Exam Report: B.6 CompTIA 220-901 Certification Practice Exam

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Overall Performance

Passing Score: 95%

View results by: ○ Objective Analysis ◉ Individual Responses

Individual Responses

Question 1: Correct

An 8-port switch receives a frame on port number 1. The frame is addressed to an unknown device. What will the switch do?

- ➡ ◉ Send the frame out ports 2-8.
- ○ Drop the frame.
- ○ Send the frame out all 8 ports.
- ○ Send the frame out the destination port.

Explanation

Because the switch does not know the port that is used to reach the destination device, it will send the frame out all ports except for the port on which the frame was received. After the switch learns the port that is used to reach the destination device, it will send the frame out only that port.

References

LabSim for PC Pro, Section 6.2.
[pcpro2016_all_questions_en.exm NET DEVICE_08]

Question 2: Correct

You are a PC technician for a national computer retailer. A business customer asks you to build three custom computers to be used by employees at a branch office:

- CAD / CAM Design Workstation
- Home Theater PC
- Virtualization Workstation

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

CAD / CAM Design Workstation

- ✓ 2 GB GDDR5 PCIe video adapter
- 16 GB PC3-21300 DDR4 ECC RAM
- 1 TB SATA HD

Virtualization Workstation

- ✓ 32 GB PC4-21300 DDR4 RAM
- 4 TB SATA HD
- Integrated video adapter

Home Theater PC

- ✓ HDMI output
- Compact form factor
- 5.1 channel surround sound adapter
- TV tuner adapter

Explanation

Virtual machines place a very heavy load on the host hypervisor's RAM and CPU. Video and audio performance is of secondary concern. Therefore, the most important criteria to be included in the design for this workstation would be:

- 32 GB PC4-21300 DDR4 RAM
- 4 TB SATA HD
- Integrated video adapter

A CAD / CAM workstation also places a heavy load on the the system CPU and RAM. In addition, because of the extensive mathematical calculations used by the software on these systems, it is strongly recommended that ECC memory be used. A high-end video adapter that uses GDDR5 memory instead of DDR3 memory is also recommended. The following hardware would be sufficient:

- 2 GB GDDR5 PCIe video adapter
- 16 GB PC3-21300 DDR4 ECC RAM
- 1 TB SATA HD

A home theater PC (HTPC) is a dedicated system that is optimized to play media on a television set. The following hardware would be appropriate:

- HDMI output
- Compact form factor
- 5.1 channel surround sound adapter
- TV tuner adapter

References

LabSim for PC Pro, Section 10.1.
[pcpro2016_all_questions_en.exm IMPL_03]

Question 3: Correct

Which of the following battery types offers the greatest storage capacity in the smallest amount of space?

- ○ Nickel Cadmium (Ni-Cad)
- ○ Carbon
- ➡ ◉ Lithium Ion (Li-Ion)
- ○ Nickel Metal Hydride (NiMH)

Explanation

Lithium Ion (Li-Ion) batteries offer the greatest storage capacity in the smallest amount of space. Nickel Cadmium (Ni-Cad) and Nickel Metal Hydride (NiMH) batteries take up more physical space than Lithium Ion batteries. Carbon batteries are small, but have significantly less charge than Lithium Ion batteries. They are commonly used in remote controls, flashlights, toys, or transistor radios, where the power drain is not too heavy.

References

LabSim for PC Pro, Section 8.3.
[pcpro2016_all_questions_en.exm NOTEBOOK_COMPONENTS_02]

Question 4: Incorrect

Which of the following are true of the SXGA screen resolution? (Select two.)

- ☑ ~~1600 x 1200~~
- ➡ ☐ 1280 x 1024
- ☐ 16:10 aspect ratio
- ☑ ~~4:3 aspect ratio~~
- ➡ ☐ 5:4 aspect ratio

Explanation

A SXGA (super extended) display has a resolution of 1280 x 1024 and an aspect ratio of 5:4.

VGA has a resolution of 1024 x 768, and UXGA has a resolution of 1600 x 1200. Widescreen aspect ratios include "W" in the name. For example, WUXGA has a 16:10 aspect ratio (resolution of 1920 x 1200).

References

LabSim for PC Pro, Section 4.4.
[pcpro2016_all_questions_en.exm SXGA RESOLUTION]

Question 5: Correct

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

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

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 or 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

LabSim for PC Pro, Section 3.3.
[pcpro2016_all_questions_en.exm PC16_MOTHERBOARDS_01]

Question 6: Correct

You need to add security for your wireless network. You would like to use the most secure method. Which method should you implement?

- WPA2
- WEP
- WPA
- Kerberos

Explanation

Wi-Fi Protected Access 2 (WPA2) is currently the most secure wireless security specification. WPA2 includes specifications for both encryption and authentication. WPA was an earlier implementation of security specified by the 802.11i committee. WEP was the original security method for wireless networks. WPA is more secure than WEP, but less secure than WPA2. Kerberos is an authentication method, not a wireless security method.

References

LabSim for PC Pro, Section 6.11.
[pcpro2016_all_questions_en.exm SOHO_WIRELESS_02]

Question 7: Correct

Which of the following is a characteristic of a multi-processor system?

- Shared L2 cache
- Multiple cores on the same die
- Ability to use over 4 GB of memory
- Multiple processor sockets on the motherboard

Explanation

A multiple-processor system has multiple CPUs, with each CPU requiring a different processor socket on the motherboard.

A multi-core system is a processor with multiple CPUs on the same die. A multi-core system uses a single processor socket for multiple CPUs. L2 cache might be shared between two or more cores in a multi-core system, but would not be shared in a multiple processor solution. 64-bit processors are required to be able to use more than 4 GB of memory.

References

LabSim for PC Pro, Section 3.5.
[pcpro2016_all_questions_en.exm MULTIPROCESSOR]

Question 8: Incorrect

Lately your computer is spontaneously shutting down after only a few minutes of use. What is the most likely cause? (Select two.)

- [ ] Cooling fans clogged with dust
- [ ] Failing system RAM
- [x] Overheated CPU
- [ ] Failing hard drive
- [ ] Failed UPS

Explanation

An overheated CPU will cause a spontaneous reboot or intermittent system crashes. A spontaneous reboot can also be caused by a bad power supply or device driver. A clicking noise when reading or writing data from the hard disk is an early sign of a failing drive. A failed UPS (or failed battery in the UPS) would result in a complete loss of power to the computer if the outlet (or wall) power was lost. A system notification would indicate whether there is a failed drive, as it would not allow reading or writing.

References

LabSim for PC Pro, Section 3.6.
[pcpro2016_all_questions_en.exm TRB CPU_03]

Question 9: Correct

Which of the following virtual printing options allows you to convert a Word document into a .jpg file?

- ( ) Print to XPS
- ( ) Print to File
- (•) Print to Image
- ( ) Print to PDF

Explanation

Print to Image allows you to print any document into an image file that is independent of the application you use to view them. For example, you can convert a Word document into a .jpg file. The resulting images are print-ready and optimized for websites, smartphones, and tablets. You can also print them on a physical printer for excellent printouts.

Print to the XPS allows you to create .xps files using any program that you can print from in Windows. Use the Print to the XPS Document Writer when you want to view, save, share, digitally sign, and protect your document's content. The Print to PDF feature allows you to print your document to PDF format. Print to File saves the formatting and layout information of your file so a printer can create the document without the program or computer that created it.

References

LabSim for PC Pro, Section 7.2.
[pcpro2016_all_questions_en.exm PRT_CONFIG_05]

Question 10: Correct

You are troubleshooting network connectivity issues on a Windows workstation. Which command would you use to view the MAC address of the network adapter?

- ping
- ipconfig
- netstat
- ipconfig /all
- nslookup

Explanation

Use ipconfig /all to view detailed network configuration information. The /all switch shows additional information not shown by using ipconfig alone. Ping sends an ICMP echo request/reply packet to a remote host. Nslookup resolves (looks up) the IP address of a host name. Netstat displays network connections, routing information, and network statistics.

References

LabSim for PC Pro, Section 6.14.
[pcpro2016_all_questions_en.exm TRB NETWORKING_18]

Question 11: Incorrect

Which of the following is an extra button or knob on a laptop keyboard that moves the mouse cursor?

- ~~Touch pad~~
- ExpressCard
- Digitizer
- Point stick

Explanation

Pointing sticks (also called a trackpoint) are small knobs in the center of the keyboard. Pushing on this knob moves the cursor. The touchpad is located below the keyboard. Moving your finger across the pad moves the mouse. You can also tap the touchpad to click the mouse. A digitizer pad is used in Tablet PCs to receive input. Input is written onto the pad with a stylus pen, then those motions are transferred into data that is processed by the system. An ExpressCard is an expansion card for laptops.

References

LabSim for PC Pro, Section 8.2.
[pcpro2016_all_questions_en.exm NOTEBOOK_COMPONENTS_11]

Question 12: Incorrect

To answer this question, complete the lab using information below. Launch Lab

You did not complete the lab correctly.

You work as the IT Administrator for a small corporate network. The network uses a DHCP server for IP address configuration for most clients. While in the Executive Office, the manager asked you to configure her laptop for use in both her small office/home office (SOHO) and at work. The laptop is currently configured with a static wireless connection for her SOHO, but the laptop is not connecting to the network while at the office. You need to configure the TCP/IP properties on the laptop to work on both networks.

Your task in this lab is to do the following:

- Record the laptop's static IP and DNS configuration settings.
- Configure the laptop to obtain IP and DNS addresses automatically.
- Create an alternate TCP/IP connection with the static settings.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm DHCP2-PB]

Question 13: Correct

You have just finished upgrading the CPU in your desktop system. After running the system for about 15 minutes, the system spontaneously shuts down. What should you do first to troubleshoot the problem? (Select two.)

- [x] Check the thermal shutdown threshold in the BIOS.
- [ ] Check the power supply voltage switch.
- [ ] Replace the power supply.
- [x] Check the CPU fan power.
- [ ] Remove any unneeded components and run the system.

Explanation

Because you have just replaced the processor, the most likely cause of the problem is related to the CPU. System lockups and restarts can be caused by an overheated processor. Make sure the CPU fan is running, and that you have used thermal paste between the CPU and the heat sink. Also check to see what the thermal shutdown rating is for the new CPU and verify that the thermal shutdown threshold is set accordingly in the BIOS.

References

LabSim for PC Pro, Section 3.6.
[pcpro2016_all_questions_en.exm TRB CPU_04]

Question 14: Incorrect

You've enabled Remote Desktop on a Windows workstation. Which port must be opened in the server's firewall to allow remote clients to access the desktop?

- (•) ~~123~~
- ( ) 110
- ( ) 3389
- ( ) 389

Explanation

The RDP protocol runs on port 3389 by default. Port 110 is used by the POP3 protocol. Port 389 is used by the LDAP protocol. Port 123 is used by the NTP protocol.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm PORT 3389]

Question 15: Correct

Which of the following best describes how a switch functions?

- (•) It connects multiple cable segments (or devices), and forwards frames to the appropriate segment.
- ( ) It connects multiple segments of different architectures. It translates frames, and forwards them to the appropriate segment.

- It connects multiple cable segments (or devices), and broadcasts frames to all of its ports.
- It connects multiple segments of different architectures. It translates frames, and broadcasts them to all of its ports.

Explanation

Switches have multiple ports and can connect multiple segments or devices. The switch forwards frames to the appropriate port. They function similarly to a hub, except instead of sending packets to all ports, switches send packets only to the destination computer's port.

References

LabSim for PC Pro, Section 6.2.
[pcpro2016_all_questions_en.exm NET DEVICE_05]

Question 16: Correct

You have been asked to recommend a printer that will be used in a travel agency. The printer will be used to print airline tickets. Each ticket has four pages (multi-part, carbon-based forms), and the same information must show up on all four pages with a single pass of the printer. Which printer type would you recommend?

- Ink Jet
- Laser
- Dye sublimation
- Impact

Explanation

Because dot matrix (impact) printers strike the image onto paper, they are good printers to use when carbon-copy documents are being printed. A dye sublimation printer uses film-embedded dye. Laser printers use lasers and electrical charges to transfer images to paper. Ink jet printers spray ink from ink stored in a reservoir.

References

LabSim for PC Pro, Section 7.1.
[pcpro2016_all_questions_en.exm PRINTER_08]

Question 17: Incorrect

Which wireless standard can stream data at a rate of up to 54 Mbps using a frequency of 5 GHz?

- 802.11a
- ~~802.11b~~
- 802.11n
- 802.11g

Explanation

802.11a can stream data at a rate of up to 54 Mbps using a frequency of 5 GHz. 802.11b can stream data at a rate of up to 11 Mbps using a frequency of 2.4 GHz. 802.11g can stream data at a rate of up to 54 Mbps using a frequency of 2.4 GHz. 802.11n can stream data at a rate of up to 600 Mbps using a frequency of 2.4 GHz or 5 GHz.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm 802.11A]

Question 18: Correct

You want to add a second processor to your dual-processor system. Which of the following should you do?

- Match the speed of the new processor with the speed of the existing processor.

- Upgrade the level II cache for best performance.
- Add the terminating resistor before installing the second processor.
- Replace the first processor with a processor that will work with a second processor.

Explanation

When adding multiple processors in a multi-processor system, the speed of the processors must be the same. The terminating resistor occupies the processor slot when a second processor is not installed; it must be removed before the second processor is added. Level II cache is on the processor and cannot be upgraded.

References

LabSim for PC Pro, Section 3.5.
[pcpro2016_all_questions_en.exm ADD A 2ND PROCESSOR]

Question 19: Correct

Which of the following are characteristics of Bluetooth? (Select two.)

- [ ] Line-of-sight transmission
- [ ] 5.75 GHz radio wireless
- [x] Ad hoc connections
- [ ] Red spectrum light waves
- [x] 2.4 GHz radio wireless

Explanation

Bluetooth is a wireless networking standard that uses 2.4 GHz radio waves. These are the same type of radio waves used with 802.11 wireless networking, so radio transmission can go through walls (not limited to line-of-sight connections). Bluetooth uses ad hoc connections between devices. Infrared uses red spectrum light waves and is limited to line-of-sight transmissions.

References

LabSim for PC Pro, Section 6.9.
[pcpro2016_all_questions_en.exm BLUETOOTH_03]

Question 20: Correct

You are installing an updated driver for a hardware device on your system. A dialog box displays indicating that Microsoft has digitally signed the driver you are installing. What benefits does driver signing provide? (Select two.)

- [x] The driver file has not been altered.
- [ ] The driver being installed is the most recent driver available.
- [ ] The driver will not interfere with other devices on the system.
- [ ] The driver being installed is compatible with 32- and 64-bit versions of Windows.
- [x] The driver has been tested by Microsoft.

Explanation

A Microsoft digital signature is your assurance that a particular file has met a certain level of testing, and that the file has not been altered or overwritten by another program's installation process. Unfortunately, this testing cannot completely eliminate the possibility of drivers interfering with each other, nor can it ensure that the most recent driver has been installed. Later drivers can be installed, and both the earlier and more recent drivers may carry digital signatures from Microsoft. Typically, separate drivers are provided for 32- and 64-bit versions of Windows.

References

LabSim for PC Pro, Section 3.11.
[pcpro2016_all_questions_en.exm DEVICE DRIVER SIGNING]

Question 21: Correct

You have an AMD processor and an Intel processor, both of which have the same speed rating. Which of the following statements is true about the relative performance of both processors?

- The Intel processor has better performance than the AMD processor.
- Performance will depend on other factors such as cache and other features.
- Both processors will perform at about the same level.
- The AMD processor has better performance than the Intel processor.

Explanation

Processor performance is dependent on the specifications of the chip, not on the manufacturer or even the speed rating. Other factors, such as the amount of cache, has a greater impact on performance than does the processor speed.

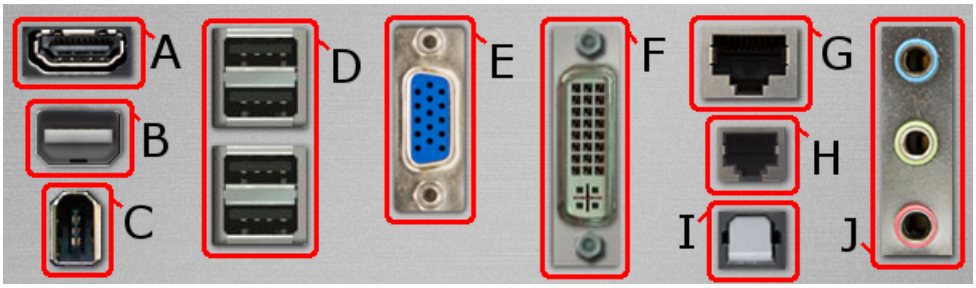
References

LabSim for PC Pro, Section 3.5.
[pcpro2016_all_questions_en.exm CACHE TYPE]

Question 22: Correct

Consider the external ports for a typical PC system (pictured below).

Drag the port type on the left to the letter on the right that best identifies it. (Each type can be used once.)



A	B	C	D
✓ HDMI	✓ Thunderbolt	✓ IEEE 1394	✓ USB

E	F	G	H
✓ VGA	✓ DVI	✓ RJ45	✓ RJ11

I	J
✓ Fiber S/PDIF	✓ Audio Jack

Explanation

In this example, the computer back panel has the following ports:

- HDMI - connects HDMI display devices
- Thunderbolt - combines PCI Express (PCIe) and DisplayPort signals into a single interface
- IEEE 1394 - connects devices that require fast communication speeds
- USB - connects external USB devices (e.g., keyboard, mouse, printer, and storage devices)
- VGA - connects VGA display devices
- DVI - connects DVI display devices
- RJ45 - connects the computer to an Ethernet network
- RJ11 - used by telephones and modems to send analog signals
- Fiber S/PDIF - sends a digital audio signal to high-end audio devices, such as home theatre systems
- Audio jacks - connects analog audio devices (e.g., speakers, headphones, microphones)

References

LabSim for PC Pro, Section 1.3.
[pcpro2016_all_questions_en.exm PC16_COMPUTER_PORTS_05-PB]

Question 23: Incorrect

Match the types of Ethernet connectivity devices on the left with the corresponding descriptions

on the right. Each type of Ethernet connectivity device may be used once, more than once, or not at all.

Connects segments on the same subnet. Forwards signals to only the port connected to the destination device

✓ Switch

Can be used to connect wireless clients to wired clients on the same network

~~Router~~ Bridge

Connects two network segments that have different subnet addresses

~~Bridge~~ Router

Connects segments on the same subnet. Repeats signals out to all other ports

✓ Hub

Operate in full-duplex mode, meaning devices can both send and receive data at the same time

~~Router~~ Switch

Operates in half-duplex mode, meaning devices can either send or receive data at any given time

✓ Hub

Uses the IP address within a packet to move packets between networks

✓ Router

Explanation

Ethernet uses a variety of connectivity devices, including the following:

A *hub* provides a central connection for multiple media segments on the same subnet. When a hub receives a signal, it is repeated out to all other ports. Hubs operate in half-duplex mode, meaning devices can either send or receive data at any given time.

A *switch* provides a central connection for multiple media segments on the same subnet. When a switch receives a signal, it forwards that signal only to the port where the destination device is connected. Switches operate in full-duplex mode, meaning devices can send and receive data at the same time because transmission paths are dedicated to only the communicating devices.

A *router* connects two network segments that have different subnet addresses. Routers use the IP address within a packet to move packets between networks.

A *bridge* connects two segments within the same subnet that use different media types. For example, use a bridge to connect wireless clients to wired clients on the same network.

References

LabSim for PC Pro, Section 6.4.
[pcpro2016_all_questions_en.exm NETWORK COMPONENTS_01]

Question 24: Correct

You need to replace the video card in a laptop. What is the first step?

- ○ Remove the access panel at the bottom of the laptop.
- ➡ ◉ Find a service manual with correct disassembly procedures.
- ○ Remove the bezel.
- ○ Remove the keyboard.
- ○ Remove the display wires if the video card is integrated into the motherboard.

Explanation

Before replacing the video card, find the documentation to determine the location of screws and to identify installation sequences for accessing the system components. On most notebooks, you

access the video card by removing the keyboard. Some video cards are integrated on the motherboard and cannot be replaced. If the video card can be replaced, you will need to disconnect the display wires. You can typically view or add memory to a laptop by removing the access panel on the bottom of the notebook. The bezel is the case in which the LCD screen is set, and typically houses the antenna for wireless network cards.

References

LabSim for PC Pro, Section 8.2.
[pcpro2016_all_questions_en.exm NOTEBOOK_COMPONENTS_17]

Question 25: Correct

Which tool would be the best choice to remove and replace the motherboard BIOS chip?

- (selected) IC extractor
- Needle-nose pliers
- Screwdriver
- Combination ratchet

Explanation

An IC extractor is a tweezer-like tool, usually spring loaded in the open position, used to remove integrated circuit chips. Using other tools, such as pliers or a screwdriver, could potentially damage the chip or the motherboard. A combination ratchet has interchangeable bits with a ratcheting handle that provides multiple features in a single tool.

References

LabSim for PC Pro, Section 2.3.
[pcpro2016_all_questions_en.exm PC 2016 IC EXTRACTOR]

Question 26: Correct

Your system crashes at various times, sometimes on startup, sometimes when running a software application, sometime when a certain group of applications is running. You suspect a malfunctioning CPU but none of the common issues seem to be present. You have not configured overclocking. There is no overheating. The CPU is seated correctly and locked into its socket.

What can you do to definitively determine if the CPU is causing the system crashes?

- Throttle the processor to reduce the operating frequency and minimize power consumption.
- Switch to a comparable CPU from a different manufacturer.
- Downgrade to a CPU that has fewer cores and is less demanding on your system resources.
- (selected) Replace the suspect CPU with a known good CPU of the same make and model.

Explanation

Replacing the suspect CPU with a known good CPU of the same make and model is the best way to determine if the CPU is the problem. There is only one variable in this test. If the system stops crashing after the CPU was replaced, it is safe to assume that the suspect CPU was not functioning properly.

Any other course of action introduces more variables to the environment. If intermittent problems continue to occur, you are no closer to finding the cause.

References

LabSim for PC Pro, Section 3.6.
[pcpro2016_all_questions_en.exm PROC_TRB_06]

Question 27: Correct

While troubleshooting a network connection, you decide to use the ping command. Which switch allows for a continuous ping?

- -c
-

-l

-t

-a

Explanation

Use ping with the -t switch to do a continuous ping test. Use Ctrl + C to stop sending ping tests. Use the -l switch to configure the packet payload size to use in the test. With this test, you can identify when packets above a certain size are being lost. Use the -a switch to resolve addresses to host names. The -c switch does not exist.

References

LabSim for PC Pro, Section 6.14.
[pcpro2016_all_questions_en.exm TRB NETWORKING_21]

Question 28: Incorrect

Which of the following are printer languages? (Select three.)

- [x] PostScript
- [ ] PCL
- [ ] Escape codes
- [x] ~~PrintDef~~
- [x] ~~Capture~~

Explanation

Escape codes were used by early printers. Hewlett-Packard's Printer Control Language (PCL) and Adobe PostScript are two common printer languages on modern printers.

References

LabSim for PC Pro, Section 7.2.
[pcpro2016_all_questions_en.exm PRT_CONFIG_01]

Question 29: Correct

To answer this question, complete the lab using information below.
You have completed this lab and may go on to the next question.

Launch Lab

You completed the lab correctly.

View Lab Report

You are preparing a new computer for operating system installation. Complete the following tasks:

- Modify the boot order so that the computer boots first from the optical drive and second from the hard drive.
- Disable the floppy drive as a bootable device because the computer has no floppy drive.

Note: To restart the simulated computer, click the **Send Ctrl + Alt + Del** button at the bottom of the screen.

References

LabSim for PC Pro, Section 3.10.
[pcpro2016_all_questions_en.exm BIOS_EXM_BOOT-PB]

Question 30: Incorrect

A medical center wants to upgrade their network backbone to 10 Gigabit Ethernet (10 Gbps) so they can perform daily backups of large amounts of data to the secure on-site storage area network (SAN) without bogging down the network. Some of the backbone segments will have to reach between buildings that are close to 300 meters apart. Which of the following cable types will support 10 Gigabit Ethernet at the necessary segments lengths while keeping costs as low as possible?

- Twisted pair Category 7
- Twisted pair Category 6
- Multimode fiber optic
- ~~Single-mode fiber optic~~

Explanation

Multimode fiber optic cable is the only option that meets all the requirements. It supports 10 Gigabit Ethernet speeds with maximum segment lengths up to 300 meters.

Single-mode fiber optic cable can also support the 10 Gigabit Ethernet speeds and the segment lengths that are needed, but the cable and the connection equipment is more expensive than multimode fiber optic cable and connection equipment.

Twisted pair Category 6 and 7 cable can support 10 Gigabit Ethernet speeds but the maximum segment length is 100 meters--not long enough for this scenario.

References

LabSim for PC Pro, Section 6.4.
[pcpro2016_all_questions_en.exm FIBER TYPES_01]

Question 31: Incorrect

You're troubleshooting a malfunctioning notebook computer system. The user has indicated that the screen is always dark and difficult to read even while the system is plugged into a wall outlet. You checked the system and determined that the backlight isn't working. Which of the following could be the cause?

- The wrong AC adapter is being used with the system.
- ~~The notebook's video adapter is malfunctioning.~~
- The notebook battery is failing and needs to be replaced.
- The LCD cutoff switch is stuck in the Off position.

Explanation

It's possible that the notebook's LCD cutoff switch is stuck in the off position. The cutoff switch is used to shut off the backlight (and sometimes the video display itself) when the notebook lid is closed. Press and release the cutoff switch to determine if this is actually the problem. Because the problem exists when plugged in, you know the problem is not related to the battery.

References

LabSim for PC Pro, Section 8.4.
[pcpro2016_all_questions_en.exm TRB NOTEBOOK_19]

Question 32: Correct

Which type of printer heats the ink in its print head to print?

- Laser
- Bubble jet (inkjet)
- Piezoelectric crystal inkjet
- Thermal

Explanation

The bubble jet inkjet printer applies heat to the ink and squirts it through tiny nozzles in the print head and onto the paper. A laser printer also uses heat, but the heat is applied to thermal rollers

(not a print head). A piezoelectric printer uses pressure, not heat, to apply the ink. A thermal printer uses heat to cause a reaction on specially treated paper.

References

LabSim for PC Pro, Section 7.1.
[pcpro2016_all_questions_en.exm PRINTER_07]

Question 33: Correct

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

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

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 ($W = V \times A$).
2. Add each value together to find the total watt requirements.

References

LabSim for PC Pro, Section 3.2.
[pcpro2016_all_questions_en.exm PC16_POWER_SUPPLY_03]

Question 34: Correct

You are trying to troubleshoot a power supply issue with a voltmeter. Which two of the following options are common voltages produced by a desktop power supply? (Select two.)

- [ ] +/- 120v
- [ ] +/- 10v
- [x] +/- 5v
- [x] +/- 12v
- [ ] +/- 110v

Explanation

The computer power supply provides +/- 5v and +/-12v. Many power supplies also provide +/- 3.3 volts, although 3.3 volts is not used in many newer components and is optional in recent specifications. The power supply accepts AC 110 or 220 volts as input, but does not produce this voltage.

References

LabSim for PC Pro, Section 3.2.
[pcpro2016_all_questions_en.exm TRB PS]

Question 35: Correct

To answer this question, complete the lab using information below.
You have completed this lab and may go on to the next question.

Launch Lab

You completed the lab correctly.

View Lab Report

Recently, you implemented a wireless network at your home. However, without additional configuration, the wireless access point will allow connections from *any* laptop or mobile device. You need to secure the wireless network from unauthorized connections.

In addition, you suspect that wireless access points used by your neighbors are interfering with your access point. You've discovered that they are using channels 2 and 5 for their wireless networks.

Your task in this lab is to secure the wireless network as follows:

- Use **PoliceSurveillanceVan** for the SSID. **Note**: The SSID name is case sensitive.
- Disable SSID broadcasts.
- Set the channel such that it doesn't conflict with access points in neighboring homes.
- Use **WPA2-PSK** authentication, with **AES** for encryption.
- Configure **S3CuR31!** as the security key. **Note**: The security key is case sensitive.
- Only allow devices with following hardware addresses to connect to the wireless network:
  - **00:87:FC:E2:E5:D2**
  - **00:50:56:C0:00:08**
  - **00:87:FC:E2:E5:F2**
- Change the administrator authentication credentials on the wireless access point to:
  - Username: **@dm1n**
  - Password: **p@SSw@Rd**

To view and configure the wireless access point, use Internet Explorer and go to **192.168.0.100**. Enter username: **admin** and password: **password**.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm WIRELESS3-PB]

Question 36: Incorrect

Which of the following paper types should not be used in inkjet printers?

- Very glossy paper
- Any colored paper
- Paper that is not specifically marked "for inkjet printers."
- ~~Multi-purpose paper~~

Explanation

Early inkjet printers required paper specially manufactured for inkjet printers. Now, inkjet printer paper is not necessary. However, you still need to consider factors such as how the paper absorbs the ink. Very glossy paper that does not absorb ink very well can be problematic.

References

LabSim for PC Pro, Section 7.6.
[pcpro2016_all_questions_en.exm TRB_PRINTER_13]

Question 37: Correct

For a special project, you have been asked to recommend the lowest profile desktop computers available. You are attempting to put together the specifications for these machines. Which of the following types of cards are attached to the motherboard to allow expansion cards to plug into them instead of the motherboard?

- Communications and Networking Riser
- VESA Local Bus
- PCMCIA
- Riser

Explanation

Riser cards attach to the motherboard and have expansion cards plug into them instead of the motherboard. The primary benefit of a riser card is that by installing expansion cards parallel to the motherboard, it is possible to create a low-profile design. Communications and Networking Riser (CNR) is a type of expansion slot found on some motherboards that is used for network and sound expansion boards. Personal Computer Memory Card International Association (PCMIA) cards were used several years ago to add devices to laptops. VESA Local Bus was also a type of expansion slot found on older motherboards that was primarily used for the video interface.

References

LabSim for PC Pro, Section 3.11.
[pcpro2016_all_questions_en.exm RISER EXPANSION CARD]

Question 38: Correct

A user recently used her notebook to make a presentation that required her to display her screen from a projector in the conference room. She is now back at her desk, her notebook is still on, but the display is blank.

What should you do first to try to restore the display?

- Use the Fn keys to toggle the display output to the laptop monitor.
- Connect an external monitor to the laptop and use the Fn keys to toggle the display output to the external monitor.
- Check for cracks in the bezel around the display to see if it has been damaged.
- Reboot the computer.
- Repair the video card, which typically means replacing the motherboard.

Explanation

The first step to try to restore the display is to use the Fn keys to toggle the display output to the laptop monitor. It is very likely that the Fn keys were used to toggle the display output to the projector for the presentation and then not toggled back to the laptop monitor.

Rebooting the computer will probably restore the default display output, but is not the best first solution to try. The other steps might become necessary in some cases, but only after the easiest and likeliest solutions are tried.

References

LabSim for PC Pro, Section 8.4.
[pcpro2016_all_questions_en.exm LAPTRB_03]

Question 39: Correct

Which of the following drive configurations uses striping without fault tolerance?

- RAID 0
- RAID 1
- RAID 5
- Expanded volume set

Explanation

RAID 0 uses disk striping and offers no fault tolerance. Disk striping breaks data into units and stores the units across a series of disks by reading and writing to all disks simultaneously. A failure of one disk in the set means all data is lost. This is the fastest of all RAID types. RAID 5 also uses disk striping, but provides fault tolerance for a single disk failure. RAID 1 provides fault tolerance but does not use striping. An expanded volume set is a volume that spans more than one hard drive. An expanded volume set also offers no fault tolerance, yet does not use striping.

References

LabSim for PC Pro, Section 5.4.
[pcpro2016_all_questions_en.exm RAID 0_01]

Question 40: Correct

Which connector is most commonly used to connect printers to desktop PC systems?

- IEEE 1284
- Firewire
- Ethernet network card
- 802.11 wireless card
- ➡ USB

Explanation

Most printers use a USB connector to connect directly to a desktop PC system.

In the past, IEEE 1284 connectors were the most commonly used connectors, but that is no longer the case. A limited number of Firewire printers are available, but they are not as common as USB. 802.11 wireless and Ethernet cards are used to connect printers to computer networks.

References

LabSim for PC Pro, Section 7.3.
[pcpro2016_all_questions_en.exm PRT_INSTALL_CONFIG_04]

Question 41: Incorrect

Which of the following statements about the Dynamic Host Configuration Protocol (DHCP) are true? (Select two.)

- ☐ It can only deliver IP addresses to hosts.
- ➡ ☐ A workstation must request addressing information from a DHCP server.
- ☑ ~~The DHCP server detects workstations when they attach to the network and automatically delivers IP addressing information to them.~~
- ➡ ☐ It can deliver a DNS server address in addition to the host IP address.
- ☑ ~~It cannot be configured to assign the same IP address to the same host each time it boots.~~

Explanation

DHCP servers deliver IP addresses as well as other host configuration information to network hosts. DHCP can be configured to assign any available address to a host, or it can assign a specific address to a specific host. DHCP clients, typically workstations, must send a request to a DHCP server before it will send IP addressing information to them.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm DHCP_01]

Question 42: Incorrect

You are troubleshooting connectivity between your computer and the www.widgets.com server, whose IP address is 192.168.1.1. Which of the following commands tests connectivity to the device as well as name resolution?

- nslookup 192.168.1.1

- nslookup www.widgets.com
- ping www.widgets.com
- ~~ping 192.168.1.1~~

Explanation

To test both name resolution and communication with the server, use the ping command with the host name. The first step in the ping test is to find the IP address of the specified host. Using ping with just the IP address will not test name resolution. Using nslookup only tests name resolution, it does not test communication with the end device.

References

LabSim for PC Pro, Section 6.14.
[pcpro2016_all_questions_en.exm TRB NETWORKING_09]

Question 43: Correct

Which of the following protocols carry phone calls over an IP-based network?

- HTTP
- RTSP
- VoIP
- TCP

Explanation

Voice over IP (VoIP) is a method for carrying phone calls over an IP-based network. RTSP is used to stream multimedia content over IP networks. HyperText Transfer Protocol (HTTP) is used by Web browsers and Web servers to exchange files (such as Web pages) through the World Wide Web and intranets. Transmission Control Protocol (TCP) is a protocol which guarantees that data arrives at a destination without errors. VoIP is usually implemented on top of UDP instead of TCP to reduce latency.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm VOIP_01]

Question 44: Incorrect

You administer a network with Windows and Linux servers, and Windows 7 clients. A user calls and indicates that he is unable to access resources on the network. You type ipconfig on the user's computer and receive the following output:

Ethernet adapter Local Area Connection:

IPv4 address. . . . . : 169.254.1.17

Subnet Mask . . . . . : 255.255.0.0

Default Gateway . . . . . :

You check your NIC and see the link light on. What might the problem be?

- Bad NIC
- Unavailable DHCP server
- The user changed the configuration of the computer
- Misconfigured DNS server
- ~~Missing default gateway~~

Explanation

If a Windows client computer is configured to use DHCP and cannot locate one to receive IP addressing information, it assigns itself an IP address from the APIPA (Automatic Private IP Addressing) range of IP addresses. APIPA addresses include IP addresses from 169.254.0.0 to

169.254.255.254 and are reserved for this purpose. A lit link light on your NIC indicates a good connection to the network.

References

LabSim for PC Pro, Section 6.14.
[pcpro2016_all_questions_en.exm TRB NETWORKING_07]

Question 45: Correct

You have a motherboard that uses a 24-pin ATX connector.

Which types of power supply could you use with this motherboard? (Select two.)

- [x] A power supply with a 24-pin ATX connector only
- [ ] A power supply with a 20-pin ATX connector only
- [ ] A power supply with 20-pin ATX and a 6-pin connector
- [x] A power supply with a 20-pin ATX and a +4-pin connector
- [ ] A power supply with a 20-pin ATX and a Molex connector

Explanation

In this case, the motherboard needs either a 24-pin ATX connector only or a 20-pin ATX and a +4-pin connector.

When selecting a power supply, make sure it includes the necessary connectors for your motherboard. Specifically, some motherboards and processors require an extra 4-pin and/or 8-pin connector in addition to the main 20- or 24-pin power connector.

References

LabSim for PC Pro, Section 3.2.
[pcpro2016_all_questions_en.exm PC16_POWER_SUPPLY_05]

Question 46: Correct

You have a computer system with an Intel Core i3 processor that operates at 3.7 GHz. You would like to upgrade to a faster processor, but you don't want to replace the motherboard. Which of the following should you do first?

- ( ) Replace the VRM.
- (•) Read the motherboard documentation to identify which processors are supported.
- ( ) Edit the CMOS.
- ( ) Install the processor.
- ( ) Configure jumpers on the motherboard to increase the clock speed.

Explanation

The first thing you need to do before purchasing and installing a new processor is to verify with the motherboard documentation 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

LabSim for PC Pro, Section 3.5.
[pcpro2016_all_questions_en.exm INSTALLING FASTER PROC]

Question 47: Correct

Which of the following are not valid IP addresses? (Select three.)

- [x] 45.22.156.256
- [ ] 122.0.0.0
- [ ] 116.0.0.116

- [ ] 132.64.32.8
- [x] 145.8.260.7
- [ ] 1.55.254.3
- [x] 257.0.122.55

Explanation

IP addresses have a value between 0 and 255 within each octet. In this list, 45.22.156.256, 145.8.260.7, and 257.0.122.55 are not valid IP addresses.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm IP ADDR_02]

Question 48: Correct

Which of the following refers to placing two processors on a single processor chip or die?

- ( ) Multi-processor
- ( ) Multi-threading
- (•) Multi-core
- ( ) Hyper-threading

Explanation

A multi-core processor has multiple processor cores integrated into a single processor package.

A multi-processor motherboard allows you to install two (or more) processors on the same motherboard. Hyper-threading is a feature of some Intel processors that allows a single processor to run threads in parallel, as opposed to the older and slower technology of processing threads linearly. Multi-threading is an operating system feature that allows more than one process to work at the same time.

References

LabSim for PC Pro, Section 3.5.
[pcpro2016_all_questions_en.exm MULTICORE]

Question 49: Correct

Which of the following terms describes a PC card that you can insert and remove without rebooting the computer?

- ( ) Plug-and-Play
- (•) Hot-swappable
- ( ) AT attachment
- ( ) Hot-play

Explanation

Inserting and removing PC cards without rebooting the computer is called hot-swapping. This feature is also called dynamic reconfiguration. Plug-and-Play devices are automatically detected by the system and the driver is automatically loaded. Unless the bus and the device is hot-swappable, Plug-and-Play devices should be added or removed with the system shut down. AT Attachment (ATA) is the standard interface for transferring data from storage devices such as hard disk drives and optical drives.

References

LabSim for PC Pro, Section 3.11.
[pcpro2016_all_questions_en.exm HOT SWAPPABLE CARD]

Question 50: Correct

You have been asked to implement a RAID 5 solution for an engineer's desktop workstation. What is the minimum number of hard disks that can be used to configure RAID 5?

- 3
- 6
- 5
- 2
- 4

Explanation

A RAID 5 array stripes data and parity information across multiple hard disks. To complete a RAID 5 array, a minimum of three hard disks is required. A RAID 0 and RAID 1 can both be implemented with a minimum of two hard disks.

References

LabSim for PC Pro, Section 5.4.
[pcpro2016_all_questions_en.exm RAID 5_02]

Question 51: Correct

To improve system performance, you have configured a motherboard to run with a higher multiplier than what the CPU is specified to use.

What is this practice called?

Explanation

Configuring a motherboard to run with a higher multiplier than what the CPU is specified to use is called *overclocking*.

References

LabSim for PC Pro, Section 3.6.
[pcpro2016_all_questions_en.exm PROC_TRB_02]

Question 52: Correct

Which of the following expansion buses is most commonly used for devices such as sound cards, modems, and network cards?

- AGP
- VESA Local Bus
- ISA
- PCI

Explanation

PCI buses are most commonly used for devices such as sound cards, modems, and network cards. The AGP and VESA expansion buses are most commonly used for video. ISA buses were used to connect peripheral cards to the motherboard, but are considered a legacy device and are no longer available in newer systems.

References

LabSim for PC Pro, Section 3.11.
[pcpro2016_all_questions_en.exm PCI CARDS]

Question 53: Correct

To answer this question, complete the lab using information below.
You have completed this lab and may go on to the next question.

Launch Lab

You completed the lab correctly.

View Lab Report

You work part-time at a computer repair store. You are in the process of configuring a new system. You would like to install the operating system on a RAID array that provides both fault tolerance and improved performance.

Your task in this lab is to:

- Add the *minimum* number of disks to the computer to create the RAID array that meets the scenario requirements. Do not remove extra disks from the Shelf.
- Connect all disks to the motherboard and provide power for the disks.
- Boot the computer and configure a RAID array using the motherboard RAID configuration utility.
  - Choose the RAID level based on the scenario requirements.
  - Configure the array to use all of the disk space on the installed disks.

References

LabSim for PC Pro, Section 5.4.
[pcpro2016_all_questions_en.exm RAID2-PB]

Question 54: Incorrect

Match the mobile operating systems on the left with the descriptions on the right. Each mobile operating system may be used once, more than once, or not at all.

Closed source and second most popular mobile device operating system

✓ iOS

Device manufacturers are countless

~~Google~~ Android

Open source and most popular mobile device operating system

✓ Android

Device manufacturers include Microsoft, Samsung, and HTC

~~Android~~ Windows

Devices solely designed and developed by Apple

✓ iOS

Closed source and second least popular mobile device operating system

✓ Windows

Explanation

The following mobile device operating systems are commonly available with the following feature highlights:

Android

• Is open source, the leader in mobile device operating systems
• Google Play Store has the most mobile apps
• Android manufacturers are countless, including Samsung, Sony, HTC, LG, Motorola, etc.

iOS

• Is closed source, second in mobile device operating systems
• Close competitor to Google in AppStore mobile app count

• iOS devices or iPhones are solely designed and developed by Apple

Windows

• Is closed source, far behind Android and iOS in mobile device operating system popularity
• Windows Store has fewest mobile apps
• Microsoft Mobiles (formerly Nokia) are the leading Windows Phone providers. Though Samsung and HTC have launched Windows phone devices in the past.

Google is not a mobile device operating system; Google uses the Android operating system.

References

LabSim for PC Pro, Section 8.5.
[pcpro2016_all_questions_en.exm MOBILE_DEVICE_08-PB]

Question 55: Correct

When do you need to upgrade the system BIOS?

- Whenever the BIOS settings need to be modified.
- Whenever a BIOS update provides functionality that is not currently supported but that is required by the operating system or hardware.
- Whenever installing a new hard disk drive.
- Whenever you add a new peripheral device, such as a keyboard, mouse, or printer.

Explanation

In general, you need to upgrade the system BIOS whenever the current BIOS does not support a function required by the operating system or by the hardware. Use the CMOS program to change system configuration settings used by the BIOS.

References

LabSim for PC Pro, Section 3.10.
[pcpro2016_all_questions_en.exm UPGRADE BIOS]

Question 56: Correct

Which function does a motherboard's chipset perform?

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

LabSim for PC Pro, Section 3.3.
[pcpro2016_all_questions_en.exm PC16_MOTHERBOARDS_02]

Question 57: Incorrect

You installed a new toner cartridge in a company-owned laser printer and did some maintenance tasks you noticed that needed to be done. What should you do next?

- Check the gap between the printer head and the paper.
- Reinstall the print drivers.
-

Reset the page count.

~~Use the automatic cleaning feature.~~

Explanation

After performing regular maintenance tasks on a laser printer, you should reset the page count. A printer needs maintenance on a regular basis (usually after about 20,000 pages of printing) so it helps to know how many pages have been printed since the last time it was serviced.

On dot matrix printers, you should check the gap between the printer head and the paper to avoid printer images from becoming faint. Use an inkjet's automatic cleaning feature if letters have missing lines. The print drivers would only need reinstallation if they had become corrupted.

References

LabSim for PC Pro, Section 7.5.
[pcpro2016_all_questions_en.exm PRT_MAINT_05]

Question 58: Correct

Which of the following wireless networking standards uses a frequency of 5 GHz and supports transmission speeds up to 1.3 Gbps?

- 802.11g
- 802.11a
- 802.11n
- 802.11ac
- 802.11b

Explanation

The *802.11ac* standard uses the 5 GHz frequency and supports data transmission speeds up to 1.3 Gbps.

802.11n supports data transmission speeds up to 600 Mbps. 802.11g and 802.11a both support data transmission speeds up to 54 Mbps. 802.11b supports data transmission speeds up to 11 Mbps.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm 802.11AC_01]

Question 59: Correct

A user in sales cannot get his laptop to display through a projector. He sees the screen output on the built-in display, but the video is not being seen on the projector. What should you do first?

- Replace the display
- Check the backlight setting
- Use the Fn key to redirect display to the external video port
- Replace the video card
- Add video RAM

Explanation

Toggle the display setting with the Fn key. Most laptops offer several display choices, such as: PC screen only, Second screen only, Duplicate (both screens), and Extend (both screens). The most likely culprit in this scenario is that the display has been toggled to PC screen only, so choosing either of the other two settings should allow the user to see the display on the projector. Upgrading the video card, replacing the display, or checking the backlight settings are not necessary as the video shows properly on the internal display.

References

LabSim for PC Pro, Section 8.4.

[pcpro2016_all_questions_en.exm TRB NOTEBOOK_25]

Question 60: Incorrect

If a notebook computer is exhibiting symptoms that seem to indicate a malfunctioning keyboard, what troubleshooting steps can you take to determine if the keyboard needs to be replaced? (Select two.)

- [x] Check for special keyboard features that could be enabled that may cause some keys to perform alternate tasks.
- [ ] Connect an external keyboard.
- [ ] Recalibrate the keyboard's pressure sensors.
- [ ] Use Device Manager to make sure the correct keyboard driver is installed and up to date.
- [ ] Check for cracks in the power bundles that go from the keyboard to the motherboard.

Explanation

Check to see if the user has inadvertently set a special notebook keyboard feature that alters the way certain keys work. For example, setting the NumLock feature may cause part of the keyboard to emulate 10-key functionality. If no special features have been set, you can connect an external keyboard to see if the malfunctioning keyboard symptoms go away. If they do, the laptop keyboard needs to be replaced.

None of the other troubleshooting options could be used to determine what is wrong with a notebook keyboard.

References

LabSim for PC Pro, Section 8.4.
[pcpro2016_all_questions_en.exm LAPTRB_05]

Question 61: Correct

Match the notebook Fn key icon labels on the left to the corresponding keys, numbered on the right.

1	2	3
✓ Touchpad (on/off)	✓ Screen orientation	✓ Wireless (on/off)
4	**5**	**6**
✓ Bluetooth (on/off)	✓ Dual displays	✓ Play/Pause media

Explanation

The notebook Fn key icons are used as follows:

- 1. Turn the touchpad on or off
- 2. Change the screen orientation
- 3. Turn the wireless on or off
- 4. Turn Bluetooth on or off
- 5. Enable dual displays
- 6. Play or pause media

References

LabSim for PC Pro, Section 8.1.
[pcpro2016_all_questions_en.exm FN KEY ICONS-PB]

Question 62: Correct

You need to connect a monitor that provides an HDMI port and a VGA port to a video adapter in a PC system that uses a DVI-D connector.

Which option would provide the best display quality at the lowest cost?

- It's not possible to connect this monitor to this PC.
- Use an adapter to connect the monitor VGA port to the DVI-D connector on the PC.
- Use an adapter to connect the monitor HDMI port to the DVI-D connector on the PC.
- Purchase a new monitor with a DVI-D port.

Explanation

Using an adapter to connect the DVI-D connector on the video adapter to the HDMI port would provide the best quality output at the lowest cost. Because DVI-D and HDMI both use digital signaling, the signal is not degraded during conversion. In fact, HDMI was specifically designed to support DVI-D signaling. DVI-D to HDMI converters can be purchased for less than $20.00 USD.

Using a DVI-D to VGA adapter would allow you to connect the video board to the monitor; however, this type of adapter must convert digital signals to analog signals, which would likely degrade the signal slightly. Purchasing a new monitor with a DVI-D port would provide a high-quality signal but would cost much more than the other alternatives.

References

LabSim for PC Pro, Section 3.12.
[pcpro2016_all_questions_en.exm PC16_VIDEO_CARDS_05]

Question 63: 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.

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

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

LabSim for PC Pro, Section 3.8.
[pcpro2016_all_questions_en.exm MEMORY LIMITATIONS]

Question 64: Incorrect

Which type of interface is typically used for internal wireless networking cards in laptops?

- ~~ExpressCard~~
- USB
- Mini-PCI
- Firewire
- PCI

Explanation

Most internal wireless network cards in laptops connect using a mini-PCI interface. USB, Firewire, and ExpressCard are external buses for external devices.

References

LabSim for PC Pro, Section 8.2.
[pcpro2016_all_questions_en.exm NOTEBOOK_COMPONENTS_18]

Question 65: Correct

An internal laptop keyboard is generally connected to the laptop's system board using a:

- Mini-molex connector
- Ribbon cable
- USB connector
- PS/2 port

Explanation

A laptop keyboard is generally connected to the system board using a flat, ribbon-like cable. PS/2 ports are used to attach external devices, such as keyboards and mice, to older laptops. USB connectors are used to connect external keyboards to a laptop. The power cable for floppy drives uses a mini-molex connector.

References

LabSim for PC Pro, Section 8.2.
[pcpro2016_all_questions_en.exm NOTEBOOK_COMPONENTS_13]

Question 66: Correct

Which type of network medium is used by an Integrated Services Digital Network (ISDN) adapter?

- Copper telephone wire
- Fiber-optic cable
- Infrared light waves
- Cable TV coaxial cable
- Wireless radio waves

Explanation

ISDN is a set of standards that allow digital data to be sent and received over copper wiring.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm ISDN_01]

Question 67: Incorrect

What is name of the utility, which is similar to Telnet, that you can use to establish a secure remote server management session?

SSH

Explanation

Similar to Telnet, the **SSH** utility is used for remote server management; however, SSH encrypts all communications and is much more secure.

References

LabSim for PC Pro, Section 6.12.
[pcpro2016_all_questions_en.exm NETUTIL_07]

Question 68: Correct

What type of USB 3.0 connector is shown here?

- ○ Micro-B
- ○ Type-B
- ➡ ◉ Type-A

Explanation

The blue tab indicates that the connector is a USB 3.0 Type-A connector and capable of USB 3.0 speeds. USB 3.0 Type-A connectors are backwards compatible with all previous USB versions.

The USB 3.0 Type-B connector is larger in size and designed to carry both data and power. Due to their increased size, USB 3.0 Type-B connectors cannot be plugged into older USB Type-B ports. However, USB 3.0 peripherals that use this port are able to accept older USB Type-B connectors.

The USB 3.0 Micro-B connector is used by portable devices, such as compact external storage devices, digital cameras, or smartphones.

References

LabSim for PC Pro, Section 4.2.
[pcpro2016_all_questions_en.exm USB 3-PB]

Question 69: Incorrect

When you try to read a particular DVD-R disc that was burned in a different computer, you receive an error message. Other DVD discs work fine in your drive. Which of the following is the most likely problem?

- ○ The drive spins too fast for the media.
- ○ Your drive's laser is misaligned.
- ◉ ~~The disc was created in a computer that uses different regional settings.~~
- ➡ ○ The disc is dirty or scratched.

Explanation

If the problem occurs with only one disc, the problem is likely with the disc itself. Make sure the disc is clean, and that the drive supports the disc format. If other discs are working just fine, then the laser is probably not misaligned and the disc is probably not spinning too fast.

References

LabSim for PC Pro, Section 5.10.
[pcpro2016_all_questions_en.exm TRB DVD-R_01]

Question 70: Incorrect

Match the fiber optic cable types on the left with the appropriate characteristics on the right. Each cable type may be used once, more than once, or not at all.

Data transfers through the core using more than one light rays

~~Single mode~~ Multimode

The core diameter is around 10 microns

✓ Single mode

Cable lengths can extend a great distance

~~Dual mode~~ Single mode

Cable lengths are limited in distance

✓ Multimode

At distance up to 3 km, delivers data rates up to 10 Gbps

~~Multimode~~ Single mode

At distance of under 2 km, delivers data rates up to 1 Gbps

~~Dual mode~~ Multimode

Explanation

Single mode fiber optic cable has the following characteristics:

- Data transfers through the core using a single light ray (the ray is also called a mode)
- The core diameter is around 10 microns
- At distances up to 3 km, single mode delivers data rates up to 10 Gbps
- Cable lengths can extend a great distance

Multimode fiber optic cable has the following characteristics:

- Data transfers through the core using multiple light rays
- The core diameter is around 50 to 100 microns
- At distances of under 2 km, multimode delivers data rates up to 1 Gbps
- Cable lengths are limited in distance

Fiber optic cable does not have a "dual mode" type.

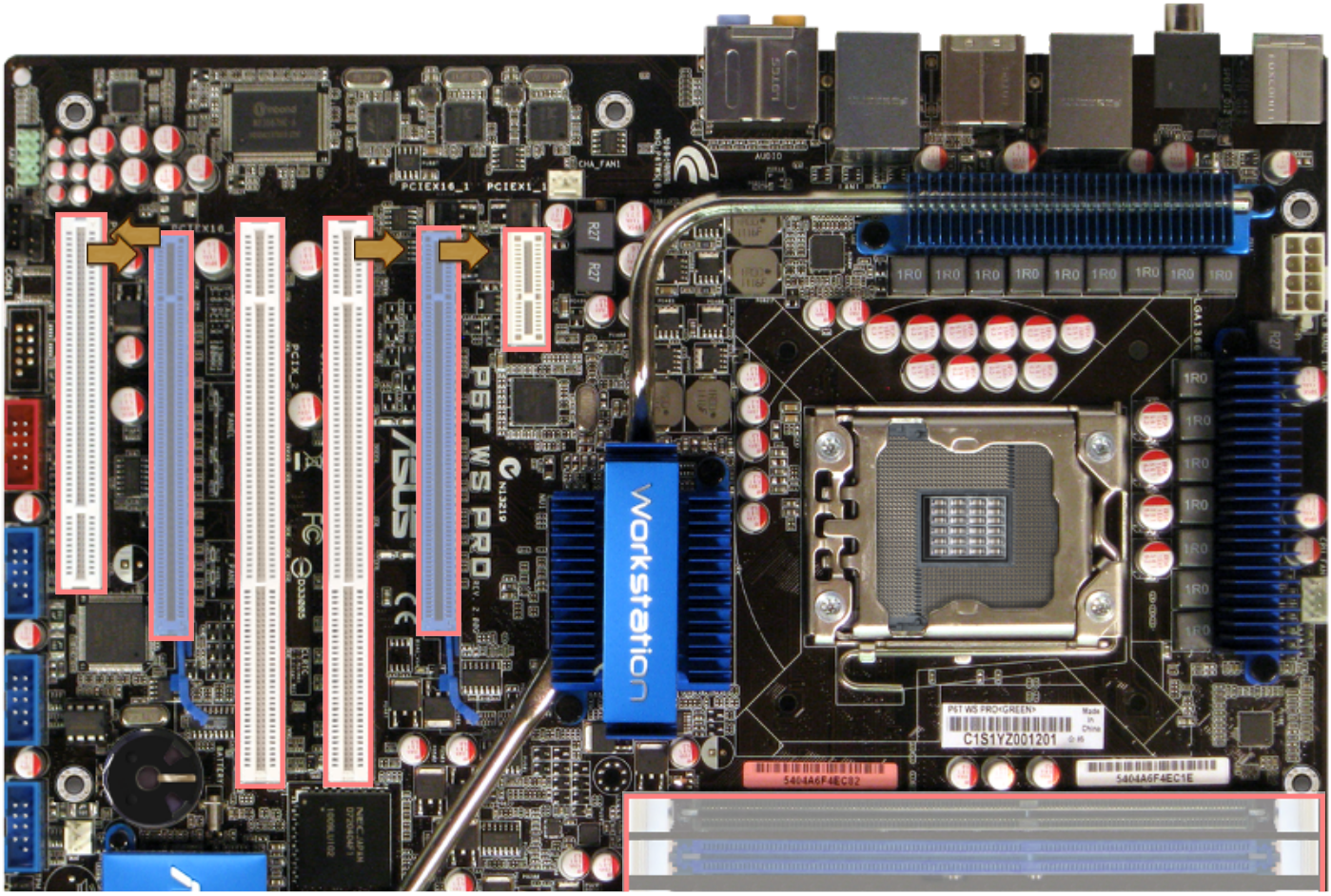
References

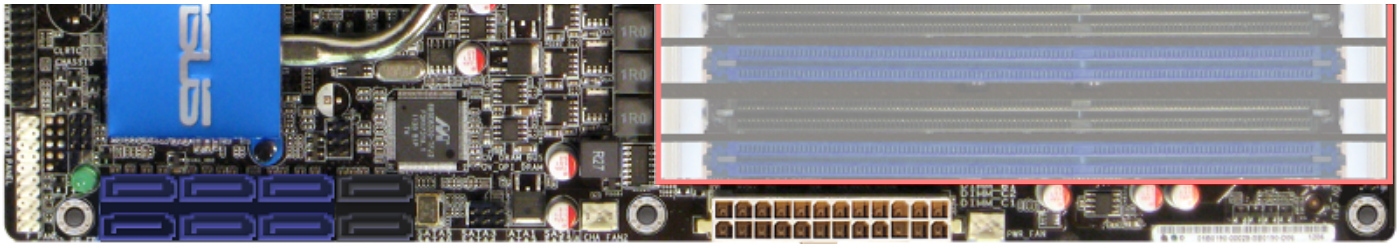
LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm NET MEDIA_02]

Question 71: Incorrect

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

LabSim for PC Pro, Section 3.3.
[pcpro2016_all_questions_en.exm PC16_MOTHERBOARDS_06-PB]

Question 72: Correct

What method does an SDHC card use for storing data?

- ( ) Magnetic disks and platters
- ( ) Magnetic tape
- (•) Reprogrammable memory
- ( ) Reflective surface and optical readers

Explanation

Flash devices store information using programmable, non-volatile flash memory. Common flash devices are MMC, SD, SDHC, and XD memory cards as well as USB thumb drives. DLT drives use magnetic tape. Hard disks and floppy disks use magnetic disks and platters. Optical drives use a reflective surface and optical readers.

References

LabSim for PC Pro, Section 5.1.
[pcpro2016_all_questions_en.exm SDHC]

Question 73: Correct

Which of the following functions does an ATX power supply perform? (Select two.)

- [x] Converts AC to DC
- [ ] Protects against power spikes
- [x] Aids in thermal management
- [ ] Provides 110 volts to internal components
- [ ] Supplies backup power

Explanation

Power supplies are responsible for powering every component in a computer system. Power supplies provide the following functions:

- Convert AC power to DC power
- Provide internal components with 3.3 V, 5 V, or 12 V of DC power
- Aid in thermal management

Surge protectors are used to protect power supplies and electronic components from power spikes. A UPS (uninterruptable power supplies) is used to provide backup power to a computer.

References

LabSim for PC Pro, Section 3.2.
[pcpro2016_all_questions_en.exm PC16_POWER_SUPPLY_06]

Question 74: Correct

Recently your laptop doesn't power on and the battery is not charging. You suspect the block on the power cord (also known as a brick) no longer works. Which tool will help you troubleshoot this problem?

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

Explanation

In this case, you should use a multimeter to test the DC current flowing from the brick. If the current is incorrect, then you may need a replacement AC adapter. A power supply tester is specifically designed to test DC current flowing from a PC power supply and its associated connectors. 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, letting the computer send a signal to itself.

References

LabSim for PC Pro, Section 8.4.
[pcpro2016_all_questions_en.exm TRB NOTEBOOK_12]

Question 75: Incorrect

What is the maximum cable length for the IEEE 1394a standard?

- 100 meters
- 3 meters
- ~~5 meters~~
- 4.5 meters

Explanation

The maximum cable length for the IEEE 1394a standard is 4.5 meters. The maximum cable length for the IEEE 1394b standard is 100 meters.

References

LabSim for PC Pro, Section 4.3.
[pcpro2016_all_questions_en.exm IEEE 1394A STANDARD]

Question 76: Correct

A user has called to complain that her computer won't boot. It stops on the system startup screen right after the memory has been tested and displays a 301 keyboard error.

What should you do first?

- Verify that the latest UEFI firmware updates have been applied.
- Check your keyboard settings in Control Panel.
- Have the user remove all memory modules and replace them one at a time until the error reoccurs.
- Download and install the latest keyboard driver from the manufacturer's Website.
- Install a new keyboard on the computer.
- Verify that no keys are being pressed down during POST.

Explanation

You should have the user verify that no keyboard keys are being pressed during POST. With any error, you should always check the obvious first. This error is almost always caused by a stuck key on the keyboard or something resting on a keyboard key. On rare occasions, you may need to install a new keyboard; however, you should look for these obvious problems first.

References

LabSim for PC Pro, Section 3.4.
[pcpro2016_all_questions_en.exm TRB BOOT]

Question 77: Incorrect

Which component in a laser printer charges the paper to attract toner?

- Transfer roller
- Fuser
- ~~Primary corona~~
- Drum

Explanation

The *transfer roller* charges the paper to attract the toner. The primary corona prepares the photosensitive drum for writing by causing it to receive a negative electrostatic charge. Depending on the printer, the primary corona will be wires or rollers. A laser beam changes the charge on the surface of the drum in a pattern of the page's image. The toner sticks to the charged areas on the drum. Fusing rollers attach the toner to the paper by pressing and melting it.

References

LabSim for PC Pro, Section 7.1.
[pcpro2016_all_questions_en.exm PRINTER_13]

Question 78: Incorrect

Which type of interface is typically used for internal wireless networking cards in laptops?

- Mini-PCI
- Firewire
- ~~ExpressCard/34~~
- USB

Explanation

Most internal wireless network cards in laptops connect using a mini-PCI interface. USB, Firewire, ExpressCard, are external buses for external devices.

References

LabSim for PC Pro, Section 8.2.
[pcpro2016_all_questions_en.exm NOTEBOOK_COMPONENTS_06]

Question 79: Correct

You've just purchased 10 new notebook systems for your users. You are concerned that users will leave the systems on for long periods of time, which could result in display burn-in.

What should you do to prevent this from happening?

- Configure a screen saver on each system.
- Configure each system to automatically power off after 5 minutes of inactivity.
- Increase the hardware acceleration setting on each system.
- Install a software utility on each system that is designed to fix stuck pixels.

Explanation

Burn-in can happen when the same image is displayed on the screen for an extended period of time. The best way to prevent this from happening is to configure a screen saver on each system.

Configuring the systems to automatically power off after 5 minutes of inactivity will also prevent burn-in, but will also make them very inconvenient to use. Increasing hardware acceleration settings will not prevent burn in from occurring. Installing a software utility on each system that is designed to fix stuck pixels can be used to repair a burnt-in display, but it will not prevent it from happening in the first place.

References

LabSim for PC Pro, Section 4.5.
[pcpro2016_all_questions_en.exm TRB BURN-IN]

Question 80: Correct

Which of the following are considered input devices? (Select three.)

- [x] Scanner
- [x] Keyboard
- [ ] RAM
- [ ] Monitor
- [x] Microphone
- [ ] Printer

Explanation

The movement of data or commands to the internal computer hardware. Input devices include:

- Keyboard
- Touchscreen
- Scanner
- Digital camera
- Microphone

RAM is considered a processing device. A monitor and keyboard are considered output devices.

References

LabSim for PC Pro, Section 1.3.
[pcpro2016_all_questions_en.exm PC16_COMPUTING_BASICS_04]

Question 81: Incorrect

Which of the following is a valid MAC address?

- ( ) 255.255.255.0
- ( ) 34-9A-86-1G-B3-24
- (•) ~~83-5A-5B-0B-31-55-F1~~
- ( ) 192.168.12.15
- ( ) 73-99-12-61-15
- ( ) C0-34-FF-15-01-8E

Explanation

A MAC or hardware address is a unique identifier hard coded on every network adapter card. A valid MAC address has a total of 12 hexadecimal numbers. Hexadecimal numbers contain the numbers 0 to 9 and the letters A to F. Valid values in a MAC address range anywhere from 00 to FF. Note that one of the answers would be a valid MAC address except it uses a G value, which is beyond the range of a hexadecimal number.

References

LabSim for PC Pro, Section 6.2.

[pcpro2016_all_questions_en.exm NET DEVICE_03]

Question 82: Incorrect

Which type of software-generated problems can indicate that a software bug is causing a memory error? (Select three.)

- [ ] Exception error
- [ ] General-protection fault
- [x] ~~Parity interrupt~~
- [ ] Page fault
- [ ] Incorrect memory count
- [ ] Registry error

Explanation

Software-generated memory problems include the following:

- Exception error
- General-protection fault
- Page fault

Registry errors indicate that parts of the registry are written to faulty sections of RAM. Parity interrupt usually indication a failing module or discrepancies between new and old memory. An incorrect memory count can happen with incompatible memory installation; remember to avoid combining dual-bank with single-bank memory.

References

LabSim for PC Pro, Section 3.9.
[pcpro2016_all_questions_en.exm TRB MEMORY_06]

Question 83: Incorrect

You have recently been called to troubleshoot network connectivity problems at a user's workstation. You have found that the network cable runs across high-traffic areas on the floor, causing the cable to wear through and break. You have replaced the cable with a plenum rated, shielded, twisted pair cable. You would like to minimize the problem and prevent it from happening again.

What should you do?

- ( ) Run the cable through the ceiling area instead of across the floor.
- ( ) Periodically check the cable for kinks and wear. Replace the cable when necessary.
- ( ) Run the cable under the carpet.
- (•) ~~Encase the cable in a protective shield and secure the cable to prevent it from slipping.~~

Explanation

Because the cable is a plenum rated cable, you can run the cable through the ceiling area. This is the best method of preventing wear to the cables. The cable shielding will also protect the cable from some electromagnetic interference. However, you should be sure to avoid running the cable directly across light fixtures.

References

LabSim for PC Pro, Section 6.14.
[pcpro2016_all_questions_en.exm PC 2016 STP CABLING]

Question 84: Correct

You replaced the print cartridge on an inkjet printer. What should you do next?

- ( ) Replace the fuser roller assembly.
- ( ) Replace the ribbon as well.
- ( )

Send the printer to the factory for a realignment.

Calibrate the printer.

Explanation

After replacing print cartridges, perform a calibration. The calibration uses the self test to check the printed image and make minor adjustments automatically. Calibration will help avoid blurry text, misalignment (jagged lines), or incorrect colors. Dot matrix printers use a ribbon, and should be replaced if printer images become faint. Fuser roller assemblies are found in laser printers, and should be replaced or cleaned if there are lines or splotches at regular intervals on the print job.

References

LabSim for PC Pro, Section 7.6.
[pcpro2016_all_questions_en.exm TRB_PRINTER_15]

Question 85: Incorrect

There are critical times when memory problems often manifest themselves.

Match the critical times on the left with the corresponding descriptions on the right of the causes of the memory problems.

This can require more memory and can cause problems if there is not enough memory at this time

Software installation

Memory is not properly seated, missing, or the motherboard is defective

First boot of a new computer

Incompletely or improperly doing this can cause errors that appear to be memory related

~~Memory upgrade~~ Hardware installation or removal

The memory is not compatible and was not installed and configured properly

~~Hardware installation or removal~~ Memory upgrade

Explanation

At these critical times memory problems can manifest themselves:

- First boot of a new computer - memory is not properly seated, missing, or the motherboard is defective.
- After a memory upgrade - ensure that the memory is compatible and was installed and configured properly.
- After software installation - new software can require more memory and can cause problems if there is not enough memory for the software.
- After hardware installation or removal - incompletely or improperly installed hardware can cause errors that appear to be memory related.

References

LabSim for PC Pro, Section 3.9.
[pcpro2016_all_questions_en.exm CRITICAL TIMES-PB]

Question 86: Correct

What is the name for the routine that tests the motherboard, memory, disk controllers, video, keyboard and other system hardware?

- CSST
- CMOS
- POST
- BIOS

Explanation

POST stands for power on self-test, and is the routine that tests system hardware on startup. The BIOS chip is firmware (hardware hard-coded with software) attached to the motherboard

and is essential in booting the computer. The CMOS battery supplies power to the real-time clock to maintain the date and time.

References

LabSim for PC Pro, Section 3.10.
[pcpro2016_all_questions_en.exm PC16 POST]

Question 87: Correct

Which of the following are advantages of using fiber optic cabling for a network, as opposed to other types of cabling? (Select two.)

- [ ] Increased flexibility
- [ ] Lower installation cost
- [x] Immunity to electromagnetic interference
- [ ] Faster installation
- [x] Greater cable distances without a repeater

Explanation

Compared to other types of cabling, fiber optic cabling allows greater cable distances without a repeater and is immune to electromagnetic interference.

However, installation costs more and takes longer. In addition, fiber optic cabling is much less flexible than other cabling.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm FIBER OPTIC_01]

Question 88: Incorrect

You are the computer specialist in a small business. Your company server is named FS1 and has an IP address of 10.0.0.2. The hardware in your company server has started to experience intermittent failures, so you transferred the shares on the server to a spare server and took the main server offline. The spare server has an IP address of 10.0.0.3. You edit the existing A record for FS1 on your company's DNS server and redirect the hostname to the spare server's IP address of 10.0.0.3.

After doing so, most users are able to access the shares on the spare server by hostname, but several users cannot. Instead, they see an error message indicating the FS1 server could not be found.

Enter the command you can run from the command prompt on these workstations that will allow them to access the shares on FS1 without performing a full restart.

[ ] ipconfig /flushdns

Explanation

Workstations maintain a cache of recently-resolved DNS names. When you use a DNS name, the computer first checks its cache. If the name is in the cache, the corresponding IP address will be used. This can sometimes cause problems if the IP address of a host has changed. Old values in the cache might continue to be used for a time, making communication using the DNS name impossible. To correct this problem on a Windows computer, run **ipconfig /flushdns** to delete the local DNS name cache.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm IPCONFIG_01]

Question 89: Correct

You've just installed a new video card in a employee's Windows workstation. When you power the system on and load the OS, everything on the screen looks enlarged and pixelated. You try to change the resolution, but the only available option is 640x480.

Which of the following will resolve this problem?

- ( ) Verify that the system BIOS is compatible with the video card.

Reboot the system into Safe Mode.

Upgrade the monitor to one that supports a higher refresh rate.

Download and install the latest driver from the video card manufacturer's website.

Explanation

You should download and install the latest video driver from the manufacturer's website. Because Windows didn't have the appropriate driver, it used a generic driver instead, which supports a very limited resolution.

Windows Safe Mode is used to troubleshoot system issues and disables all unnecessary software and drivers. A monitor's refresh rate does not affect a systems max resolution. If BIOS compatibility was an issue, nothing would be displayed on the monitor.

References

LabSim for PC Pro, Section 3.12.
[pcpro2016_all_questions_en.exm PC16_VIDEO_CARDS_TRB_01]

Question 90: Correct

A manager wants you to install a Serial ATA hard drive into his computer, but the motherboard does not have a Serial ATA connector. What should you do?

Upgrade to a newer motherboard with integrated SATA connectors.

Use an external drive with a FireWire/USB adapter.

Install a Serial ATA host adapter in an expansion slot.

Use an external drive with a USB/SATA adapter.

Explanation

To add a feature to a computer, add an expansion card in a free bus slot. In this case, you could add a Serial ATA host adapter in a free PCI slot.

References

LabSim for PC Pro, Section 5.2.
[pcpro2016_all_questions_en.exm SATA HOST ADAPTER]