Exam Report: B.2.3 A+ 220-1001 Core 1 Domain 3: Hardware, 20 Random Questions

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Overall Performance

Your Score: 0%

Passing Score: 80%

View results by: ○ Objective Analysis ◉ Individual Responses

Individual Responses

Question 1: Incorrect

Your computer has one 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 will be part of your configuration?

➡ ○ Replace the existing processor.

○ Remove the terminating resistor from slots where the new processor will be installed.

○ Configure the system to use dual channel memory.

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

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 one 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. Unused slots are filled with a terminating resistor. Dual-channel memory does not affect using dual processors or dual core processors.

References

TestOut PC Pro - 3.5 Processors
[e_a_plus_1001_3_20.exam.xml Q_CPU_INST_06]

Question 2: Incorrect

You are in the process of building a new computer. You would like to configure your computer to use Crossfire to improve performance when playing your favorite game. Which of the following will be part of the configuration process?

○ Purchase a video card that supports HDCP.

➡ ○ Purchase two identical video cards.

○ Purchase a video card that supports the ATSC standards.

○ Purchase a video card that supports the NTSC standards.

Explanation

For increased performance, especially in games, you can install multiple video cards and link those cards together so that multiple GPUs draw a single screen. Scalable Link Interface (SLI) from NVIDIA and CrossFire from AMD are two different methods for linking video cards.

In most cases you will need to install identical video cards, or at least video cards with very similar specifications. Cards are linked using a special bridge clip or through software (depending on the implementation). The motherboard and the video cards must each support the selected method (either SLI or CrossFire). The motherboard must have multiple 16x PCIe slots. Connect the monitor to an output port on the first video card. Select a video card that supports NTSC for analog video capture or analog TV tuner capabilities. Select a video card

that supports ATSC for digital TV. HDCP is a copy-protection method that prevents playback of protected content (such as movies on Blu-ray discs) on devices that do not support HDCP.

References

TestOut PC Pro - 3.12 Video
[e_a_plus_1001_3_20.exam.xml Q_VID_SPECS_07]

Question 3: Incorrect

Which of the following statements are true regarding power supply wattage? (Select TWO).

- [ ] The lower the wattage rating, the more amps a power supply can deliver.
- [ ] The wattage requirement for each individual circuit uses formula *W = V x A*.
- [ ] The watt rating indicates how much power can be supplied to various devices.
- [ ] A system's wattage requirement equals the highest wattage requirement for a single individual circuit.
- [ ] A system's wattage requirement does not depend on the amount of devices in the system.

Explanation

Power supplies are rated in watts. The watt rating indicates how much power can be supplied to various devices. The more devices you have in your computer, the more wattage you will require. You can calculate the system's wattage requirements using the following method:

1. Find the watt requirement for each component by multiplying volts by amps (*W = V x A*).
2. Add each value together to find the total watt requirements.

References

TestOut PC Pro - 3.2 Power Supplies
[e_a_plus_1001_3_20.exam.xml Q_PWRSUPPLY_06]

Question 4: Incorrect

A customer has brought a computer in to be repaired. He said he thinks that the sound card has stopped working because no audio is produced when music, video, or DVDs are played.

Which troubleshooting step should you take first? (Select TWO.)

- [ ] Replace the sound card with a known good spare.
- [ ] Download and install the latest sound card drivers.
- [ ] Verify that the volume isn't muted.
- [ ] Verify that no IRQ or I/O port address conflicts exist between the card and other devices in the system.
- [ ] Verify that speakers are plugged into the correct jack and are powered on.

Explanation

You should first verify that the speakers are plugged in correctly and powered on. You should also verify that the volume isn't muted in the operating system.

Before investigating more complex possibilities, you should always check the obvious first when troubleshooting computer problems. The other actions might need to be performed if checking the obvious solutions does not correct the problem.

References

TestOut PC Pro - 3.13 Audio
[e_a_plus_1001_3_20.exam.xml Q_AUDIO_02]

Question 5: Incorrect

You have a laptop with a dual-core processor that has the following characteristics:

- 1024 MB L2 cache
- 125 Watts

- 45nm process size

You want to upgrade the processor to one that uses less power.

Which of the following characteristics would MOST likely identify a processor that uses less power?

- 32nm process size
- Single-core processor
- 512 MB L2 cache
- 90 Watts

Explanation

Power consumption for a processor is measured in Watts. A 90-Watt processor consumes less power than a 125-Watt processor. It is possible that a single-core processor, one with less cache, or one with a smaller process size will consume less power. However, only the Watt rating will tell you for sure how much power the processor requires.

References

TestOut PC Pro - 3.2 Power Supplies
[e_a_plus_1001_3_20.exam.xml Q_PWRSUPPLY_19]

Question 6: Incorrect

You have just upgraded the CPU on your computer. You consulted the motherboard documentation to make sure the CPU is compatible with the motherboard. However, when you turned the system on, it locks up shortly after startup.

While troubleshooting this issue, which of the following are the BEST steps to try first? (Select TWO).

- [x] Make sure the CPU is seated properly, oriented properly, and locked into the socket.
- [ ] Make sure the power cord is plugged in and the power supply switch is in the On position.
- [x] Look for something that could be causing the new CPU to overheat.
- [ ] Test the power supply using a multimeter.
- [ ] Replace the CMOS battery.

Explanation

The most common issues that occur when a new CPU has been installed are:

1. The system locks up because it gets too hot. You should check for the following:

- The heatsink and fan are not placed correctly or are in poor condition
- Thermal paste or the thermal pad have not been used between the processor and the heatsink
- The heatsink is not firmly attached to the processor

2. The system locks up because the CPU is not properly seated or is oriented incorrectly.

References

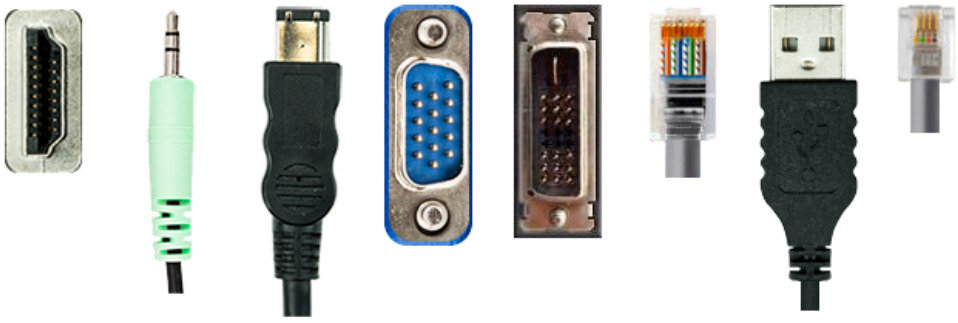
TestOut PC Pro - 3.6 Processor Troubleshooting
[e_a_plus_1001_3_20.exam.xml Q_TRB_PROC_05]

Question 7: Incorrect

Consider the cable connectors used by various peripheral devices (pictured below).

Drag the letter on the left to the peripheral device on the right that would most likely use the connector type.

A B C D E F G H



External storage device

[ ] G

Analog monitor

[ ] D

Video camera

[ ] C

HDTV

[ ] A

Dial-up modem

[ ] H

Digital monitor (without audio)

[ ] E

Network adapter

[ ] F

Headphones

[ ] B

Explanation

Peripheral devices use specific connector types to connect to a computer. The following connector types are pictured:

- HDMI - used to send high-quality digital video and audio signals to LCD monitors and HDTVs.
- Fiber S/PDIF - used for home theatre systems or Dolby Digital surround sound systems.
- IEEE 1394 - used to connect devices that require fast communication speeds, such as video cameras and external hard drives.
- VGA (DB-15) - used by analog monitors.
- DVI - used by digital monitors and does not carry audio.
- RJ45 - used by Ethernet network adapters and other networking devices.
- USB - used by USB devices (such as external storage devices).
- RJ11 - used by dial-up modems.
- TRS jack - used by analog audio devices (such as speakers and headphones).

References

TestOut PC Pro - 1.2 Hardware Basics
[e_a_plus_1001_3_20.exam.xml Q_PORT_CON_COMPUTER_PORTS_06-PB]

Question 8: Incorrect

Match the cooling system types on the left with the appropriate characteristics and uses on the right. Each cooling system type can be used once, more than once, or not at all.

Used for cooling high-end video cards

Active heat sink

Used for cooling high-end gaming computers

Liquid cooling

Has a fan attached to the heat sink

Active heat sink

Used for cooling CPUs

Active heat sink

Exhausts hot air out of the back of the case

Power supply

Used for cooling memory modules

Passive heat sink

Used for cooling high-performance systems

Liquid cooling

Has no fan attached to the heat sink

Passive heat sink

Explanation

Active heat sinks have an attached fan that helps cool off the component at a faster rate. Active heat sinks are used with the following components:

- CPUs
- High-end video cards

Passive heat sinks do not have a fan and instead rely on increased surface area and passive air movement to cool the component. Passive heat sinks are used with the following components:

- Low-end video cards
- Memory modules

ATX power supplies aid in cooling by exhausting hot air out the back of the case. Liquid cooling systems are used when air cooling is not sufficient. Because liquid cooling can dissipate heat much faster than air cooling, it is primarily used for high-end gaming computers and high-performance systems. Case fans create a pressurized system that allows air to flow through the case in a specific way.

References

TestOut PC Pro - 3.14 Cooling
[e_a_plus_1001_3_20.exam.xml Q_COOLING_05]

Question 9: Incorrect

You own a custom PC retail store. A small business client asks you to build three workstations for her organization:

- Virtualization workstation
- Video editing workstation
- Thin client PC

Drag and drop each PC hardware configuration on the left to the most appropriate workstation type on the right.

Thin client PC

- Intel Celeron dual-core 2.7GHz CPU
- 320 GB SATA HD
- 2 GB DDR3 RAM
- Few or no applications installed

Video editing workstation

- Intel Core i7 six-core 3.4 GHz CPU
- 1 TB SSD SATA HD
- 16 GB DDR4 RAM
- Video capture card

Virtualization Workstation

- AMD 12-core 4 GHZ CPU
- 4 TB SATA HD
- 32 GB DDR4 RAM
- Hardware-assisted virtualization (HAV)

Explanation

Virtual machines place a very heavy load on the host hypervisor's RAM and CPU. Therefore, the most important criteria to be included in the design for this workstation are the following components:

- AMD 12-core 4 GHZ CPU
- 4 TB SATA HD
- 32 GB DDR4 RAM
- Hardware-assisted virtualization (HAV)

A thin client only needs to be able to connect to a remote desktop session. As such, it only needs to meet the minimum requirements for running Windows locally. The following hardware is sufficient:

- Intel Celeron dual-core 2.7GHz CPU
- 320 GB SATA HD
- 2 GB DDR3 RAM
- Few or no applications installed

An audio/video editing workstation has specialized requirements to allow it to process media files. The following hardware is appropriate:

- Intel Core i7 six-core 3.4 GHz CPU
- 1 TB SSD SATA HD
- 16 GB DDR4 RAM
- Video capture card

References

TestOut PC Pro - 10.1 Component Selection
[e_a_plus_1001_3_20.exam.xml Q_COMP_SEL_03]

Question 10: Incorrect

You are a PC technician for a national computer retailer. A customer asks you to build three custom computers for him to use at his home office. He requests a gaming PC, a home office server, and a thin client workstation.

Drag and drop each PC hardware configuration on the left to the most appropriate workstation type on the right.

Home office server

- 2 TB RAID 5 disk array
- 600 W power supply
- No audio adapter
- Integrated video adapter

Gaming PC

- 1000 W power supply
- 1 TB SATA HD
- Dual SLI 6 GB PCIe video adapters
- 5.1 channel surround sound adapter
- Liquid CPU cooler

Thick client workstation

- 400 W power supply
- 500 GB SATA HD
- 512 MB PCIe video adapter
- Basic desktop applications installed

Explanation

A home office server needs to store a lot of data quickly and reliably. Video and audio performance are of less concern. However, the increased number of storage devices require an upgraded power supply. The following hardware issufficient for this system:

- 2 TB RAID 5 disk array
- 600 W power supply
- No audio adapter
- Integrated video adapter

A thick client needs to be able to run desktop applications locally and also needs to connect to a remote desktop session. As such, it only needs to meet the minimum requirements for the local operating system and installed applications. The following hardware would be sufficient:

- 400 W power supply
- 500 GB SATA HD
- 512 MB PCIe video adapter
- Basic desktop applications installed

A gaming PC needs high-end graphics and audio, such as dual SLI-linked video adapters. These devices consume a lot of power, so a high-end power supply will be required, as well as additional cooling capacity. The following hardware would be appropriate:

- 1000 W power supply
- 1 TB SATA HD
- Dual SLI 6 GB PCIe video adapters
- 5.1 channel surround sound adapter
- Liquid CPU cooler

References

TestOut PC Pro - 10.1 Component Selection
[e_a_plus_1001_3_20.exam.xml Q_COMP_SEL_04]

Question 11: Incorrect

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

- 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.
- Remove the screw from the one side; pull straight up to remove the RAM.
- Move the tabs holding the RAM out of the way; 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

TestOut PC Pro - 3.8 Memory Installation
[e_a_plus_1001_3_20.exam.xml Q_MEM_INSF_05]

Question 12: Incorrect

A customer would like you to install a high-end video card suitable for gaming.

Your installation and configuration SHOULD include which of the following? (Select THREE).

- Link the integrated graphics to the new high-end video card using the bridge clip.
- Disable the integrated graphics in all cases so they do not interfere with the new video card.
- Ensure that the video card is compatible with the expansion slot.
- Disable power to the integrated graphics.
-

Install new the video drivers from CD and then install updated drivers from the internet.

Add additional RAM to your computer to accommodate the new card's demands.

Configure the PC to use the integrated graphics if available and needed.

Explanation

It is imperative that you always ensure that the video card is compatible with the expansion slot in which the video card will be installed. In some cases, you may have to disable the integrated graphics. However, if possible, you should configure the computer to default back to the integrated graphics if the new high-end graphics card fails or is removed. Otherwise, you may not be able to access the BIOS/UFI firmware to change the computer back to the integrated graphics. Some high-end graphic cards may require a connection to the power supply, but you do not need to disable power to the integrated graphics. You typically only need twice as much system memory as your graphics car has VRAM. Since this computer has 16GB RAM and the card is only 4GB, no additional RAM is required.

References

TestOut PC Pro - 3.12 Video
[e_a_plus_1001_3_20.exam.xml Q_VID_INST_06]

Question 13: Incorrect

You are configuring an ADSL connection. Which of the following will be part of the configuration? (Select TWO.)

Analog modem

Filters or splitters

F-type connectors

RJ11 connectors

An RG6 cable

Explanation

To connect to the internet through a DSL connection:

- Install an internal DSL card in a single computer or connect a DSL router to the phone line.
- Use a phone cable with an RJ11 connector to connect the DSL card or router to the phone line. For ADSL, place filters (splitters) on the line everywhere that an analog phone is used.
- Do not install a filter on the line connected to the DSL router.

Analog modems are used for dial-up internet access. F-type connectors and RG-6 cable are used for cable internet access.

References

TestOut PC Pro - 6.8 Internet Connectivity
[e_a_plus_1001_3_20.exam.xml Q_INTERNET_ADSL_02]

Question 14: Incorrect

Which of the following are benefits UEFI provides that BIOS does not? (Select three.)

Faster startup times.

Does not need to be flashed as frequently.

Supports drives larger than 2.2 TB.

Allows individual bytes to be erased and reprogrammed.

Provides non-volatile storage of system startup information.

Supports 64-bit firmware device drivers.

Explanation

Unlike BIOS, UEFI provides the following benefits:

- Faster startup times.
- Supports drives larger than 2.2 terabytes.
- Supports 64-bit firmware device drivers.
- Provides better security to protect against bootkit (malware attacks on the boot process) attacks.

Similar to BIOS, UEFI does need to be flashed when updates are available to make new features available on the computer.

EEPROM is the technology that provides non-volatile memory and allows individual bytes to be erased and reprogrammed.

References

TestOut PC Pro - 3.10 BIOS/UEFI
[e_a_plus_1001_3_20.exam.xml Q_BIOS_08]

Question 15: Incorrect

You are in the process of purchasing several new computers to replace broken or outdated computers. After much research, you have determined to purchase computers that use AMD sockets.

Which of the following BEST describes an AMD and why you would select this option? (Select TWO).

- [x] Typically, an AMD uses a Pin Grid Array (PGA) socket type.
- [x] Typically, AMD chips are less expensive.
- [ ] Typically, an AMD uses a land grid array (LGA) socket type.
- [ ] Typically, an AMD uses numbers to represent the number of pins on the socket.
- [ ] Typically, an AMD has a larger market share.

Explanation

Generally speaking, CPUs manufactured by AMD tend to be less expensive than those manufactured by Intel, but they also don't perform quite as well as Intel CPUs. AMD chips typically use a pin grid array (PGA) socket type and do not include a number in their name to represent the pins used on the chip.

References

TestOut PC Pro - 3.5 Processors
[e_a_plus_1001_3_20.exam.xml Q_CPU_SOCKETS_03]

Question 16: Incorrect

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
- (x) Memory
- ( ) CPU
- ( ) System board

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_a_plus_1001_3_20.exam.xml Q_RAM_TYPES_09]

Question 17: Incorrect

Which of the following tools is specifically designed to test the DC voltage on a hard disk drive power connector?

- Loopback plug
- Cable tester
- Multimeter
- Power supply tester

Explanation

A power supply tester is specifically designed to test DC voltage on most connectors coming from a PC power supply. A multimeter measures electrical properties such as voltage, amps, and resistance. A multimeter can also be used to test DC voltage on a Molex connector; however, it isn't a tool dedicated to this purpose. A cable tester verifies that a network can carry a signal from one end to the other and that all wires within the connector are in their correct positions. A loopback plug lets you test a port for proper functionality. The loopback plug crosses the receive and transmit wires. Essentially, this lets the computer send a signal to itself.

References

TestOut PC Pro - 2.4 PC Tools
[e_a_plus_1001_3_20.exam.xml Q_TOOL_FCT_PS_TESTER]

Question 18: Incorrect

If a printer is connected directly to a Windows workstation, what can be done to allow other workstations on the same network to send print jobs to this printer?

- Configure the printer to be a shared printer.
- Configure the printer to be a print server.
- The printer can only be shared by disconnecting it from the workstation and connecting it to the network.
- Configure the workstation as a print driver.

Explanation

You can configure a printer attached to a Windows workstation as a network printer by configuring it to be a shared printer. This is done by accessing the Devices and Printers panel on the workstation and then opening the printer's Properties window and configuring the settings on the Sharing tab.

References

TestOut PC Pro - 8.3 Network Printing
[e_a_plus_1001_3_20.exam.xml Q_NET_PRNT_PRT_NETWORK_03]

Question 19: Incorrect

If a printer is not Wi-Fi capable, how can it be set up to provide the most reliable wireless printing?

- If the printer has a USB port, plug in a USB wireless adapter.
- If the printer is Ethernet capable, it can be connected to the network through a wireless router.
- If the printer is Bonjour-enabled, it can be discovered by workstations using the

Bonjour service.

- Share the printer from a computer that has a wireless network connection.

Explanation

If the printer is not Wi-Fi capable but has an Ethernet port, it can be connected to the network through a wireless router. Just use an Ethernet cable to connect the printer to a port on the wireless router. Users on the same network as the wireless router will be able to send jobs to the printer as if the printer has a wired connection. (All users will have to install the driver for that printer on their workstations.)

The wireless router option is more reliable than connecting the printer to a workstation that has a wireless connection to the network and then sharing the printer from that workstation. The workstation performs the same role as the wireless router, but the workstation will be shut down a lot more often than the wireless router would be.

A USB wireless adapter will not provide a wireless connection for a printer because the adapter needs to be connected to a device with an operating system and the capacity to install drivers. Bonjour can only be used for wireless printing if the printer is already using a Wi-Fi connection to the network.

References

TestOut PC Pro - 8.3 Network Printing
[e_a_plus_1001_3_20.exam.xml Q_NET_PRNT_PRT_NETWORK_04]

Question 20: Incorrect

While sorting through a box of cables in your storage room, you find one that matches the configuration shown in the image.

Which of the following BEST describes the type of cable configuration and the purpose for which it would be used?

- Patch (or straight-though) cable configuration used to connect computers to network devices, such as switches and hubs.
- RJ11 configuration used to connect wireless routers to phone line connections.
- Crossover cable configuration used to connect computers directly to one another for networking.
- Rollover cable configuration used to connect computers to routers for console management.

Explanation

This is a crossover cable configuration. Using this configuration, computers can connect directly to one another. The easiest way to create a crossover cable is to arrange the wires in the first connector using the T568A standard and arrange the wires in the second connector using the T568B standard.

References

TestOut PC Pro - 6.3 Networking Media
[e_a_plus_1001_3_20.exam.xml Q_CABLE_NET_MEDIA_01-PB]