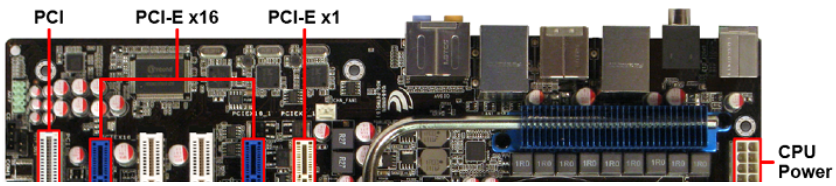
A PCIe x1 slot is not as fast as a PCIe x16 slot, and most video cards are designed for the x16 slot. APG is an older interface that is not used anymore. The PCIe bus was created to replace the PCI-X bus and, as such, has faster data transmissions.

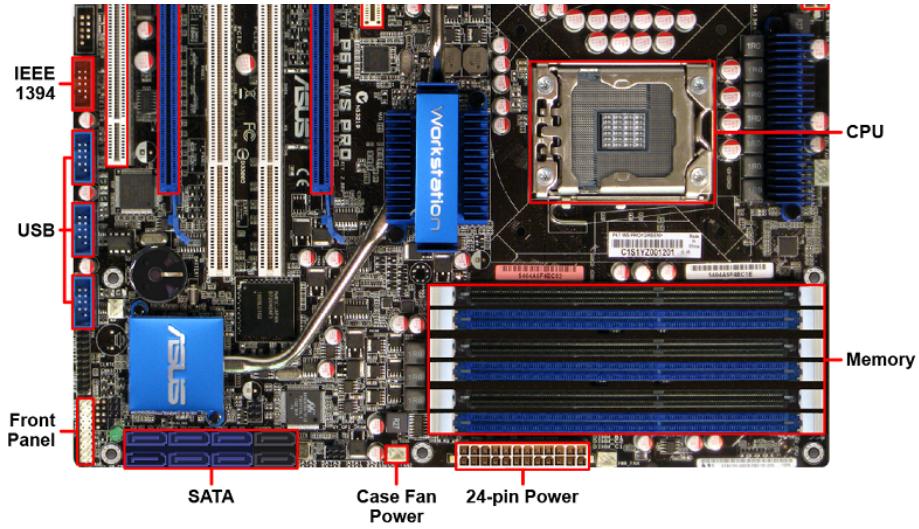
References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_FACT_02]

Question 3: Correct

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





Match each of the motherboard components on the left with the appropriate description on the right. Each component is used once.

Maintains an accurate system time and date, even when the power is off.

✔ CMOS battery

Allows additional features and capabilities to be added to the motherboard.

✔ Expansion slots

Houses the PCI bus controllers and communicates with the super I/O controller.

✔ Southbridge

Contains firmware that is used to configure motherboard settings and initialize devices.

✔ Flash memory

Controls communication between the CPU, memory, and high-speed graphics bus.

✔ Northbridge

Stores custom configuration settings made by the user.

✔ Non-volatile BIOS memory

Explanation

A typical motherboard includes the following components:

- Expansion slots allow you to expand the capabilities and features of a computer by installing expansion cards.
- Firmware is integrated software that is embedded in flash memory on the motherboard. Motherboards use either BIOS or UEFI firmware implementations. Because firmware is read-only, custom configuration settings are stored in non-volatile BIOS memory.
- The CMOS battery is used to maintain an accurate time and date, even when the motherboard has no power. Older systems used the CMOS battery to power the CMOS chip, which contained custom BIOS settings.
- The chipset is a group of chips that facilitates communication between the processor, memory, and peripheral devices. Older chipsets consist of two integrated circuits:
  - The northbridge controls communication between the CPU, memory, and high-speed graphics bus.
  - The southbridge houses the PCI bus controllers and communicates with the super I/O controller.

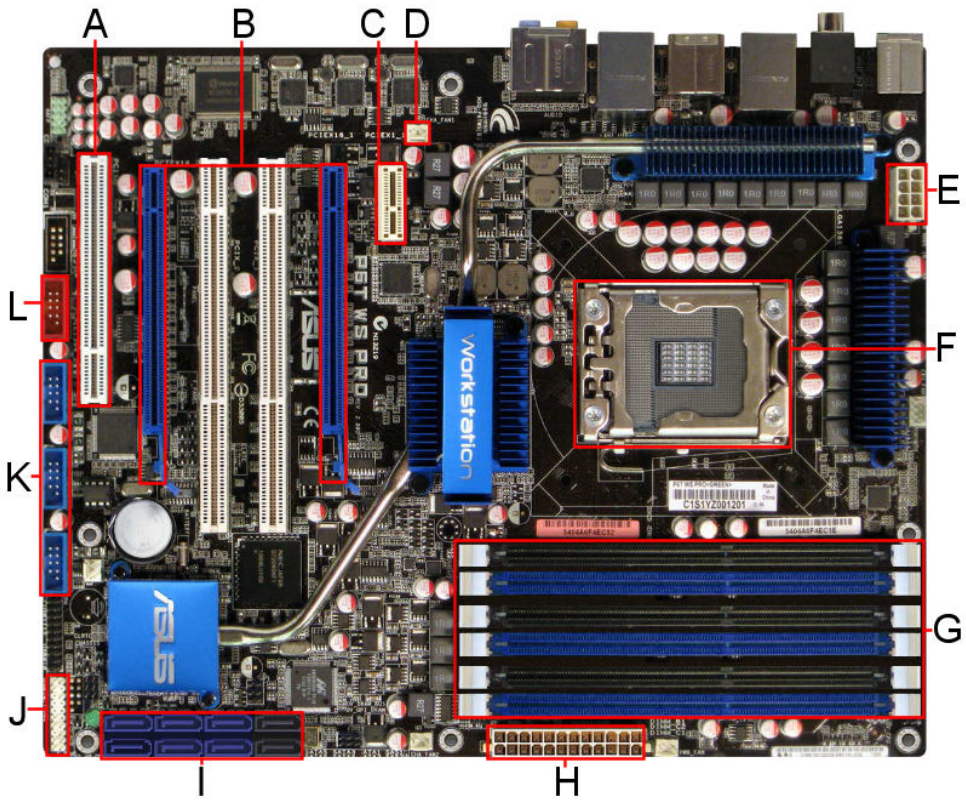
References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_FACT_03]

Question 4: Correct

Consider the following diagram of a typical motherboard.

Drag the label on the left to the letter on the right that best identifies the associated connector.



A

✔ PCI

B

✔ PCIe x16

C

✔ PCIe x1

D

✔ Case fan power

E

✔ CPU power

F

✔ CPU

G

✔ Memory

H

✔ Power supply

I

✔ SATA

J

✔ Front/top panel

K

✔ USB

L

✔ IEEE 1394

Explanation

The connectors on the motherboard have the following functions:

- PCI slots: used to connect PCI expansion boards.
- PCIe slots: used to connect PCIe expansion boards.
- CPU fan power: used to provide DC power to the CPU fan.
- CPU power: provides additional DC power to the processor itself.
- CPU socket: provides an interface for connecting the CPU to the motherboard.
- Memory slots: provides an interface for connecting memory modules to the motherboard.
- Power supply connector: provides an interface for connecting the power supply (PSU) to the motherboard.
- SATA connectors: used to connect SATA storage devices.
- Front panel connectors: used to connect front panel buttons and lights to the motherboard.
- IEEE 1394: used to connect external FireWire devices.
- USB: used to connect external USB devices.

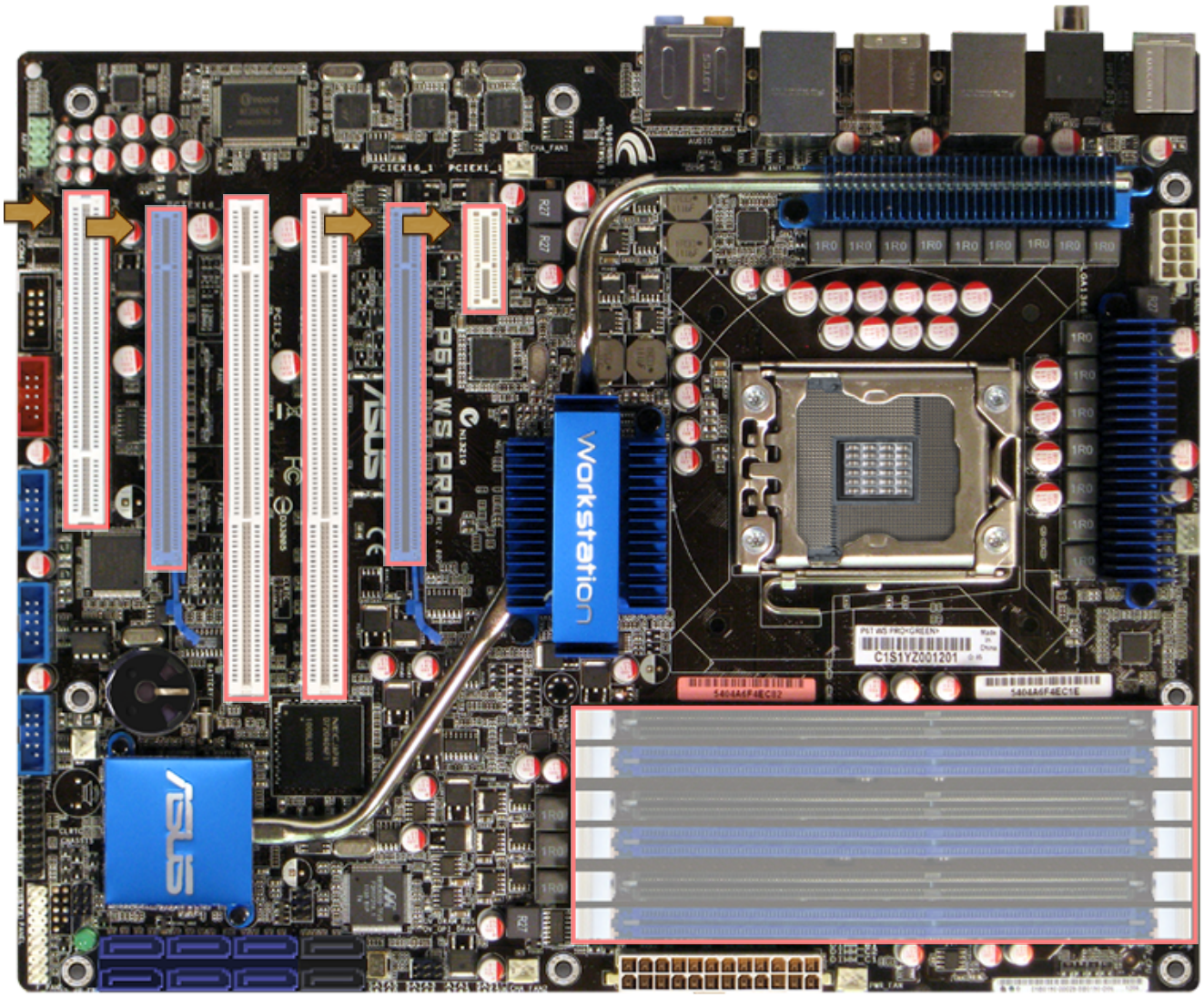
References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_FACT_04]

Question 5: Correct

Consider the expansion and memory slots highlighted on the motherboard diagram below.

Select the PCI, PCIe x16, and PCIe x1 slots. (Select FOUR).



Explanation

- PCI slot (top-left, colored white): used to connect PCI expansion boards.
- PCIe x16 slots (right of the PCI slot, colored blue): used to connect PCIe x16 expansion boards.
- PCIe x1 slot (right of the PCIe x16 slots, colored white): used to connect PCIe x1 expansion boards.

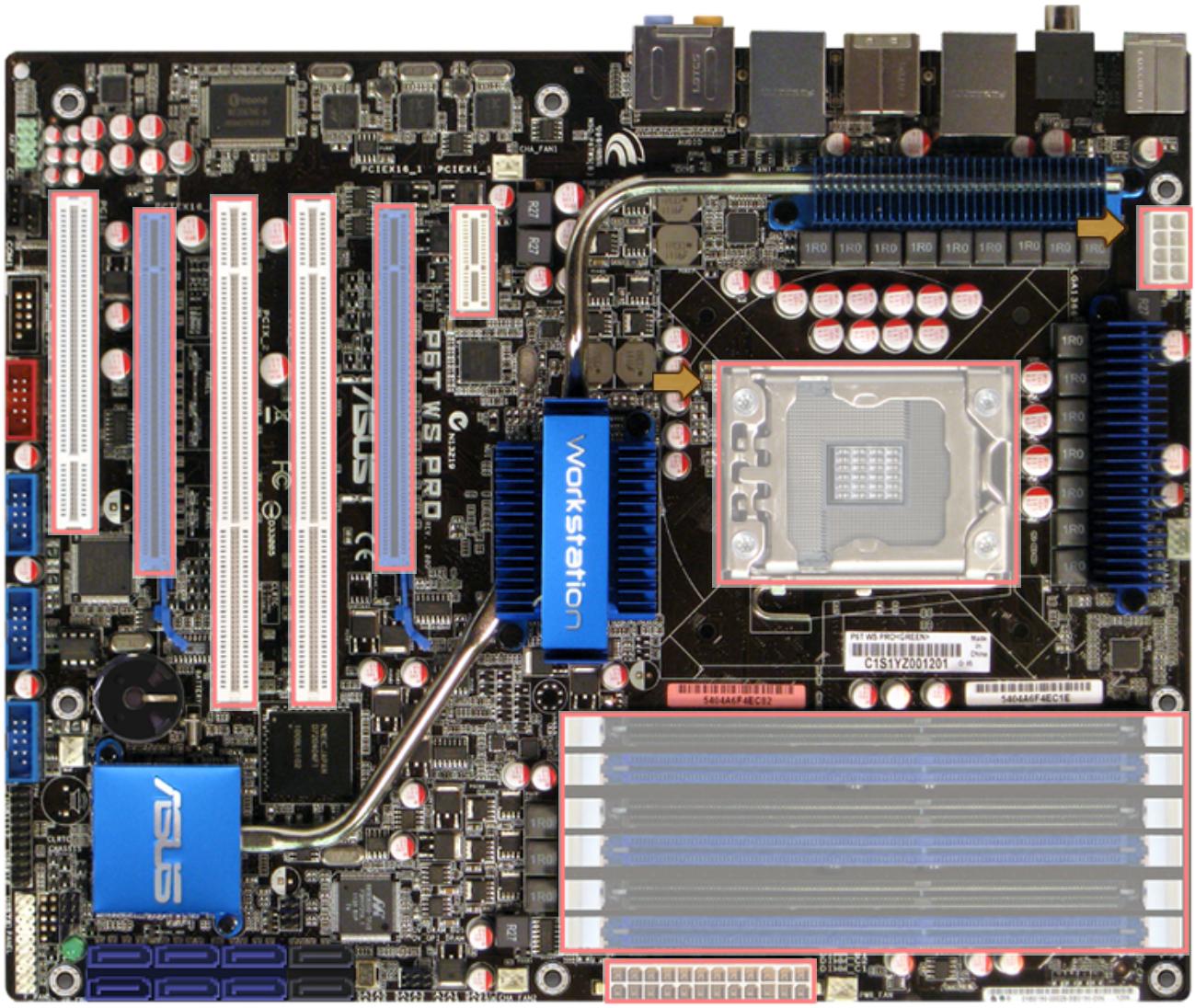
References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_FACT_05]

Question 6: Incorrect

Consider the connectors highlighted on the motherboard diagram below.

Select the CPU socket and CPU power connector. (Select TWO).



Explanation

- CPU power (top-right connector): provides additional DC power to the processor itself.
- CPU socket (larger square connector, left of the CPU power connector): provides an interface for connecting the CPU to the motherboard.

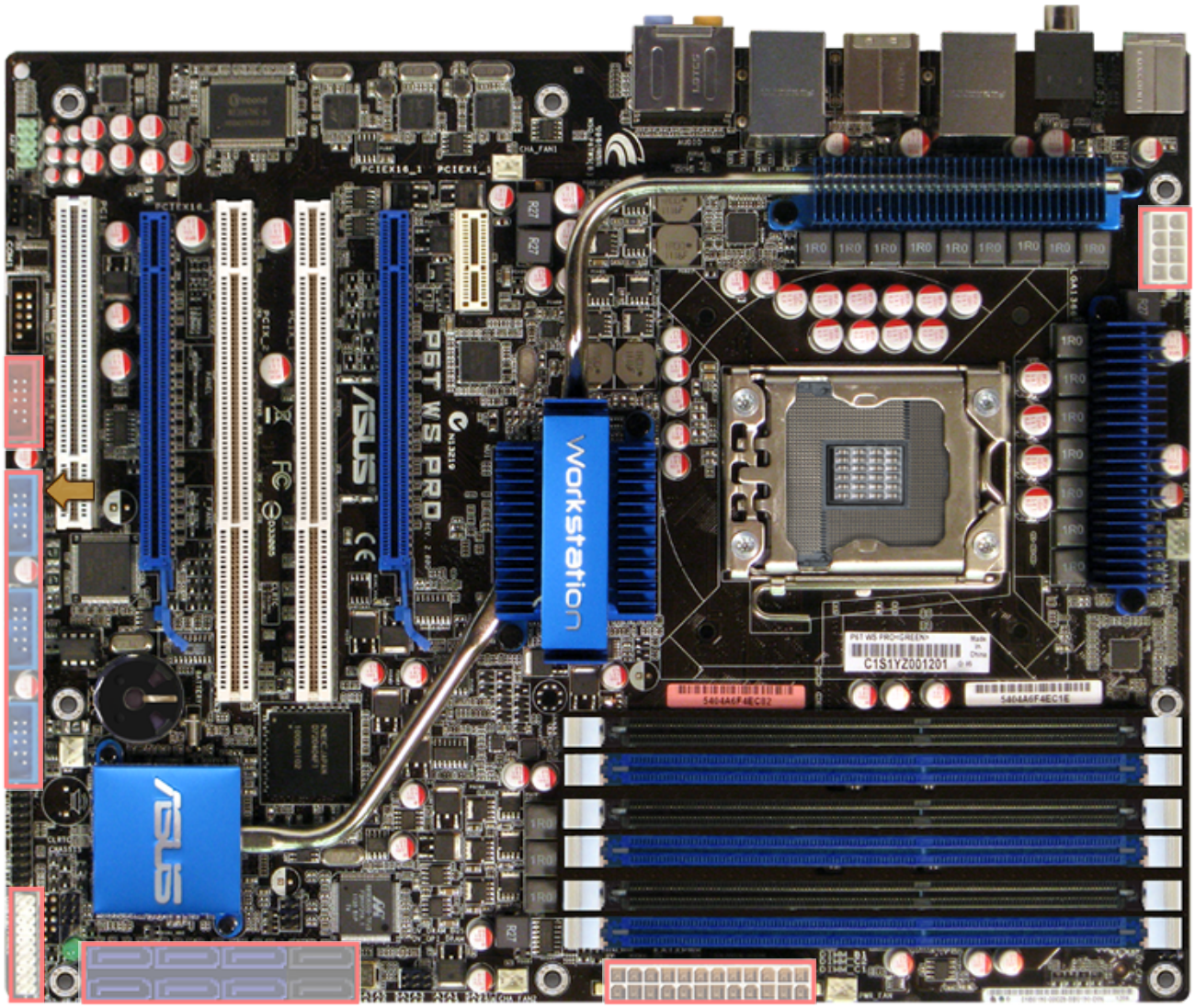
References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_FACT_06]

Question 7: Correct

Consider the connectors highlighted on the motherboard diagram below.

Select the USB connectors. (Select ONE).



Explanation

- USB connectors (middle-left): used to connect external USB devices.

References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_FACT_07]

Question 8: Correct

You have a computer system with a dual-core processor. You would like to upgrade to a quad-core processor, but you don't want to replace the motherboard.

Which of the following steps SHOULD you perform first?

- (●) Read the motherboard documentation to identify which processors are supported.
- ( ) Configure jumpers on the motherboard to allow four CPU cores.

- Edit the BIOS to allow quad-core CPUs.
- Replace the VRM.
- Install the processor.

Explanation

The first thing you need to do before purchasing and installing a new processor is use the motherboard documentation to verify that the new processor is supported by your existing motherboard. After you have determined that the new processor is supported by the motherboard, you can take additional steps, such as installing the processor, editing the CMOS, configuring jumpers, and replacing the VRM if necessary.

References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_INST_01]

Question 9: Correct

You are in the process of installing a motherboard in a system case.

Which of the following objects should you place between the motherboard and the system case?

- Standoffs
- Support manual
- Fans
- Heat spreaders
- Passive heat sink

Explanation

Standoffs should be placed between the motherboard and the case. Standoffs prevent the motherboard circuits from touching the system case and grounding or shorting.

Heat spreaders are placed on memory modules to help cool them. Passive heat sinks are used with chipsets and low-performance processors. Fans are installed in the system case, but not between the motherboard and the case. The support manual is a booklet that contains information about the motherboard.

References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_INST_02]

Question 10: Correct

Which of the following objects is installed between the system case and the motherboard's back I/O ports?

- Faceplate
- Standoffs
- Heat spreader
- Fan

Explanation

The I/O shield (also called a faceplate) is placed between the motherboard and the system case. The shield protects the case from dust and debris.

Standoffs are placed between the motherboard and the case and prevent the motherboard circuits from touching the system. Heat spreaders are placed on memory modules to help cool them. Fans are installed in the system case, but not between the system case and the back I/O panel. The support manual is a booklet that contains information about the motherboard.

References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_INST_03]

Question 11: Incorrect

Which of the following connectors are part of the system case and connect to header pins on the motherboard? (Select two.)

- [ ] Power switch
- [ ] SATA power
- [x] ~~8-pin EPS12V~~
- [ ] HDD LED activity
- [x] ~~24-pin ATX power~~

Explanation

The system case typically includes wires that connect to the motherboard and provide the following functions:

- Power switch
- Reset switch
- HDD LED activity
- Case speaker

The 24-pin ATX, SATA power, and 8-pin EPS12V connectors are provided by the power supply, not the system case.

References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_INST_04]

Question 12: Incorrect

Which of the following is an advantage of purchasing a motherboard with integrated graphics and audio?

- ( ) Higher-quality components
- ( ) Fewer system resources used
- ( ) Lower overall system cost
- (•) ~~Reduced need for device drivers~~
- ( ) Faster communication between sound and video devices

Explanation

Purchasing a motherboard with integrated components typically results in a lower overall cost. Even though the motherboard might cost a little bit more, you will save on the cost of purchasing additional devices.

Integrated components are typically not as powerful and do not have as many features as their dedicated counterparts. Some integrated components, such as integrated graphics, share system resources. Device drivers are still required for integrated components.

References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_INST_05]

Question 13: Correct

Which of the following BEST describes the chipset?

- (•) Facilitates communication between the processor, memory, and peripheral devices.
- ( ) Connections to the motherboard's front panel connectors, which are also called headers.
- ( ) Designed to be compatible with a specific type of memory module.
- ( ) Allows you to expand the capabilities of your computer by installing expansion cards.

Explanation

The chipset is a group of chips that facilitates communication between the processor, memory, and peripheral devices.
With chipsets:

- The memory controller and graphics controller are on the CPU.
- The remaining functionality is combined into a single controller chip.

- Intel processors use the Platform Controller Hub (PCH).
- AMD processors use the Fusion Controller Hub (FCH).
- The front-side bus is replaced by the Direct Media Interface (DMI).

Expansion slots (also called expansion buses) allow you to expand the capabilities of your computer by installing expansion cards.

Memory slots are designed to be compatible with a specific type of memory module.

Internal connectors are ports that are connected to the motherboard's front panel connectors, which are also called headers.

References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_INST_06]

Question 14: Correct

You have just finished replacing the motherboard in your friend Ethan's computer with the same type of motherboard it originally had. You tested the motherboard by powering it on and verifying that the operating system started, and his applications were working. Now Ethan is complaining that his computer no longer recognizes his external hard drive.

Which of the following is MOST likely causing the external hard drive not to function?

- ○ The replacement motherboard does not support external hard drives.
- ○ The computer's power supply was not connected properly.
- ◉ The USB front panel connector was not properly connected.
- ○ Ethan's hard drive has failed.

Explanation

The most likely cause is that the USB cable is not connected or is not connected properly. It is unlikely that the hard drive suddenly failed. Since the operating system and applications are functioning properly, the power supply is functioning correctly as well.

References

TestOut PC Pro - 3.3 Motherboards and Buses
[e_mb_pp6.exam.xml Q_MB_INST_07]