B.2.5 Exam Practice 5: Hardware and Network Troubleshooting

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Score: 80%

Passing Score: 80%

Question 1

Correct

A network administrator noticed that latency has been higher than their service-level agreement (SLA) covers for quite some time. What should they do?

- (●) Contact the ISP. ✓ Correct
- ( ) Implement QoS.
- ( ) Check cabling and NICs.
- ( ) Diagnose with a certifier.

Explanation

If high latency is persistently higher than an agreed service level, contact the internet service provider (ISP) to resolve the issue.

There could be a termination or external interference problem. An advanced type of cable tester called a "certifier" can report detailed information about cable performance and interference.

VoIP call quality can only really be established by using a quality of service (QoS) mechanism across the network.

Port flapping means that the network interface card (NIC) or switch interface transitions continually between up and down states. This is often caused by bad cabling, external interference, or a faulty NIC at the host end.

Related Content

7.3.5 Troubleshoot VoIP Issues

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Question 2 ✕ Incorrect

A user is trying to send the audio and video from their computer to a large panel display, but the audio will not play through the large display. The user has a VGA cable connected to the display. What would fix this problem?

- ◯ Change to an HDMI cable. ✓ Correct
- ◯ Change the audio source in the OS.
- ◯ Adjust the speaker volume.
- ◉ Unmute the large display. ✕ Incorrect

Explanation

A video graphics array (VGA) cable does not carry audio. If the ports allow it, changing to a high-definition multimedia interface (HDMI) cable is the easiest solution.

If the speaker volume is too low, either on the computer or on the display, that could be the problem. However, the VGA cable is not capable of sending audio.

When correctly cabled, there are several ways that audio can be muted, and all must be checked.

When correctly cabled, the audio source may need to be changed in the OS to have the correct output.

Related Content

4.3.7 Troubleshoot Video Quality Issues

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Question 3 Correct

While trying to diagnose an intermittent shutdown problem, a technician watches while the user reproduces the error. Before the computer shuts down, it gives the BSOD. How is this helpful in diagnosing the problem?

- (●) BSOD displays error codes. ✓ Correct
- ( ) BSOD indicates power supply unit (PSU) needs replacing.
- ( ) BSOD means that memory needs replacing.
- ( ) BSOD shows software corruption.

Explanation

The blue screen of death (BSOD) is Windows proprietary crash screen. BSOD contains an error code and a QR code to the memory dump. A technician can search error codes online for more information.

A faulty power supply unit (PSU) can cause intermittent restarts, but the BSOD does not necessarily indicate that the power supply is the problem.

Memory problems can cause intermittent restarts, but the BSOD does not necessarily mean a memory problem.

Software corruption can cause intermittent restarts, but a BSOD does not necessarily mean it is software corruption. The error code on the BSOD will give further information.

Related Content

4.2.8 Troubleshoot OS Errors and Crash Screens

4.3.1 Troubleshoot Component Issues

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Question 4 Correct

A technician replaced a failed drive in a RAID array and noticed a severely degraded performance. What is the problem?

- The controller is failing.
- There is a faulty disk.
- Rebuilding the array consumes many resources. ✓ Correct
- There is a cable problem.

Explanation

After replacing the failed disk in the redundant array of independent disks (RAID) array, the performance of the array degrades for some time since the array is rebuilding and the system is writing several gigabytes of data onto the new drive.

If the controller were failing, replacing the failed disk or boot into the RAID array would not have been possible.

A cable problem would not cause degraded performance. However, a cable problem would likely cause the system not to read the new disk at all.

The technician has already replaced the faulty disk. Furthermore, failing disks generally fail slowly over time, not immediately, causing substantial performance issues.

Related Content

4.2.11 Troubleshoot Drive Reliability and Performance
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Question 5 Correct

What is a physical indicator of overheating?

- Blank screen
- Burning smell ✓ Correct
- LED status lights
- Grinding noises

Explanation

Excessive heat can easily damage a computer. A burning smell will almost always indicate that something (probably the power supply) is overheating. Shut down the system immediately and investigate the problem.

Grinding or clicking noises generally indicate a mechanical problem with the hard drive disk (HDD), not overheating problems.

LED status lights can indicate if the computer is getting power or other diagnostic codes. They do not indicate overheating.

A blank screen can indicate anything from no power to a faulty screen. A blank screen does not directly point to overheating problems.

Related Content

- 3.4.5 CPU Features
- 4.2.1 Troubleshoot Power Issues
- 4.3.2 Overheating
- 4.3.4 Troubleshoot Performance Issues
- 14.4.11 Troubleshoot Performance Issues

resources\questions\pt_core1_220_1201_5_1_006.question.xml

Question 6 Correct

While trying to set up for a presentation, the wall-mounted display will not mirror the laptop display. The technician traces the long HDMI cable to find that it runs on the floor, and it is evident that users have repeatedly run over it. What will likely fix the problem?

- Turn on the laptop.
- Use a new HDMI cable. ✓ Correct
- Replace the PSU.
- Plug the cable securely in.

Explanation

A cable that has physical damage will likely be the cause of the problems. Replacing the high-definition multimedia interface (HDMI) cable and finding another way to run the wires to avoid damage in the future will likely solve this problem.

A faulty power supply unit (PSU) on the laptop would not cause problems displaying on a second monitor.

The damaged HDMI cable will likely still not work, even if plugged in securely on both ends.

The laptop is already on since the display on the laptop is visible and not correctly mirroring on the display monitor.

Related Content

4.3.6 Troubleshoot Missing Video Issues
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Question 7 Correct

What symptom only points to a mechanical fault?

- Read/write failure
- Grinding noise ✓ Correct
- Bootable device not found
- No LED status lights

Explanation

A hard disk drive (HDD) has moving pieces that generally make a low-level sound when accessed. A loud or grinding noise, or any clicking sound, is a sign of a mechanical problem.

The error message "Bootable device not found" could indicate a physical problem, but it is just as likely to be a corrupted boot disk sector (software problem).

Bad sectors in an HDD typically cause read/write failures when trying to open or save a file. Power failures or mechanical faults can cause read/write failures.

No light-emitting diode (LED) status indicators can mean the whole system is not receiving power or an individual disk unit is faulty.

Related Content

4.2.9 Troubleshoot Drive Availability

4.2.10 Lab: Troubleshoot Drive Availability

resources\questions\pt_core1_220_1201_5_1_009.question.xml

Question 8 Correct

How can a technician diagnose capacitor swelling?

- Computer that is hot to the touch
- Slow computer
- System diagnostics
- Physical inspection ✓ Correct

Explanation

Capacitors are barrel-like components that regulate the flow of electricity to system chips. Swollen, bulging, or emitting any residue indicates damaged or failed capacitors. The only sure way to diagnose this is visual.

A computer that is hot to the touch can indicate overheating, not capacitor swelling.

A sluggish computer can result from many different problems and is not a diagnostic indicator of capacitor swelling.

System diagnostics can help diagnose software and some hardware problems, and it can also point toward capacitor swelling. However, a physical inspection will still be necessary.

Related Content

4.3.1 Troubleshoot Component Issues

resources\questions\pt_core1_220_1201_5_1_010.question.xml

Question 9 Correct

How can a technician eliminate overheating as the cause of a sluggish computer?

- By touching the computer
- By checking for misconfigurations
- By checking the temperature sensor values to ensure they are normal ✓ Correct
- By running a speed test

Explanation

If the temperature is too high, the central processing unit (CPU) and other components are likely to throttle performance to avoid overheating. The technician can verify this by checking temperature sensor temps and fan speeds.

Even if the computer is not hot to the touch, it can still slow the computer down. Just touching the case to check the temperature of the CPU would not rule out temperature problems.

A slow computer can sometimes mean a network connection problem, which the technician can verify by running a speed test. This test would be appropriate after checking for temperature problems.

Misconfigurations can cause sluggish performance, but this would not help rule out overheating.

Related Content

- 3.4.5 CPU Features
- 4.2.1 Troubleshoot Power Issues
- 4.3.2 Overheating
- 4.3.4 Troubleshoot Performance Issues
- 14.4.11 Troubleshoot Performance Issues

resources\questions\pt_core1_220_1201_5_1_004.question.xml

Question 10 Correct

A user complains that their phone is not responding to touch. What is the likely culprit?

- Faulty battery
- Damaged port
- Overheating phone
- Faulty digitizer ✓ Correct

Explanation

A touch screen can also be referred to as a digitizer due to the way it converts analog touch input to digital software instructions. A faulty digitizer will cause the touch screen to stop working.

When a phone no longer holds a charge for a reasonable amount of time, the user should suspect a faulty battery. The issue can be a damaged battery, or it is simply at the end of its life.

The main symptom of overheating will be that the device is almost too hot to touch. As well, overheating can sometimes cause the phone to turn off.

A damaged port will have intermittent or no connectivity. This issue can occur when charging or using other accessories, such as headphones.

Related Content

9.4.4 Screen and Calibration Issues
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Question 11 ✕ Incorrect

A user's laptop screen is very dim. However, the image becomes bright when the technician attaches an external monitor. What is the problem?

- ◉ Video configuration ✕ Incorrect
- ○ Battery
- ○ Malware
- ○ Backlight ✓ Correct

Explanation

When a backlight fails, the screen will be very dim. The technician has verified that the graphics card is working by connecting the external monitor. Replacing a laptop backlight is generally a warranty repair.

A faulty battery will cause overheating or an inability to hold a charge. A battery exhibiting poor health will not hold a charge.

The image will appear fuzzy if the output resolution does not match the display device's native resolution.

The technician should always consider malware when a device acts unexpectedly. However, the technician should not assume malware is the culprit until ruling out hardware problems.

Related Content

resources\questions\pt_core1_220_1201_5_4_009.question.xml

Question 12 Correct

While diagnosing a computer that is not powering on, the technician has established that the wall socket is working correctly since there is a fully plugged power cord. What would be a reasonable next step?

- (●) Use another power cable. ✓ Correct
- ( ) Plug in a known working monitor.
- ( ) Check the system configurations.
- ( ) Disconnect the plug-in graphics card.

Explanation

After the troubleshooting steps listed, the next reasonable step would be to replace the power cord with a known good cord. If there is a problem with the cord, and the computer boots with a known good cord, then that was the issue.

After checking the power cord, disconnect any extra devices. For example, the power supply unit (PSU) might be under-powered for the external device.

For diagnosing blank screen problems, plug in a known good external monitor. However, it is not appropriate when the computer is not getting power.

Checking system configurations can help diagnose application crashes or intermittent restarts, but it is not possible if the computer is not getting power.

Related Content

4.2.1 Troubleshoot Power Issues

4.3.3 Physical Damage

resources\questions\pt_core1_220_1201_5_1_013.question.xml

Question 13 Correct

A user complains that their monitor dims every day at 5:30 pm. What could fix this problem?

- Submit display for warranty repair.
- Adjust contrast.
- Turn off the auto-dim feature. ✓ Correct
- Adjust resolution.

Explanation

Modern operating systems have settings for adaptive brightness, auto-brightness, or eye-saving features that reduce brightness and contrast. These can be turned on at a certain time of the day and can also be turned off if the user prefers.

If the image is almost invisible, the display's backlight has probably failed and needs to be submitted for warranty repair.

Adjusting the contrast can help if the display is problematic all day, but the display is only a problem after 5:30 pm.

Adjusting the resolution fixes a fuzzy image and would not help with a timed brightness problem.

Related Content

4.3.7 Troubleshoot Video Quality Issues

resources\questions\pt_core1_220_1201_5_3_009.question.xml

Question 14 Correct

A computer monitor's display is so dim that it is almost invisible. What is the likely problem?

- Incorrect resolution
- Incorrect cables
- Failed display backlight ✓ Correct
- Dead pixels

Explanation

If a display's image is so dim that it is almost invisible, the backlight has probably failed. The technician will need to replace the backlight or get it repaired under warranty.

The image will appear fuzzy if the output resolution does not match the display device's native resolution. This fuzzy resolution typically happens if the video card's driver is faulty or incorrectly configured.

Dead pixels occur when individual pixels stay black. A technician generally cannot fix dead pixels.

Incorrect cables can cause many problems, from flickering screens to audio problems. However, in this case, it is unlikely to be the problem.

Related Content

4.3.7 Troubleshoot Video Quality Issues

resources\questions\pt_core1_220_1201_5_3_013.question.xml

Question 15 Correct

A RAID array cannot boot, and the technician cannot reach the configuration utility. There have been no recent changes to the array. What is the likely problem?

- (●) Controller failure ✓ Correct
- ( ) Disk failure
- ( ) Misconfiguration
- ( ) Failed RTC battery

Explanation

If the redundant array of independent disks (RAID) array cannot boot, the first step is to use the configuration utility to verify the status. If the system cannot reach it, then the controller likely failed.

Single disk failure would not stop the booting process from happening. RAID arrays operate so that a single disk can fail and not cause any data loss.

Misconfiguration can always be a problem, but no recent changes occurred in this case. If it was booting fine before and no configurations have changed, then misconfiguration is highly unlikely to be the problem.

A failed real-time clock (RTC) battery will cause an incorrect date or time but will not stop a RAID array from booting.

Related Content

4.2.12 Troubleshoot RAID Failure

resources\questions\pt_core1_220_1201_5_2_005.question.xml

Question 16 Correct

A computer has intermittent problems and is making grinding and clicking noises. What is the likely problem?

- (●) Faulty disk ✓ Correct
- ( ) No power
- ( ) Overheating
- ( ) Corrupted boot sector

Explanation

A hard disk drive (HDD) has moving platters and arms that can start to fail due to mechanical problems. The mechanical problems can result in grinding or clicking noises.

System diagnostics would diagnose an overheating computer, or more commonly by the computer becoming hot to the touch.

The power must be on for the computer to make grinding and clicking noises. If there is no power, the disk cannot move.

A corrupted boot sector would keep the computer from booting at all. After using power-on self-test (POST), an error message stating, "Boot device not found," would appear.

Related Content

4.2.9 Troubleshoot Drive Availability

4.2.10 Lab: Troubleshoot Drive Availability

4.2.11 Troubleshoot Drive Reliability and Performance

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Question 17 Correct

A user complains that their phone restarts unexpectedly. However, after trying to isolate the problem, the technician has no idea what is causing the unexpected restarts. What should the technician consider as a possible cause and thoroughly examine for?

- (●) Malware ✓ Correct
- ( ) Digitizer
- ( ) Video configuration
- ( ) Battery

Explanation

Whenever a device does not function as expected, the technician should always consider malware. Malware or rogue apps are likely to try to collect data in the background. As a result, the device can become unresponsive and force system crashes.

A faulty battery is unlikely to cause apps to crash. An overheating battery can force a phone to turn off, but there is no mention of overheating.

Video configuration problems can result in blurry images but would not cause apps to crash.

A problematic digitizer would result in the touch screen not working or giving unreliable results.

Related Content

9.4.6 Malware Issues

resources\questions\pt_core1_220_1201_5_4_010.question.xml

Question 18 ✕ Incorrect

A user is trying to mirror a computer to a large display monitor for a presentation. The computer is on, and the display reads "no input" on the screen. An HDMI cable connects the two devices. What would be the next thing to check?

- ◯ Change the display source. ✓ Correct
- ◯ Turn the display on.
- ◯ Replace the bulb.
- ◉ Change the HDMI cable. ✕ Incorrect

Explanation

The computer and the monitor display are on, and a cable connects the two. The next thing to check is to ensure the user chooses the appropriate data source. Generally, a menu on the display will change the data source to the appropriate high-definition multimedia interface (HDMI) cable.

The monitor display is already on, indicated by the "no input" on the screen.

The HDMI cable may be the problem, but the more obvious problem is that the user chose the wrong input source on the display screen.

A burned-out bulb is a problem with a light-emitting diode (LED) projector, not a large monitor display.

Related Content

4.3.6 Troubleshoot Missing Video Issues
resources\questions\pt_core1_220_1201_5_3_001.question.xml

Question 19 Correct

A technician suspects a mobile device to have damage caused by liquid. What should the technician do first?

- (●) Power off the device. ✓ Correct
- ( ) Replace the screen.
- ( ) Request a warranty replacement.
- ( ) Replace the battery.

Explanation

The technician should power off the device to avoid further damage and remove any excess liquid. Next, the technician must disassemble the device to dry the internal components when exposed to liquid.

The technician will need to replace the battery when a device has liquid damage; however, this is not the first step.

Sometimes liquid damage can result in seeing liquid under the screen. This does not necessarily mean that the screen needs replacing; sometimes, it just needs to dry out.

Depending on the warranty policy, a warranty replacement for water damage to a mobile device may be appropriate. However, the first step will be to power down the device before moving forward.

Related Content

9.4.2 Hardware Failure Issues
resources\questions\pt_core1_220_1201_5_4_006.question.xml

Question 20 ✕ Incorrect

A tier one helpdesk technician receives a corporate cellphone with a broken screen. What is the first step?

- ○ Replace the screen.
- ◉ Open the phone to check for liquid damage. ✕ Incorrect
- ○ Replace the charging cable.
- ○ Check if the phone is under warranty. ✓ Correct

Explanation

Mobile devices are easy to drop, and screens can crack or shatter. This is likely to require a warranty or professional services to repair it.

If there are no visible cracks, the screen or digitizer may have been damaged by liquid. But the screen is visibly cracked in this question.

Mobile devices are likely to require a warranty or professional services to replace parts, such as a broken screen. Replacing parts outside the warranty can void the contract.

If a cellphone is having trouble charging, then replacing the charging cable can help isolate the problem. There is no indication of a charging problem in the scenario.

Related Content

9.4.4 Screen and Calibration Issues
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