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

Date: 6/7/2017 8:09:45 pm Candidate: Stangl, Thomas (Email: tstangl@calarttech.edu)
Time Spent: 36:59 of 01:30:00

Overall Performance

Your Score: 70%

Passing Score: 95%

View results by: Objective Analysis Individual Responses

Individual Responses

Question 1: Incorrect

Which of the following is not one of the ranges of IP addresses defined in RFC 1918 that are commonly used behind a NAT router?

- 169.254.0.1 - 169.254.255.254
- 10.0.0.1 - 10.255.255.254
- ~~172.16.0.1 - 172.31.255.254~~
- 192.168.0.1 - 192.168.255.254

Explanation

169.254.0.1 - 169.254.255.254 is the range of IP addresses assigned to Windows DHCP clients if a DHCP server does not assign the client an IP address. This range is known as the Automatic Private IP Addressing (APIPA) range. The other three ranges listed in this question are defined as the private IP addresses from RFC 1918 which are commonly used behind a NAT server.

References

LabSim for PC Pro, Section 6.11.
[pcpro2016_all_questions_en.exm NAT_02]

Question 2: Correct

Which of the following utilities can you use from the command line on a Linux system to see a list of the installed network interfaces, along with their current status and configuration?

- iflookup
- netconfig
- ifconfig
- netstat
- ipconfig
- netinfo

Explanation

ifconfig is used on Linux (and Mac OS) systems to display the installed network interfaces, their current status, and the current configuration settings for each interface, including the MAC address, IP address, broadcast address, and subnet address.

ipconfig is used on Windows systems to view the installed network interfaces and their IP address, subnet mask, and default gateway configuration. **netstat** is used on a Windows system to display IP-related statistics. netconfig, iflookup and netinfo are not the names of real networking utilities.

References

LabSim for PC Pro, Section 6.12.
[pcpro2016_all_questions_en.exm NETUTIL_02]

Question 3: Correct

A user installs a new graphics application on her Windows system. During the installation process, the application prompts the user to load a custom video driver that has been optimized for the application. She does so and then completes the installation.

Several days later, the user reports that her display doesn't seem to be working properly under some conditions. To fix the problem, you need to reload the old video driver.

How could you accomplish this? (Select two.)

- [x] Use Device Manager to roll back the video driver.
- [ ] Boot to advanced startup menu and select Last Known Good Configuration.
- [ ] Use Device Manager to disable the video driver.
- [x] Revert the system to a restore point prior to installing the video driver.
- [ ] Boot from the Windows installation media and select the Startup Repair option.

Explanation

To roll back to a previous driver, access Device Manager and then use the Roll Back Driver option available in the video driver's properties. You may need to boot the system into Safe Mode first if the problem is serious enough to make the display difficult to see. Alternatively, you could also revert the system to a prior restore point that was created before the problematic driver was installed.

You should not disable the driver in this situation. The Last Known Good configuration boot option is only available on Windows 7 and earlier systems. Even if it were available, it would not work in this scenario because the system has been rebooted and the user has logged in since the change was made. Running a startup repair would not correct a problem with an erratic video driver.

References

LabSim for PC Pro, Section 4.7.
[pcpro2016_all_questions_en.exm TRB_DEVICE_03]

Question 4: Correct

Which of the following battery types has the greatest need to be completely drained before being recharged?

- ( ) Nickel Metal Hydride (NiMH)
- ( ) Carbon
- (•) Nickel Cadmium (Ni-Cad)
- ( ) Lithium Ion (Li-Ion)

Explanation

Nickel Cadmium (Ni-Cad) batteries experience a memory effect. If the battery is not completely

drained before being recharged, the remaining charge in the battery eventually becomes unusable. Draining the battery completely on occasion ensures that the battery can access its full capacity. Nickel Metal Hydride (NiMH) and Lithium Ion (Li-Ion) batteries do not have the memory effect and do not need to be completely drained. However, all batteries have a specific lifetime. After a period of time, the battery becomes less able to hold a charge and should be replaced.

References

LabSim for PC Pro, Section 8.3.
[pcpro2016_all_questions_en.exm NOTEBOOK_COMPONENTS_03]

Question 5: Correct

You have just installed several devices at once to a computer, but now the computer fails to boot properly. What should you do?

- ○ Change the configuration of a single device.
- ➡ ◉ Remove all of the newly added devices and install them one at a time.
- ○ Swap all of the devices with those you know to be good.
- ○ Swap a single device with one that you know to be good.

Explanation

When installing, you should always install one device at a time. In that way, if a problem occurs after installing the new device, you know that the new device has caused the problem. Swapping components at this point might not help as you have not yet identified the component that is most likely causing the problem.

References

LabSim for PC Pro, Section 4.7.
[pcpro2016_all_questions_en.exm TRB PC_01]

Question 6: Incorrect

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

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

Allows additional features and capabilities to be added to the motherboard.
✓ Expansion slots

Houses the PCI bus controllers and communicates with the Super I/O controller.
✓ Southbridge

Contains firmware that is used to configure motherboard settings and initialize devices.
~~Non-volatile BIOS memory~~ Flash memory

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

Stores custom configuration settings made by the user.
~~Flash memory~~ Non-volatile BIOS memory

Explanation

A typical motherboard includes the following components:

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

References

LabSim for PC Pro, Section 3.3.
[pcpro2016_all_questions_en.exm PC16_MOTHERBOARDS_04-PB]

Question 7: 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 8: Correct

Which of the following is an error detection technique that can also correct the error?

- EDO
- Non-parity
- Parity

ECC

Explanation

Error Correcting Code (ECC) can detect and correct errors. Parity error detection techniques can detect errors but cannot correct them. The data must be resent. EDO is not a type of error detection, it is a type of memory that can start a new access cycle while keeping the data output of the previous cycle active.

References

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

Question 9: Correct

Which of the following standards provides for data transfer rates up to 800 Mbps with a maximum cable length of 100 meters?

- IEEE 1394a
- RS-232
- USB 2.0
- IEEE 1394b
- IEEE 1284

Explanation

IEEE 1394b (also known as Firewire 800) provides for data transfers of up to 800 Mbps and a cable length of 100 meters. IEEE 1394a (also known as Firewire 400) provides for data transfers of up to 400 Mbps and a cable length of 4.5 meters. USB 2.0 specifications allow for data transfer rates of 480 Mbps and cable lengths up to 5 meters. IEEE 1284 (parallel) has a data transfer maximum of 2 Mbps with a maximum cable length of 10 meters. RS-232 (serial) operates at relatively slow speeds but over longer distances.

References

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

Question 10: Correct

You're conducting scheduled maintenance on a laser printer. You notice that there is a build-up of excess toner inside the interior of the printer. Which of the following is the proper way to remove it?

- Use an anti-static vacuum.
- Wipe it out with a wet, soapy rag using a mild detergent.
- Sweep it out with a small broom.
- Blow it out with compressed air.

Explanation

You should use an anti-static vacuum to remove excess toner from the interior of a laser printer. You should avoid using removal methods that will disperse the toner into the air; such as compressed air or a broom.

References

LabSim for PC Pro, Section 7.5.
[pcpro2016_all_questions_en.exm PRT_MAINT_06]

Question 11: Correct

You decided to upgrade your PC with a faster processor. To do this, you ordered a new motherboard over the Internet that supports the processor you want to use.

When it arrives, you discover that the motherboard uses the Mini-ATX form factor. Your current case is an ATX mid-tower with a standard ATX motherboard inside.

What should you do?

- Return the motherboard and replace it with an ATX form factor motherboard.
- Drill new holes in the ATX case to match the mounting hole pattern in the Mini-ATX motherboard.
- Use the Mini-ATX motherboard in the ATX case.
- Drill new holes in the Mini-ATX motherboard to match the mounting hole pattern in the ATX case.

Explanation

ATX mid-tower cases support all ATX form factors, including Mini-ATX. The main difference between ATX and Mini-ATX is the number of bus and possibly memory slots on the motherboard. The mounting holes for both are located in the same place, making them interchangeable in most cases.

References

LabSim for PC Pro, Section 3.1.
[pcpro2016_all_questions_en.exm PC16_MOTHERBOARD_FF_03]

Question 12: Correct

Why would you recommend a dye sublimation printer?

- When an inexpensive way to add another printer is needed.
- When cheap or surplus solid ink wax sticks are available.
- When a faster printer is needed.
- When print jobs are detailed photographic reproductions.

Explanation

Dye sublimation printers produce images by heating a colored dye, transferring the dye in gas form to paper where the dye cools and solidifies. This process is ideal for producing photographic quality images on a variety of media. Dye sublimation printers are typically more expensive than other types of printers, print on special photographic paper, and take over one minute to produce a single page.

References

LabSim for PC Pro, Section 7.1.
[pcpro2016_all_questions_en.exm PRINTER_01]

Question 13: Correct

When you boot the computer, it hangs after asking you for the current time and date. What is the most likely problem?

- The CMOS battery has failed.
- The BIOS is outdated.

- The computer needs more RAM
- Daylight Savings Time has started or ended.

Explanation

The system Time and date are managed by the Real Time Clock (RTC) in the BIOS. If the CMOS memory battery goes dead, the RTC reverts back to a default date and time.

References

LabSim for PC Pro, Section 3.10.
[pcpro2016_all_questions_en.exm CMOS BATTERY FAILURE]

Question 14: Incorrect

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

- DDR
- ~~SDRAM~~
- EDO
- FPM

Explanation

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

References

LabSim for PC Pro, Section 3.7.
[pcpro2016_all_questions_en.exm DDR RAM]

Question 15: Incorrect

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

- USB
- ~~ExpressCard~~
- 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 16: 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

✓ Android

Open source and most popular mobile device operating system

✓ Android

Device manufacturers include Microsoft, Samsung, and HTC

~~Google~~ 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 17: Correct

Which of the following printer types is considered an impact printer?

- ○ Laser
- ○ Inkjet
- ➡ ◉ Dot matrix
- ○

Bubble-Jet

Explanation

Impact printers have a print head that comes in contact with the paper surface. A dot matrix printer is an example of an impact printer. Ink jet printers are quiet non-impact printers with ink stored in a reservoir. Bubble jet printers are the most popular form of ink jet printers. Laser printers use lasers and electrical charges to transfer images to paper.

References

LabSim for PC Pro, Section 7.1.
[pcpro2016_all_questions_en.exm PRINTER_06]

Question 18: Correct

This question includes a lab to help you answer the question. **View Lab**

Click the **View Lab** button. When the simulated computer starts, press the **F2** or **Delete** key on your keyboard to enter the BIOS setup program. Explore the current BIOS settings to find the answers to the following questions.

What brand of processor is installed?

Intel

How much memory is installed in the computer?

4096 MB

What is the BIOS version number?

What is the BIOS version number?

How many hard drives are installed?

3

What is the status of the integrated NIC?

Enabled

Which drive is configured as first in the boot sequence?

Diskette Drive

Tip: When working in the lab, write down the answers to these questions before closing the lab.

Explanation

On the General > System Information page the following BIOS/UEFI information is shown:

- Processor Type: **Intel**
- Memory Installed: **4096**
- BIOS version: **1610**
- Installed drives: **3** drives are installed (SATA-0, SATA-1, SATA-2)

On the System Configuration > Integrated NIC page the following BIOS/UEFI information is shown:

- The integrated NIC status: **Enabled**

On the General > Boot Sequence page the following BIOS/UEFI information is shown:

- The first drive listed in the boot sequence: **Diskette Drive**

References

LabSim for PC Pro, Section 3.10.
[pcpro2016_all_questions_en.exm FIND BIOS1]

Question 19: Incorrect

Which of the following input devices uses a stylus?

- Touch pad
- Digitizer
- ~~Touch screen~~
- Trackpoint

Explanation

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. A touchpad and a touch screen uses your fingers to receive input to move or click the mouse. A trackpoint or pointing stick is a knob that moves the cursor.

References

LabSim for PC Pro, Section 8.2.
[pcpro2016_all_questions_en.exm NOTEBOOK_COMPONENTS_10]

Question 20: Correct

You have a network that uses a logical ring topology. How do messages travel through the network?

- Messages travel from one device to the next until they reach the destination device.
- Messages are sent to a central device which then forwards the message to the destination device.
- Messages are sent directly to the destination device only.
- Messages are sent to all devices connected to the network.

Explanation

In a logical ring topology, messages travel to each device in turn. If the message is not intended for that device, the message is forwarded to the next device on the network.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm PC 2016 LOGICAL RING]

Question 21: Correct

You are testing a printer you just installed, so you use the operator panel on the printer to print a test page. Later, you use the printer properties on your computer to print a test page. Instead of a normal test page, you receive several pages with garbled characters on them. What is the most likely cause of the problem?

- Wrong print driver
- A problem with the printer power supply or the power cable

- Bad printer memory
- Wrong toner cartridge

Explanation

When you print a test page from your computer and it does not work properly, you most likely have an incorrect print driver or a printer cable that is not fastened properly. Memory or power supply problems are rare in printers. You would probably not be able to install an incorrect toner cartridge into the printer.

References

LabSim for PC Pro, Section 7.6.
[pcpro2016_all_questions_en.exm TRB_PRINTER_22]

Question 22: Correct

Which of the following terms describes the difference between white and black in an LCD monitor?

- Resolution
- Aspect ratio
- Contrast ratio
- Pitch
- Brightness

Explanation

The contrast ratio identifies the relative difference between white and black. A higher contrast ratio means a better screen.

Pitch is the distance between pixels. Resolution is the number of pixels in the display. Brightness is a measure of the intensity of the light coming from the display. The aspect ratio is the ratio of the width and the height.

References

LabSim for PC Pro, Section 4.4.
[pcpro2016_all_questions_en.exm LCD CONTRAST RATIO]

Question 23: Correct

You're troubleshooting a notebook system that uses a digitizer pad and stylus for user input. The user has complained that the digitizer pad registers stylus taps about 1 inch to the right of where the tap actually occurred. How can you fix this problem?

- Remove any scratches from the digitizer pad.
- Replace the stylus.
- Recalibrate the digitizer pad.
- Hold the stylus at an increased angle.
- Replace the digitizer pad.

Explanation

To fix this problem, you need to recalibrate the digitizer pad. Over time, digitizer pads on notebooks can develop drift. This can be fixed by running a recalibration program, usually included with the pad.

References

LabSim for PC Pro, Section 8.4.
[pcpro2016_all_questions_en.exm TRB NOTEBOOK_15]

Question 24: Correct

Which of the following IP addresses belong to the Class A network 114.0.0.0? (Select three.)
(**Tip**: Assume the network is indicated by the default Class A portion of the IP address.)

- [ ] 115.0.0.66
- [x] 114.58.12.0
- [x] 114.0.0.15
- [ ] 115.88.0.55
- [x] 114.122.66.12
- [ ] 115.77.89.4

Explanation

With a Class A network, the first octet indicates the network address. All hosts on the network must have the same value in the first octet (114).

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm IP ADDR CLASS_04]

Question 25: Correct

Which of the following components is a non-volatile memory technology for saving system settings when the computer is powered off?

- ( ) BIOS password
- ( ) CMOS battery
- (•) EEPROM chips
- ( ) CMOS chips

Explanation

EEPROM chips are a non-volatile memory technology for saving system settings when the computer is powered off. EEPROM are ROM chips that have replaced CMOS chips (which needed the CMOS battery power to save system settings).

Now, the CMOS battery is only used to keep the real-time clock running.

References

LabSim for PC Pro, Section 3.10.
[pcpro2016_all_questions_en.exm EEPROM CHIPS]

Question 26: Correct

Which network type uses light pulses to transmit data?

- ( ) Cable
- ( ) Wireless

Satellite

Fiber optic

Explanation

Fiber optic networks transmit light pulses rather than electricity to communicate. Satellite networks use radio signals sent and received from a satellite. Cable networks use a cable TV connection and electric signals to send data. Wireless networks use radio waves for sending network data within a local area network.

References

LabSim for PC Pro, Section 6.3.
[pcpro2016_all_questions_en.exm FIBER OPTIC_02]

Question 27: Incorrect

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

1	2	3
~~Dual displays~~	✓ Screen orientation	✓ Wireless (on/off)
Touchpad (on/off)		

4	5	6
✓ Bluetooth (on/off)	~~Touchpad (on/off)~~	✓ Play/Pause media
	Dual displays	

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 28: Incorrect

You have installed a device in your system and have run the Add a device wizard from the Control Panel. Under what circumstance would it be appropriate to continue with the wizard if the device was not discovered?

The device connects to the USB bus.

~~The device driver was installed before the device was installed.~~

The device does not require a driver.

The device does not support plug and play.

Explanation

If the legacy device is not detected, you need to select the driver files manually by continuing the wizard. All devices require a driver.

USB devices are plug and play. To install a USB device, install the driver, and then connect the device. The device will be automatically detected and configured.

References

LabSim for PC Pro, Section 4.6.
[pcpro2016_all_questions_en.exm INSTALL NON PLUG AND PLAY]

Question 29: 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?

- Reset the page count.
- ~~Use the automatic cleaning feature.~~
- Reinstall the print drivers.
- Check the gap between the printer head and the paper.

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 30: Correct

Which type of printer uses a drum, plastic toner, and fuser to create a printed page?

- Dot matrix
- Ink jet
- Laser
- Dye sublimation

Explanation

Laser printers use a laser to charge a metal drum. The drum picks up plastic toner, and the toner is then fused onto the paper (using rollers and heat). Dot matrix printers use an inked ribbon. The printing mechanism strikes the ribbon to put ink onto the paper. A dye sublimation printer is a non-impact printer that uses film-embedded dye. Ink jet printers are quiet non-impact printers with ink stored in a reservoir.

References

LabSim for PC Pro, Section 7.1.

[pcpro2016_all_questions_en.exm PRINTER_10]

Question 31: Correct

You have just installed a new device in your Windows system. After installation, you can't use the device. You check Device Manager and find an icon for the device with a yellow exclamation mark over it. What should you do?

- Replace the device.
- Reinstall the device.
- Download the latest driver from the manufacturer's Website.
- Enable the device.
- Run the Add Legacy Hardware wizard and manually configure the device.

Explanation

The first thing to try would be to obtain the latest driver for the device. In this scenario, Windows detected the device, a suitable driver for it. Use the Add Legacy Hardware wizard to install legacy (non Plug and Play) devices. An icon with a black down-arrow over it indicates a disabled device. Replacing the device should only be done after performing other troubleshooting tasks.

References

LabSim for PC Pro, Section 4.7.
[pcpro2016_all_questions_en.exm TRB_DEVICE_02]

Question 32: Correct

Your laser printer prints a vertical black line on every page. You change the toner cartridge but the problem does not go away. What is the most likely problem?

- The paper is poor quality.
- The fuser assembly is damaged.
- The photosensitive drum.
- A corona wire is dirty.

Explanation

If a corona wire is dirty, it might not create a uniform charge. As a result, the toner might not be attracted correctly to the photosensitive drum or paper. A vertical stripe is a typical symptom of this problem. Be careful when cleaning a corona wire because they are delicate.

References

LabSim for PC Pro, Section 7.6.
[pcpro2016_all_questions_en.exm TRB_PRINTER_10]

Question 33: Incorrect

You have a DVD-ROM disc with no label and you want to know if it has any important files on it. You insert the DVD-ROM into your optical media drive, then you double-click the drive letter for the optical drive to see the contents of the disc.

If the DVD-ROM is not a valid disc, which error message will you see?

- Foreign
- Missing
-

~~Unreadable~~

No Media

Explanation

The No Media status shows for an optical or removable media drive that does not contain a valid disc.

A Foreign disk is a dynamic disk that was created in one system and moved to another system. The Unreadable status indicates a hardware failure, I/O errors, or other corruption but might also be caused by a delay in reading the disk in Disk Management. The Missing status shows when a dynamic disk has failed.

References

LabSim for PC Pro, Section 5.6.
[pcpro2016_all_questions_en.exm NO MEDIA]

Question 34: Incorrect

Which of the following processor features is used to dynamically reduce power consumption based on current operating conditions?

Caching

~~Hyper-threading~~

Multi-core

Throttling

Overclocking

Explanation

Throttling modifies the operating characteristics of a processor based on current conditions.

Overclocking is a feature offered on special motherboards that causes the processor to operate at a higher speed. A multi-core processor has multiple processor cores integrated into a single processor package. Hyper-threading is a feature of some Intel processors that allows the CPU to process threads in parallel. Caching, when used to describe processors, is a temporary storage area for data that is waiting for the processor.

References

LabSim for PC Pro, Section 3.14.
[pcpro2016_all_questions_en.exm THROTTLING]

Question 35: Incorrect

You need to connect a new USB scanner to the USB port on your computer. What should you do?

Start the Add a Device wizard, then connect the scanner to the USB port.

~~Connect the scanner to the USB port. Complete the Add a Device wizard which includes installing the drivers.~~

Install the scanner drivers, then connect the scanner to the USB port and complete the Add a Device wizard when it pops up.

Connect the scanner to the USB port.

Explanation

To install USB devices, start by installing the driver. Then connect the device to the USB port. The

operating system will detect the device and configure it automatically. The driver is used to tell the operating system how to communicate with the device.

References

LabSim for PC Pro, Section 4.2.
[pcpro2016_all_questions_en.exm INSTALL USB_02]

Question 36: Correct

Which of the following best describes an IP address class?

- The class is the version of IP addressing standard used by the address.
- The class defines the type of device that the address is assigned to (i.e. server, printer, workstation).
- The class defines the default network address portion of the IP address.
- The class refers to the range of IP addresses that a DHCP server has been authorized to assign.

Explanation

The address class defines the default network address portion of the IP address. For example, a class A address uses the first octet as the network address, and the remaining octets as the available host addresses.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm IP ADDR CLASS_01]

Question 37: Incorrect

Your computer currently runs Windows 10 Professional edition. You want to create a RAID 10 array using four newly-installed SATA disks. When you go to Disk Management, the option to create the RAID 10 array is not available. What should you do?

- Upgrade the disks to dynamic disks.
- Create a simple volume first, then add the remaining disks to the volume.
- ~~Upgrade to Windows 10 Enterprise edition.~~
- Install an add-on RAID controller.

Explanation

Windows 10 desktop operating systems support creating RAID 0 and RAID 1 arrays in Disk Management, but do not support configuring RAID 5 or RAID 10. To use RAID 10 on a client computer, you will need to use a RAID controller installed into an expansion slot or integrated into the motherboard.

References

LabSim for PC Pro, Section 5.10.
[pcpro2016_all_questions_en.exm TRB RAID 10_02]

Question 38: Incorrect

You are designing an update to your client's wireless network. The existing wireless network uses 802.11b equipment, which your client complains runs too slowly. She wants to upgrade the network to run at 150 Mbps. Due to budget constraints, your client wants to upgrade only the wireless access points in the network this year.

Next year, she will upgrade the wireless network boards in her users' workstations. She has

also indicated that the system must continue to function during the transition period. Which 802.11 standard will work best in this situation?

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

Explanation

802.11n is the best choice for this client. Both 802.11a and 802.11g each operate at a maximum speed of 54 Mbps. 802.11a isn't compatible with 802.11b network boards. 802.11n access points, on the other hand, are backwards-compatible with 802.11b equipment and run at speeds of up to 300 Mbps. Using this type of access point will allow the wireless network to continue to function during the transition.

References

LabSim for PC Pro, Section 6.8.
[pcpro2016_all_questions_en.exm 802.11 SPECS_04]

Question 39: Incorrect

Which of the following commands verifies that TCP/IP is working correctly on the local computer?

- ~~netstat~~
- ping -a localhost
- ping 127.0.0.1
- nslookup localhost

Explanation

Use ping 127.0.0.1 to test the TCP/IP configuration of the local system. The special address of 127.0.0.1 is a loopback address that identifies the local host. A successful ping test to the local host identifies that TCP/IP is correctly configured. Use nslookup to find the IP address for a given hostname. Use ping -a to find the hostname for a given IP address. Netstat shows IP-related statistics.

References

LabSim for PC Pro, Section 6.14.
[pcpro2016_all_questions_en.exm TRB NETWORKING_15]

Question 40: Correct

Which memory rating identifies the fastest memory?

- PC2-3200
- DDR-400
- DDR3-2000
- PC3-8500
- PC3-10600

Explanation

DDR3-2000 has the fastest memory rating. It has a bus frequency of 1000 MHz and a bandwidth of 16000 MB/s. For DDR, DDR2, DDR3, and DDR4, the number following the DDR- designation is always twice that of the bus speed, specifying that the double data rate memory transfers double the data in a single clock cycle. This means that DDR-400 has a bus frequency of 200 MHz. The newer PC- designation (used with all DDR2 and DDR3 memory) identifies the bandwidth, so PC3-8500 has a bandwidth of 8500 MB/s. To get the frequency from the bandwidth, divide the bandwidth by 16, giving you 533 MHz for PC3-8500 and 667 MHz for PC3-10600.

References

LabSim for PC Pro, Section 3.7.
[pcpro2016_all_questions_en.exm DDR3-2000 FASTEST MEMORY]

Question 41: Correct

Lately your computer is spontaneously rebooting and freezing. What is the most likely cause?

- Failing drive
- Bad network card
- Failed UPS
- Overheated CPU

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 be not allow reading or writing.

References

LabSim for PC Pro, Section 3.6.
[pcpro2016_all_questions_en.exm TRB CPU_05]

Question 42: Correct

When you try to boot your computer, it hangs after POST. When you access the UEFI setup program, you see that the date is several years behind and the time is set to 12:01 am.

What is the most likely problem?

- The UEFI firmware is outdated.
- A RAM module has become unseated from its socket.
- The UEFI firmware is corrupt.
- The motherboard battery has failed.

Explanation

The system Time and date are managed by the Real Time Clock (RTC) in the BIOS/UEFI firmware. If the motherboard battery goes dead, the RTC reverts back to a default date and time. In addition, the BIOS/UEFI may lose all of its configuration settings.

References

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

Question 43: Incorrect

Which of the following statements are true about the DisplayPort interface for connecting video monitors to computers? (Select two.)

- [x] DisplayPort uses a lower voltage than DVI or HDMI.
- [ ] DisplayPort is electrically equivalent to DVI and HDMI.
- [x] ~~DisplayPort carries both analog and digital signals.~~
- [ ] DisplayPort can send both video and audio signals over the same cable.

Explanation

DisplayPort is an alternative to an HDMI connector. DisplayPort uses a different signal format than DVI or HDMI. However, DisplayPort supports sending DVI or HDMI signals over the same port using a simple adapter.

DisplayPort uses a digital-only signal. To connect a VGA monitor to a DisplayPort, you will need a special active converter that reformats the signal for analog devices. Like HDMI, DisplayPort can send audio signals over the same cable (if audio is supported by the video card and monitor).

DisplayPort uses lower voltage than DVI and HDMI.

References

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

Question 44: Correct

You're conducting scheduled maintenance on a laser printer. You notice that there is a build-up of excess toner inside the interior of the printer. Which of the following is the proper way to remove it?

- Sweep it out with a small broom.
- Wipe it out with a wet, soapy rag using a mild detergent.
- (•) Use an anti-static vacuum.
- Blow it out with compressed air.

Explanation

You should use an anti-static vacuum to remove excess toner from the interior of a laser printer. You should avoid using removal methods that will disperse the toner into the air; such as compressed air or a broom.

References

LabSim for PC Pro, Section 7.6.
[pcpro2016_all_questions_en.exm TRB_PRINTER_21]

Question 45: Correct

You have a computer with an onboard LAN adapter. The LAN adapter has failed and you are unable to connect the computer to the network. What should you do?

- Clear the CMOS settings.
- Add a network card using an AGP slot.
- (•)

Add a network card using a PCI slot.

Replace the motherboard.

Explanation

In this case, you should install a network adapter in a PCI slot. Your computer would then use the new network adapter instead of the one integrated on the motherboard. While installing the new card, you should disable the onboard LAN adapter to prevent it from showing in Device Manager. Replacing the motherboard is too expensive when compared to installing a new expansion card. AGP slots are used for video cards, not network cards. Clearing the CMOS settings erases the configuration information but does not fix the LAN adapter that is not functioning.

References

LabSim for PC Pro, Section 6.2.
[pcpro2016_all_questions_en.exm PCI NETWORK ADAPTER]

Question 46: Correct

You have a network port in an office that connects to the server room using wires strung through the ceiling. Which tool would you use to verify that a signal can be sent from one end to the other?

Multimeter

IC extractor

Cable tester

Power supply tester

Explanation

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 multimeter can also be used to test network cables, but it is much more cumbersome than using a cable tester. A power supply tester is specifically designed to test DC current flowing from most connectors coming from a PC power supply. An IC extractor is a tweezer-like tool, usually spring loaded in the open position, used to remove integrated circuit chips.

References

LabSim for PC Pro, Section 6.14.
[pcpro2016_all_questions_en.exm TRB NETWORKING_03]

Question 47: Correct

Which type of mobile device are fitness tracker wrist bands, smartwatches, smartglasses, and virtual reality headsets?

Tablets

Wearable devices

Smart phones

e-Readers

Phablets

Explanation

Wearable devices are a type of mobile device meant to be worn somewhere on the body. These devices range from being as simple as a fitness tracker wrist band to as complex as

smartglasses or virtual reality headsets. Most wearable devices are designed to interface with another device. For example, a smartwatch by itself has a limited set of functionality; however, smartwatches are designed to connect to smartphones using Bluetooth. Doing this unlocks additional functionality, such as reading texts or answering phones calls through the smartwatch.

References

LabSim for PC Pro, Section 8.5.
[pcpro2016_all_questions_en.exm MOBILE_DEVICE_07]

Question 48: 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

~~Hardware installation or removal~~ First boot of a new computer

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

~~First boot of a new computer~~ Hardware installation or removal

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

✓ 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 49: Correct

Which feature on Intel chips allows a single processor to run two threads in parallel, instead of processing single threads linearly?

- ○ Overclocking
- ➡ ◉ Hyper-threading
- ○ Dual core
- ○ Multi-processing

Explanation

Hyper-threading allows a single processor to run threads in parallel, as opposed to processing

threads linearly. Multi-processing is the ability of an operating system to use multiple CPUs. Overclocking causes the processor to operate at a higher speed. Dual Core is a type of processor that offers better performance by combining two or more independent processors into a single integrated chip.

References

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

Question 50: Correct

Lately you hear a clicking noise when reading or writing data from the hard disk. What is the most likely cause of the clicking?

- ○ Failed UPS
- ○ Overheated CPU
- ○ Bad memory
- ➡ ◉ Failing hard drive

Explanation

A clicking noise when reading or writing data from the hard disk is an early sign of a failing drive. As a precaution, you should move data from the drive as soon as possible in this case. An overheated CPU or bad power supply will cause a spontaneous reboot, not a clicking. A system notification would indicate whether there is a failed drive, as it would not allow reading or writing. 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.

References

LabSim for PC Pro, Section 5.10.
[pcpro2016_all_questions_en.exm TRB HARD DISK_03]

Question 51: Correct

You are in the process of building a new computer. You would like to configure your computer to use SLI to improve performance when playing your favorite game.

Which of the following will be part of the configuration process? (Select three.)

- ☐ Purchase a motherboard with integrated video and an add-on card that supports the ATSC standards.
- ☐ Purchase a motherboard with integrated video and an AGP 8x slot.
- ➡ ☑ Purchase two graphics cards with SLI and similar specifications.
- ➡ ☑ Purchase a motherboard with two (or more) PCIe x16 slots.
- ➡ ☑ Connect at least one monitor to the graphics card.

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 CrossFireX 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). Both the motherboard and the video cards must support the selected method (either SLI or CrossFireX). The motherboard must have at least two 16x PCIe slots.

Some motherboards are able to link an onboard graphic controller an video card installed in a single PCIe slot. Connect the monitor to an output port on the first video card. ATSC signals are digital TV signals and are not used for SLI.

References

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

Question 52: 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?

- (•) Impact
- ( ) Dye sublimation
- ( ) Laser
- ( ) Ink Jet

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 53: Correct

You want to build a new system that supports 6 GB of memory. Which of the following will be the most important consideration when building the computer?

- ( ) DDR3 memory
- ( ) Triple channel memory support
- ( ) ECC memory
- (•) 64-bit processor

Explanation

To use over 4 GB of memory, you will need a 64-bit processor and a 64-bit operating system. 32-bit processors support up to (or slightly below) 4 GB of memory. While 6 GB of memory will likely use DDR2, DDR3, or DDR4, this is not a requirement. Triple channel memory uses three memory controllers to improve memory performance. ECC memory includes error correction on the memory.

References

LabSim for PC Pro, Section 3.8.
[pcpro2016_all_questions_en.exm 6 GB MEMORY]

Question 54: Correct

Which of the following printers would produce the highest print quality?

- ( ) 300 DPI

- [x] 600 DPI
- [ ] 18-pin
- [ ] 24-pin

Explanation

The dots per inch (DPI) describe the level of detail produced by a printer. The higher the DPI, the higher the print quality.

References

LabSim for PC Pro, Section 7.1.
[pcpro2016_all_questions_en.exm PRINTER_03]

Question 55: Correct

Which of the following are considered computer hardware? (Select two.)

- [x] Motherboard
- [ ] Operating System
- [ ] Microsoft Office
- [x] Printer
- [ ] Drivers

Explanation

The physical components that compose a computer system or network. Common hardware components include the following:

- Keyboard, mouse, monitor, printer
- Connectors and cables
- Hard Disk Drives
- Circuit boards

Instructions or data that are stored electronically, either on a hard drive or a special chip. Software components include the following:

- Operating systems
- Program applications
- Hardware drivers (special programs that tell the operating system how to use the hardware)

References

LabSim for PC Pro, Section 1.3.
[pcpro2016_all_questions_en.exm PC16_COMPUTING_BASICS_01]

Question 56: Correct

Which of the following video card connectors provides digital video output? (Select two.)

- [ ] S-video
- [ ] DVI-A
- [x] DVI-D
- [ ] Composite

HDMI

Explanation

High-Definition Multimedia Interface (HDMI) is a digital video and audio connector used for high-definition digital audio and video. A DVI-D (digital video-digital) connection provides digital output. A DVI-I (digital video-integrated) connection also provides digital output as it sends both a digital and an analog signal. Most video cards have DVI-I ports that allow you to connect both digital and analog monitors. A DVI-A (digital video-analog) connection is used only for analog video signals, and will be found on cables but rarely (if ever) a video card itself. A composite video connection on a video card provides analog, video-only TV output in a single channel. S-video (separate-video, Y/C, or S-VHS) supply analog, video-only TV output in two channels. An HDTV connector supplies analog, video-only TV output in three separate channels.

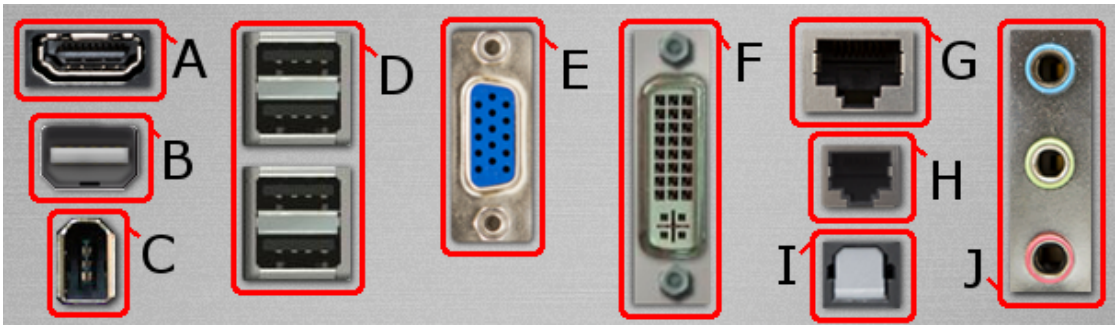
References

LabSim for PC Pro, Section 4.4.
[pcpro2016_all_questions_en.exm DIGITAL VIDEO CONNECTORS]

Question 57: 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 58: Correct

Your monitor is displaying images using strange colors. Which of the following is a solution to this problem?

- Decrease the resolution.
- Increase the amount of memory on the video card.
- Increase the color depth.
- Increase the resolution.

Explanation

To solve color shift problems, you need to increase the color depth. The color depth controls the number of colors that can be displayed on the screen at a time. The actual colors that are used on the screen is determined by the color palette. The number of colors in the palette is determined by the color depth. If the color depth is low (such as 256 or 16,000), colors unavailable in the palette are shifted to the closest available color.

The screen resolution determines the size of the display area. Modern video adapters typically have more than enough memory to display the full color pallet.

References

LabSim for PC Pro, Section 4.5.
[pcpro2016_all_questions_en.exm TRB DISPLAY_01]

Question 59: Correct

You have just purchased a new plug-and-play sound card that uses a PCI slot. What should you do before installing the device in your Windows system? (Select two.)

- Use jumpers on the card to assign IRQ and memory addresses.
- Check the HCL to make sure the device is compatible with the version of Windows running on your system.
- Enable Windows Update so the latest driver is downloaded automatically.
- Check the BIOS to see which system resources are free that can be assigned to the card.
- Download the latest driver from the manufacturer's Web site.

Explanation

Before installing the device, verify that it is compatible with your version of Windows and download the latest drivers. Because the card is a plug-and-play card, you do not need to manually assign system resources. The BIOS and the operating system will work together to assign resources. Windows Update does not download normal device driver files.

References

LabSim for PC Pro, Section 3.10.
[pcpro2016_all_questions_en.exm PCI SOUND CARD]

Question 60: Incorrect

Which of the following correctly describe the most common format for expressing IPv6 addresses? (Select two.)

- [ ] Hexadecimal numbers
- [ ] 32 numbers, grouped using colons
- [ ] Decimal numbers
- [x] ~~128 numbers, grouped using colons~~
- [ ] Binary numbers

Explanation

IP version 6 addresses are made up of 32 hexadecimal numbers, organized into 8 quartets. The quartets are separated by colons. An IPv6 address is a 128-bit number (128 binary digits). IP version 4 addresses use decimal numbers, organized into 4 octets and separated by periods.

References

LabSim for PC Pro, Section 6.7.
[pcpro2016_all_questions_en.exm IPV6_03]

Question 61: Correct

You have a laser printer that has worked fine until today. Now whenever anything is printed, only blank pages come out. Which part are you most likely to replace?

- ( ) Discharge lamp
- ( ) Drum
- (•) Transfer corona
- ( ) Static eliminator strip

Explanation

A blank page from a laser printer could be caused by a completely empty toner cartridge (which is rare), or a faulty transfer corona. The transfer corona charges the paper to attract the toner. Without a charge, the toner will not stick to the paper. The discharge lamp removes any charge from the drum prior to writing a new image. A faulty discharge lamp will show ghosted images from previous printouts. The static eliminator strip removes the static charge from the paper after the image has been applied to the paper. A faulty drum will result in spots or stripes on the printout.

References

LabSim for PC Pro, Section 7.6.
[pcpro2016_all_questions_en.exm TRB_PRINTER_20]

Question 62: Correct

You are building a new computer from both new and used parts. The video card is a PCIe video card that requires an 8-pin power connector. However, your power supply doesn't have an 8-pin PCIe power connector. Which solution would be the least expensive option for your system?

- ( ) Connect the 8-pin processor cable to the video card.
- ( ) Purchase a new video card that does not require a power connector.
- ( ) Purchase a new power supply with the necessary connector.
- (•) Use an adapter cable to connect two 4-pin Molex connectors to the 8-pin PCIe connector.

Explanation

Use an adapter cable to convert 4-pin Molex connectors to the connectors you require. You can typically purchase adapters for PCIe video, SATA power, or processor power cables. Purchasing a new power supply or video card would work but would be more expensive than using an adapter.

References

LabSim for PC Pro, Section 3.2.
[pcpro2016_all_questions_en.exm 4 PIN MOLEX CONNECTOR]

Question 63: Incorrect

Which of the following are characteristics of the ExpressCard /54 form factor. (Select two.)

- [x] L shape
- [ ] Rectangular shape
- [x] ~~54mm wide at the connector~~
- [ ] 68-pin connector
- [ ] 34mm wide at the connector

Explanation

ExpressCard /54 are L shaped cards that are 34mm wide at the connector end, but 54mm wide on the outside edge. ExpressCard /34 are rectangular cards that are 34mm wide. Older PC Cards used a 68-pin connector.

References

LabSim for PC Pro, Section 8.2.
[pcpro2016_all_questions_en.exm NOTEBOOK_COMPONENTS_08]

Question 64: Correct

Examine the following output:

4 22 ms 21 ms 22 ms sttlwa01gr02.bb.ispxy.com [154.11.10.62]

5 39 ms 39 ms 65 ms plalca01gr00.bb.ispxy.com [154.11.12.11]

6 39 ms 39 ms 39 ms Rwest.plalca01gr00.bb.ispxy.com [154.11.3.14]

7 40 ms 39 ms 46 ms svl-core-03.inet.ispxy.net [205.171.205.29]

8 75 ms 117 ms 63 ms dia-core-01.inet.ispxy.net [205.171.142.1]

Which command produced this output?

- ( ) nslookup
- ( ) ping
- (•) tracert
- ( ) netstat

Explanation

The output is from a tracert command run on a Windows Server system. The tracert command provides information on each step in the route a packet takes to reach a remote host. Responses from each hop on the route are measured three times to provide an accurate representation of how long the packet takes to reach, and be returned by that host. This information can be useful in locating congestion points on a network, or when verifying that network routing is operating as expected. The ping command is used to test connectivity between devices on a network. Like

tracert, ping sends three packets to the target host, but it does not report information on any intermediate devices it traverses to reach the target. Nslookup is a tool provided on Linux, Unix, and Windows systems that allows manual name resolution requests to be made to a DNS server. This can be useful when troubleshooting name resolution problems.

References

LabSim for PC Pro, Section 6.14.
[pcpro2016_all_questions_en.exm TRB NETWORKING_24]

Question 65: 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 66: Correct

You have implemented an ad-hoc wireless network that doesn't employ a wireless access point. Every wireless network card can communicate directly with any other wireless network card on the network. What type of physical network topology has been implemented in this type of network?

- Bus
- Star
- Ring
- Tree
- Mesh

Explanation

This type of network uses a physical mesh topology. There's no central connecting point. Any host can communicate directly with any other host on the network. A mesh network, such as this one, is usually impractical on a wired network. Each host would have to have a separate, dedicated network interface and cable for each host on the network. However, a mesh topology can be implemented with relative ease on a wireless network due to the lack of wires.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm PC 2016 MESH TOPOLOGY_01]

Question 67: Correct

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

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

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 68: Correct

To access the Internet through the Publicly Switched Telephone Network (PSTN), what kind of connectivity device must you use?

- CSU/DSU
- TDM
- Switch
- Modem
- DTE

Explanation

To establish a connection to the Internet through the PSTN/POTS you must use a modem (modulator/demodulator) which converts digital PC data into analog signals that can be transmitted through standard telephone lines. A CSU/DSU (Channel Service Unit/Data Service Unit) is a digital-interface device used to connect a router to a digital circuit such as a T1 or T3 line. Data terminal equipment (DTE) is an end instrument that converts user information into signals for transmission or reconverts received signals into user information. Time-Division Multiplexing (TDM) is a type of digital or (rarely) analog multiplexing in which two or more signals or bit streams are transferred apparently simultaneously as sub-channels in one communication channel, but physically are taking turns on the channel. A switch is a device for changing the course (or flow) of a circuit.

References

LabSim for PC Pro, Section 6.10.
[pcpro2016_all_questions_en.exm MODEM_01]

Question 69: Incorrect

You're trying to access your office network with your Windows workstation from home using your organization's virtual private network (VPN). Your DSL modem has connected to your ISP, but you can't connect to your office network. You issue the ipconfig command from the command prompt and learn that your system has been assigned an IP address of 169.254.1.12. What's causing the problem?

- ~~Your organization's firewall is filtering VPN connections.~~
- Your organization's VPN is down.
- Your modem doesn't support the v.56 standard, which is needed for VPN access.
- Your ISP's DNS server isn't working properly.
- Your ISP's DHCP server isn't working properly.

Explanation

Anytime you see a network interface assigned an IP address in the 169.254.0.1 to 169.254.255.254 range, you know that it was unable to acquire an IP address from a DHCP server. Automatic Private IP Addressing (APIPA) on the workstation automatically took over and assigned an IP address in the range listed above. Because of this, the workstation isn't configured with the correct router and DNS server addresses, and can't access the company's VPN.

References

LabSim for PC Pro, Section 6.14.
[pcpro2016_all_questions_en.exm TRB NETWORKING_04]

Question 70: Correct

Which of the following devices use the 4-pin peripheral (Molex) connector? (Select two.)

- [ ] SATA hard disk drive
- [ ] Solid state drive
- [ ] CPU
- [x] PATA CD-ROM
- [x] Case fan

Explanation

The 4-pin peripheral power connector (colloquially called a 4-pin Molex connector) is used by the following components:

- PATA CD-ROM
- IDE hard drives
- Case fans

Solid state drives and SATA hard disk drives use SATA power connectors. If a CPU needs auxiliary power, it uses either a 4-pin 12 V (P4) connector or an 8-pin EPS12V CPU connector.

References

LabSim for PC Pro, Section 3.2.
[pcpro2016_all_questions_en.exm PC16_POWER_SUPPLY_07]

Question 71: Correct

What is the theoretical capacity of a DDR4 standard system memory module?

- (•) 512 GB
- ( ) 512 MB
- ( ) 128 MB
- ( ) 256 GB

Explanation

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

References

LabSim for PC Pro, Section 3.7.
[pcpro2016_all_questions_en.exm DDR4 LIMIT]

Question 72: Incorrect

Which of the following IP addresses are Class B addresses? (Select three.)

- [x] ~~115.33.0.0~~
- [ ] 195.155.0.0
- [ ] 64.2.2.64
- [x] 132.12.0.0

- [ ] 224.15.55.2
- [x] 129.0.0.0
- [ ] 190.65.2.0

Explanation

The following are Class B addresses: 129.0.0.0, 132.12.0.0, and 190.65.2.0. The first octet of Class B addresses is in the range of 128 to 191. The first octet of Class C addresses is in the range of 192 to 223. The first octet of Class A addresses range from 1-126.

References

LabSim for PC Pro, Section 6.5.
[pcpro2016_all_questions_en.exm IP ADDR CLASS_03]

Question 73: Correct

Upon reviewing the specifications for a motherboard, you find that it uses an F CPU socket.

Which manufacturer's CPUs can be used in this motherboard?

- (•) AMD
- ( ) IBM
- ( ) Cyrix
- ( ) Intel

Explanation

The F motherboard CPU socket is designed for processors made by AMD. It is used by the AMD Opteron and Athlon 64 FX processors.

Intel and IBM processors are not compatible with AMD motherboard sockets. Even if the Intel or IBM CPU fits in the Intel socket, they are electrically different and will very likely be destroyed upon power-up.

Cyrix made CPUs in the mid-1990s, but was acquired by another semi-conductor company and ceased making CPUs in the late 1990s.

References

LabSim for PC Pro, Section 3.3.
[pcpro2016_all_questions_en.exm PC16_MOTHERBOARDS_10]

Question 74: Incorrect

Which connector on the back of a computer is used to attach a mouse to a modern PC system?

- ( ) USB B
- (•) ~~Mini-DIN~~
- ( ) RJ-45
- ( ) Low-density (two row), female DB-15
- ( ) USB A
- ( ) High-density (three row), female DB-15

Explanation

A mouse is most commonly attached to a computer using a USB A connector. 6-pin mini-DIN

connectors were used to attach a mouse in the past, however mini-DIN connectors are not used today. DB-15 connector with two rows is commonly used for joysticks. The DB-15 connector with three rows is used for connecting CRT monitors to the video card. The RJ-45 connector is used for Ethernet network connections. USB B connectors are commonly used for connecting printers and scanners.

References

LabSim for PC Pro, Section 1.3.
[pcpro2016_all_questions_en.exm PC16 MOUSE CONNECTOR USB A]

Question 75: Correct

Your company relocated you to their United Kingdom office in London. You brought your personal computer with you and are in the process of setting it up. Your computer was previously configured to receive 110 V AC, but the electricity in London uses 230 V AC.

Which of the following would allow your computer to run on 230 V AC?

- Purchase a new power supply that is compatible with 230 V AC.
- Purchase a voltage converter and plug your computer into the converter box.
- Edit the BIOS and modify the voltage input setting.
- Toggle the voltage switch on the power supply to the different voltage.

Explanation

Most power supplies have the capacity to receive between 110 and 230 volt power just by toggling a switch (typically red) on the power supply casing. You can use this switch when using the power supply in other countries. 110 volts is used in the United States. 230 volts is used in Europe and the United Kingdom.

References

LabSim for PC Pro, Section 3.2.
[pcpro2016_all_questions_en.exm PC16_POWER_SUPPLY_04]

Question 76: 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 77: Incorrect

Which SATA storage device standard does the following?

- Integrates data and device power into a single cable
- Uses a connector and port that are neither L-shaped nor rectangular

~~eSATA~~

SATA

eSATAp

SATA2

SATA3

Explanation

eSATAp (also known as Power over eSATA or Power eSATA) is meant to replace eSATA. It combines the functionality of an eSATA and a USB port with a source of power in a single connector. It Integrates data and device power into a single cable, and the connector and port are neither L-shaped nor rectangular.

SATA1 is the original SATA standard. It provided for 1.5 Gbps (150 MBps) data transfer. SATA2 supports up to 3 Gbps (300 MBps). SATA3 support up to 6 Gbps (600 MBps). It mainly addresses solid state drives with SATA (hard disk drives are not capable of sending data at this rate).
eSATA is a subset of other standards specifically for externally connected devices.

References

LabSim for PC Pro, Section 5.2.
[pcpro2016_all_questions_en.exm ESATAP]

Question 78: Correct

Which of the following is true of a network using the 1000Base-T standard? (Select two.)

The network uses fiber optic cables

The network uses copper UTP cables

The network operates at one kilobit per second

The network operates at ten gigabits per second

The network operates at one gigabit per second

Explanation

The 1000Base-T standard for Ethernet uses copper UTP cables (Cat5e or higher) and operates at 1000 Mbps (or 1 Gbps). With the exception of 10GBase designations, the number in Ethernet standards is based on megabits per second. Ethernet specifications with F, L, S, or E use fiber optic cables.

References

LabSim for PC Pro, Section 6.4.
[pcpro2016_all_questions_en.exm 1000BASE-T_02]

Question 79: Correct

Which of the following devices can be used to distribute electrical power along with network data on twisted-pair Ethernet cabling (CAT 5 or higher)?

- AC Circuit Router
- Power over Ethernet
- AC-enabled switch
- Ethernet over Power
- Ethernet multiplexer

Explanation

Power over Ethernet (PoE) technology can be used to distribute electrical power along with network data on twisted-pair Ethernet cabling (CAT 5 or higher). Power is usually supplied by a PoE-enabled Ethernet switch. PoE is commonly used to power network devices that are located where physical access to a power outlet may not be available. For example, a PoE-enabled surveillance camera mounted on a tall pole can be powered via its Ethernet cabling.

References

LabSim for PC Pro, Section 6.4.
[pcpro2016_all_questions_en.exm NETWORK COMPONENTS_03]

Question 80: Incorrect

Which mechanisms could you use to resolve a hostname into its associated IP address? (Select two.)

- [ ] FTP
- [x] DNS
- [ ] hosts file
- [ ] BOOTP
- [x] ~~DHCP~~

Explanation

You can use the Domain Name System (DNS) to get the IP address from a given host name. You can also use the local hosts file to map host names into IP addresses. On Windows systems, this file is located in C:\Windows\system32\drivers\etc\. You can use either the DHCP protocol or the BOOTP protocol to assign IP address and other configuration information to hosts automatically. Use FTP to transfer files.

References

LabSim for PC Pro, Section 6.6.
[pcpro2016_all_questions_en.exm NAME RESOLUTION_01]

Question 81: Correct

You're troubleshooting a malfunctioning LED display on a notebook computer system. An external monitor correctly displays the output from the notebook. Which of the following could be the cause?

- Failed video adapter
- Failed CCFL
- Failed inverter
- Failed backlight

Explanation

In this case, the LED backlight has failed. The backlight provides illumination to the display. Because the output displays fine on the external monitor, you know the problem is not related to the video card. LED backlights use DC power, eliminating the need for an inverter. A CCFL is one of the backlight methods (LED being the other), and uses an inverter to provide AC power to the backlight.

References

LabSim for PC Pro, Section 8.4.
[pcpro2016_all_questions_en.exm TRB NOTEBOOK_10]

Question 82: Incorrect

Which of the following methods can be used to connect a printer to a network? (Select two.)

- [ ] Connect your printer to an external print server device that is connected to the network.
- [x] ~~Plug a USB-to-Ethernet adapter in your printer's USB port.~~
- [ ] Plug a network cable into your printer's serial port.
- [x] Plug an Ethernet cable into the network port in the printer.
- [ ] Plug a network cable into your printer's USB port.

Explanation

There are two common ways to make a printer a network printer. Most printers come with an integrated network card or have a slot for adding a network card. Otherwise it is possible to connect it to the network using an external printer server. The external print server functions as a gateway between the printer's parallel interface and the network topology. While a USB-to-Ethernet adapter can be used to connect a workstation to a wired network, it won't work with a printer as software drivers must be loaded on the host for the adapter to work.

References

LabSim for PC Pro, Section 7.3.
[pcpro2016_all_questions_en.exm PRT_NETWORK_01]

Question 83: Incorrect

You have been using the same computer for several years. To extend its service life, you decide to upgrade the processor. You check the motherboard documentation and purchase the fastest processor supported by the motherboard. However, when you start the computer, it beeps regularly and nothing is displayed on the screen and it doesn't start.

What should you do first?

Update the UEFI firmware.

- ○ Press F8 while booting the computer.
- ○ Return the CPU for a new one.
- ◉ ~~Upgrade the motherboard.~~

Explanation

Flashing the BIOS or UEFI firmware is often required to upgrade system components that are part of the motherboard, such as upgrading to a faster processor. If the motherboard documentation lists the processor as supported but it is not correctly recognized, updating the BIOS or UEFI firmware to the latest version may fix the problem.

Pressing F8 while the system is booting displays the advanced boot menu on older versions of Windows. Replacing the motherboard is probably not required because the motherboard was working correctly previously and the documentation indicates that the new CPU is supported. You would only replace the CPU if you determined that it is faulty.

References

LabSim for PC Pro, Section 3.4.
[pcpro2016_all_questions_en.exm TRB CPU_02]

Question 84: Correct

Which of the following is considered an input devices?

- ○ RAM
- ○ Monitor
- ○ Hard disk
- ◉ Touchscreen

Explanation

A touchscreen is considered an input device. A touchscreen is a monitor that can receive input through touch.

A hard disk is a magnetic storage device used to store computer data. RAM is the most common type of memory found in computers and other devices such as printers. A computer monitor is an output device that consists of the multiple components that make up a computer's display system.

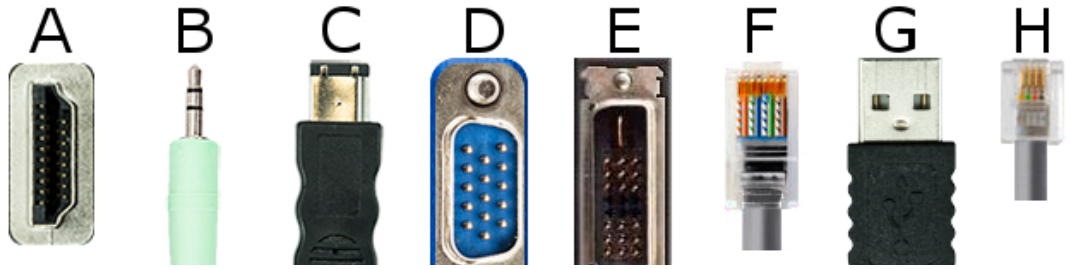
References

LabSim for PC Pro, Section 4.1.
[pcpro2016_all_questions_en.exm INPUT DEVICES_01]

Question 85: Correct

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.



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, does not carry audio
- RJ45 - used by Ethernet network adapters and other networking devices
- USB - used by USB devices (e.g., external storage devices)
- RJ11 - used by dial-up modems
- TRS jack - used by analog audio devices (e.g., speakers and headphones)

References

LabSim for PC Pro, Section 1.3.
[pcpro2016_all_questions_en.exm PC16_COMPUTER_PORTS_06-PB]

Question 86: Correct

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

- ○ Remove the bezel.
- ○

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

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 87: Correct

You need to attach an RJ-45 connector to the end of a Cat 6 UTP cable. Which tool should you use?

- Multimeter
- Punchdown tool
- ➡ Crimper
- Tone probe

Explanation

A crimper is used to attach an RJ-45 connector to the end of a UTP cable. It pushes down on the pins in the RJ-45 connector, causing them to pierce the insulation of the individual wires in the UTP cable.

A multimeter is used to measure electrical voltage and resistance. A tone probe is used to trace a UTP cable through walls and ceilings. A punchdown tool is used to connect UTP cabling to a punchdown block.

References

LabSim for PC Pro, Section 2.3.
[pcpro2016_all_questions_en.exm PC16 CRIMPER]

Question 88: Correct

Which of the following terms describes a group of computers and users that utilize centralized resources, administration, and security settings? (Select two.)

- ➡ ☑ Domain
- ☐ Workgroup
- ➡ ☑ Directory
- ☐ Peer-to-peer
- ☐ Local area network

Explanation

A domain and a directory both identify a group of computers that utilize centralized resources, administration, and security settings. For example, Active Directory is a service that provides a centralized database of resources for a domain.

A Local Area Network (LAN) is a network in a small geographic area, like in an office. A peer-to-peer network is a decentralized network where each host has its own user accounts and shared network resources. A peer-to-peer network does not utilize centralized resources, administration, and security settings. A workgroup is an example of a peer-to-peer network. In a workgroup, each computer controls access to its own resources. Security controls on each computer identify who can have access to the computer's resources.

References

LabSim for PC Pro, Section 6.1.
[pcpro2016_all_questions_en.exm DOMAIN_DIRECTORY]

Question 89: Incorrect

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

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

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 90: Correct

You are a software developer and you are creating a multimedia streaming application. Data will be streamed from your streaming server to streaming clients over IP networks. Which transport protocol should your application use to send data between the clients and the server?

- ( ) TCP
- (•) UDP
- ( ) SNMP
- ( ) ICMP

Explanation

The User Datagram Protocol (UDP) protocol can be used with the IP protocol to create unacknowledged connections between the server application and its clients. Because the packets are sent unacknowledged, latency will be dramatically reduced, providing better streaming performance. The Transmission Control Protocol (TCP) uses acknowledged connections, which would introduce considerable latency and reduce streaming performance. The Simple Network Management Protocol (SNMP) is used to monitor and manage network devices. The Internet Control Message Protocol is used to send and receive error messages on an IP network.

References

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