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## Exam A

### QUESTION 1

A network technician has been tasked with creating a patch cable. The RJ45 connectors will not stay attached to the cable. Which of the following tools is needed to fix this issue?

- A. Cable tester
- B. Crimper
- C. Punchdown tool
- D. Loopback plug

**Correct Answer: B**

**Section:**

**Explanation:**

A crimper is a tool that is used to crimp (attach) an RJ45 connector onto the end of a patch cable. The crimper applies pressure to the connector to make a permanent connection between the connector and the cable, ensuring that the connector will stay attached to the cable.

A cable tester is used to test the connectivity of a network cable. A punchdown tool is used to terminate network cables in a patch panel or keystone jack. A loopback plug is a diagnostic tool that is used to test network interfaces by simulating network traffic.

Reference: CompTIA A+ Core 1 Exam Guide, page 92.

### QUESTION 2

Which of the following allows a switch to be divided into separate logical networks?

- A. VLAN
- B. SSL VPN
- C. NAT
- D. RADIUS

Answer: A

**Correct Answer: A**

**Section:**

**Explanation:**

A Virtual LAN (VLAN) is a network topology that allows a switch to be divided into separate logical networks. This allows for the creation of multiple broadcast domains within a single physical network, improving network segmentation and security. With VLANs, you can segment your network so that different departments, applications, or users are isolated from each other, improving network security and performance.

### QUESTION 3

The IT department issued a corporate smartphone to a user, but the user returned the device stating it had connectivity issues. The user claimed the device functioned on Wi-Fi but all connectivity to cloud services was lost as soon as the device was taken off site. Which of the following issues was MOST likely affecting the device?

- A. MDM was never properly set up on the device.
- B. S/MIME certificates were corrupted and needed to be reloaded.
- C. Bluetooth on the device was disabled by mistake.
- D. The device never had a proper SIM card installed.

**Correct Answer: D**

**Section:**



**Explanation:**

A SIM card is needed for the device to use cellular network services, so without it, the device will be unable to connect to the cloud services when taken off site. MDM (Mobile Device Management) can be used to manage settings and access on a device, but it is not necessary for the device to be able to use cloud services. S/MIME (Secure/Multipurpose Internet Mail Extensions) certificates are used to encrypt and digitally sign emails, and are not related to device connectivity. Bluetooth can be used to connect devices together, but it is not necessary for the device to be able to use cloud services.

**QUESTION 4**

A technician is troubleshooting a smartphone that has a large dark area on the screen. The screen has no damage to indicate that it is cracked. Which of the following BEST describes why a blot is on the screen?

- A. Digitizer damage
- B. Improper charging
- C. Ambient light sensor damage
- D. Liquid damage

**Correct Answer: A**

**Section:**

**Explanation:**

A blot on the screen of a smartphone is most likely caused by damage to the digitizer, which is the part of the device responsible for interpreting touch input. Improper charging is unlikely to cause a blot on the screen, as is damage to the ambient light sensor. Liquid damage is a possibility, but it is more likely to cause discoloration or other physical damage to the screen.

**QUESTION 5**

A technician is working on a help desk ticket for a user who wants the filament replaced in a 3-D printer. Which of the following should the technician do to remove the old filament and load the new one?

- A. Preheat the nozzle to melting temperature.
- B. Cut a sharp angle on the end of the strand.
- C. Push the filament along until resistance is felt.
- D. Withdraw the filament and remove the spool.



**Correct Answer: A**

**Section:**

**Explanation:**

A technician is working on a help desk ticket for a user who wants the filament replaced in a 3-D printer. To remove the old filament and load the new one, the technician should preheat the nozzle to melting temperature. After the nozzle is heated, the technician should withdraw the filament and remove the spool. Then, cut a sharp angle on the end of the new strand, and push it along until resistance is felt.

**QUESTION 6**

A user is unable to plug a USB 3.0 device into a USB port. Upon inspection, a technician notices the USB 3.0 port appears to be slightly smaller than the other connections. Which of the following is the MOST likely cause?

- A. A foreign object is stuck inside the port
- B. The cable connection utilized the wrong orientation.
- C. The USB cable is physically damaged.
- D. The USB port belongs to a different form factor.

**Correct Answer: D**

**Section:**

**Explanation:**

USB 3.0 ports are slightly smaller than other USB connections, so if the port appears to be the wrong size, it is likely that the port belongs to a different form factor. This can be caused by a number of factors, such as the device being too old to support USB 3.0, or the device not having a USB 3.0 port in the first place.

**QUESTION 7**

A technician has set up a new conference room with a TV and a video soundbar. The technician wants to test the system with a conference call. During the test, the TV speaker produces sound, but the soundbar does not. Which of the following is the MOST likely cause of the issue?

- A. The volume on the TV needs to be turned up.
- B. The conference call needs to be unmuted for audio.
- C. An incorrect HDMI cable is being used.
- D. The TV's HDMI-ARC port is not being used.

**Correct Answer: D**

**Section:**

**Explanation:**

HDMI-ARC (Audio Return Channel) is an HDMI connection that allows audio to be sent from the TV to an external sound system, such as a soundbar. If the TV's HDMI-ARC port is not being used, then the soundbar will not receive any audio from the TV and thus will not produce any sound. To resolve the issue, the technician should ensure that the TV's HDMI-ARC port is being used to connect the TV to the soundbar.

#### QUESTION 8

A user requested upgrades to a company-issued laptop to increase its performance while working with a large database stored on drive C. Which of the following tasks should a systems administrator complete to BEST meet this goal?

(Select TWO).

- A. Configure RAID 1.
- B. Install a hybrid drive.
- C. Upgrade to 1GB NIC.
- D. Increase the RAM.
- E. Migrate to a SSD.
- F. Upgrade the power supply.



**Correct Answer: D, E**

**Section:**

**Explanation:**

To increase the performance of a laptop working with a large database stored on drive C, a systems administrator should increase the RAM and migrate to an SSD. Increasing the RAM will help the laptop to better handle the large database, while migrating to an SSD will improve the speed at which the laptop can access the database. Configuring RAID 1, installing a hybrid drive, upgrading to a 1GB NIC, and upgrading the power supply will not directly improve the laptop's performance when working with a large database. Reference: CompTIA A+ Certification Exam: Core 1 - Objective 3.1

#### QUESTION 9

Which of the following technologies can allow multiple networks to traverse a switch?

- A. VLAN
- B. VRRP
- C. VPN
- D. DHCP

**Correct Answer: A**

**Section:**

**Explanation:**

The technology that allows multiple networks to traverse a switch is VLAN (Virtual Local Area Network) which is a logical grouping of devices on the same network regardless of their physical location. Virtual Local Area Network (VLAN) technology can allow multiple networks to traverse a switch. A VLAN is a logical network created within a physical network that can separate traffic and allow multiple networks to coexist on the same physical network infrastructure. VRRP (Virtual Router Redundancy Protocol), VPN (Virtual Private Network), and DHCP (Dynamic Host Configuration Protocol) do not allow multiple networks to traverse a switch. Reference: CompTIA

**QUESTION 10**

A company just bought a printer capable of automatically printing on both sides of the paper. After installation, however, the technician can only print on both sides of the paper manually. Which of the following should the technician do to fix the issue?

- A. Install the most recent firmware upgrade available for the printer.
- B. Contact the vendor for a hardware replacement.
- C. Reinstall the printer software and drivers, and then restart the printer.
- D. Read the installation manual and configure duplex settings.

**Correct Answer: D**

**Section:**

**Explanation:**

The issue described in the Q is most likely due to an incorrect configuration of the printer's duplex settings. To enable automatic duplex printing, the technician needs to read the printer's installation manual to understand how to configure the printer's duplex settings correctly. Once the settings are configured, the printer should be able to print on both sides of the paper automatically. To fix the issue of a newly installed printer capable of automatically printing on both sides of the paper but only printing on both sides manually, the technician should read the installation manual and configure duplex settings. Duplex printing settings can be configured in the printer driver software, which can be accessed through the printer settings in the Control Panel. Installing the most recent firmware upgrade available for the printer, contacting the vendor for a hardware replacement, or reinstalling the printer software and drivers and restarting the printer will not resolve the issue.

**QUESTION 11**

An online retailer would like to add capacity to support increased sales. Additional servers have been installed. Which of the following should be used to ensure each new server is being properly utilized?

- A. Virtualization
- B. Clustering
- C. Load balancer
- D. Round-robin DNS



**Correct Answer: C**

**Section:**

**Explanation:**

<https://www.resonatenetworks.com/2020/04/29/clustering-vs-load-balancing-whats-the-difference/>A load balancer distributes network traffic evenly across multiple servers, ensuring each server is being properly utilized. This helps to prevent overloading of any individual server, which can cause downtime or slow response times for users. In this scenario, adding a load balancer would be the best way to ensure the new servers are being properly utilized. Reference: CompTIA A+ Certification Exam: Core 1 - Page 181

**QUESTION 12**

Which of the following utilizes TCP ports 20/21 and transfers data in cleartext?

- A. SNMP
- B. SSH
- C. FTP
- D. Telnet

**Correct Answer: C**

**Section:**

**Explanation:**

FTP (File Transfer Protocol) uses TCP ports 20/21 and transfers data in cleartext, which means the data is not encrypted and can be read by anyone who intercepts it. This makes FTP insecure for transferring sensitive information. SSH (Secure Shell), on the other hand, uses port 22 and encrypts data, making it more secure. SNMP (Simple Network Management Protocol) uses ports 161/162 and is used to monitor network devices. Telnet

uses port 23 and transfers data in cleartext, making it insecure. Reference: CompTIA A+ Certification Exam: Core 1 - Page 199

### QUESTION 13

A customer is using a satellite internet connection that is experiencing slowness. A technician notices high latency while pinging, but the download test is performing perfectly with very good download speeds. Which of the following represents the NEXT action the technician should perform?

- A. Restart the modem and run an online internet connection and speed diagnostic tool.
- B. Guide the customer on how to upgrade the internet plan with the provider in order to improve latency.
- C. Explain to the customer this is not an issue; this situation is normal for this type of internet connection.
- D. Replace the modem because it is not working correctly based on the test result.

**Correct Answer: A**

**Section:**

**Explanation:**

The technician should restart the modem and run an online internet connection and speed diagnostic tool<sup>1</sup>. High latency is a common issue with satellite internet connections, and it can cause slow internet speeds<sup>2</sup>. Restarting the modem can help to resolve the issue<sup>1</sup>. The technician should also run an online internet connection and speed diagnostic tool to check the connection and speed<sup>1</sup>. Guiding the customer on how to upgrade the internet plan with the provider in order to improve latency is not likely to be the correct option<sup>2</sup>. High latency while pinging can indicate a problem with the modem or the connection between the modem and the satellite. Restarting the modem can often resolve connectivity issues. Running an online internet connection and speed diagnostic tool can help identify any other issues with the connection. Upgrading the internet plan may not resolve latency issues and may not be necessary if the download test is performing perfectly with very good download speeds. High latency is not normal for satellite internet connections, so replacing the modem based on this one test result is premature. Reference: CompTIA A+ Certification Exam: Core 1 - Page 102

### QUESTION 14

An organization maintains various record types, including health and criminal justice records. Which of the following cloud environments is the organization MOST likely to use to limit the attack surface?

- A. Public
- B. Hybrid
- C. Community
- D. Private

**Correct Answer: D**

**Section:**

**Explanation:**

Private cloud environments are designed for use by a single organization and offer the greatest control over security and access to data. They are typically used for sensitive or confidential data, such as health and criminal justice records. Public cloud environments are shared by multiple organizations and offer less control over security and access to data. Hybrid cloud environments combine public and private clouds, while community clouds are shared by multiple organizations with similar needs. Reference: CompTIA A+ Certification Exam: Core 1 - Page 234

### QUESTION 15

Which of the following components enables the input on a mobile device's touch screen?

- A. OLED
- B. Digitizer
- C. Inverter
- D. CMOS sensor

**Correct Answer: B**

**Section:**

**Explanation:**

The digitizer is the component that enables input on a mobile device's touch screen. It is a transparent layer that sits over the screen and detects the location of touch inputs. OLED (Organic Light Emitting Diode) is a type of display technology. Inverter is a component used in older LCD displays to provide power to the backlight. CMOS (Complementary Metal-Oxide-Semiconductor) sensor is a type of image sensor used in digital cameras and smartphones to capture images. Reference: CompTIA A+ Certification Exam: Core 1 - Page 177

**QUESTION 16**

Which of the following should the data center hardware technician implement to ensure maximum uptime for customers' virtual machines?

- A. Line conditioner
- B. AC voltage regulator
- C. Uninterruptible power supply
- D. Cloud storage backup

**Correct Answer: C**

**Section:**

**Explanation:**

An uninterruptible power supply (UPS) can help ensure maximum uptime for customers' virtual machines by providing a backup power source in case of a power outage or other power-related issues. A line conditioner and AC voltage regulator are designed to stabilize the power supply, but do not provide backup power. Cloud storage backup is a way to backup data, but does not directly impact uptime. Reference: CompTIA A+ Certification Exam: Core 1 - Page 159

**QUESTION 17**

A field technician has been dispatched to a site with an internet outage. Upon arriving, the technician discovers that the POTS lines are not working as well. Which of the following technologies is the site MOST likely using?

- A. Fiber
- B. Cable
- C. DSL
- D. Satellite



**Correct Answer: C**

**Section:**

**Explanation:**

DSL (Digital Subscriber Line) uses POTS (Plain Old Telephone Service) lines to provide high-speed internet access. If the POTS lines are not working, it could cause an internet outage for DSL customers. Fiber and cable internet typically use different types of infrastructure, while satellite internet is not reliant on POTS lines. Reference: CompTIA A+ Certification Exam: Core 1 - Page 231

**QUESTION 18**

A customer reports that a computer is never able to reach more than a 100Mbps transfer data rate, even when using a Gigabit LAN card. While troubleshooting, the technician notices the network cable needs to be replaced. Which of the following cable categories is limiting the transfer speed?

- A. Cat 5
- B. Cat 5e
- C. Cat 6
- D. Cat 6a

**Correct Answer: A**

**Section:**

**Explanation:**

Cat 5 cable is limited to a maximum data transfer rate of 100Mbps, while Cat 5e, Cat 6, and Cat 6a cables support Gigabit Ethernet (1000Mbps) and higher speeds. Even though the LAN card is capable of Gigabit speeds, it cannot achieve that speed when using a Cat 5 cable. Upgrading to a Cat 5e or higher cable would allow the computer to achieve Gigabit speeds. Reference: CompTIA A+ Certification Exam: Core 1 - Page 196

### QUESTION 19

A user on a SOHO network is unable to watch online videos, even at 240 pixels. The technician runs ipconfig from the user's computer and records the following:

```
Connection-specific DNS Suffix .: lan
Link-local IPv6 Address . . . . .: fe80::1585:7fb2:b05f:7102%12
IPv4 Address. . . . .: 192.168.1.131
Subnet Mask . . . . .: 255.255.255.0
Default Gateway . . . . .: 192.168.1.1
```

The technician then connects a test laptop to the router via the user's Cat 5 cable and records the following information:

```
Download: 85 mbps
Upload: 22 mbps
Ping: 28 ms
```

Which of the following is MOST likely causing the user's issue?

- A. Incorrect IP address
- B. Faulty NIC
- C. Misconfigured default gateway
- D. Bad network cable

**Correct Answer: B**

**Section:**

**Explanation:**

Based on the information recorded by the technician, the network connection appears to be functioning normally. The user's computer is properly configured with an IPv4 address, subnet mask, and default gateway, which should allow the user to access the internet and online videos. The high download and upload speeds and low ping time recorded from the test laptop also indicate that the network is working well. However, the user's inability to watch online videos suggests that there might be an issue with the network card (NIC) on the user's computer. The NIC might be faulty or malfunctioning, which is preventing the computer from receiving and processing the video data. The technician should try replacing the NIC to resolve the issue.

### QUESTION 20

A technician needs to recommend an internet connection for a customer who travels around the world and wants to have connectivity while visiting remote camping locations. Some of the locations the customer visits have limited or unreliable cellular service. Which of the following connection types should the technician recommend?

- A. Satellite
- B. DSL
- C. Fiber
- D. Hotspot

**Correct Answer: A**

**Section:**

**Explanation:**

The connection type that the technician should recommend is Satellite. Satellite internet is a good option for people who travel around the world and want to have connectivity while visiting remote camping locations. It works by using terminals which can give you internet access in remote locations as long as they have a line of sight to the satellite in orbit above. Since the customer travels to remote camping locations with limited or unreliable cellular service, the best recommendation is satellite internet connection. Satellite internet uses a dish to connect to satellites orbiting the earth, which can provide coverage anywhere in the world as long as there is a clear line of sight to the satellite. This is especially useful in remote areas where traditional terrestrial connections are not available. Reference: CompTIA A+ Certification Exam Objectives - 220-1001: 1.6 Given a scenario, evaluate connection type and bandwidth.

### QUESTION 21

While implementing a non-carrier-grade wireless backhaul, a technician notices the current channel selection is extremely polluted with various RF signals. Upon performing a spectral analysis, the technician discovers a channel containing almost no RF pollution. Unfortunately, the technician is unable to select that channel. Which of the following is the MOST likely reason for this issue?

- A. The channel is reserved for licensed band use.



- B. The channel selection is defective; contact the manufacturer.
- C. The channel must be unlocked by the vendor.
- D. The device requires a firmware update to unlock the channel.

**Correct Answer: A**

**Section:**

**Explanation:**

The most likely reason that the technician is unable to select the channel with almost no RF pollution is that it is reserved for licensed band use. Some channels are reserved for specific purposes and require a license to use. These licensed bands are typically used for critical infrastructure, public safety, or military operations, and unlicensed devices are not allowed to use them. Reference: CompTIA A+ Certification Exam Objectives - 220-1001: 3.3 Compare and contrast common networking hardware devices.

#### QUESTION 22

A user connects a smartphone to a laptop. Which of the following types of networks has the user created?

- A. PAN
- B. MAN
- C. WLAN
- D. LAN

**Correct Answer: A**

**Section:**

**Explanation:**

When a user connects a smartphone to a laptop, they create a Personal Area Network (PAN). A PAN is a type of network used for communication between devices in close proximity to each other, typically within a range of a few meters or less. This type of network is commonly used for wireless communication between personal devices, such as connecting a smartphone to a laptop for file sharing or internet access. Reference: CompTIA A+ Certification Exam Objectives - 220-1001: 1.1 Explain common connectors and their uses.

#### QUESTION 23

A user reports that printed receipts have black smudges over the entire image. The text is still present but is very dark and sometimes illegible. Which of the following are the MOST likely cause and solution for the printer issue?

- A. The ribbon is jammed and is rubbing on the paper. Clear the bad ribbon and feed it through properly.
- B. The printhead is too hot. Adjust the temperature down and retry printing.
- C. The printer is loaded with the wrong type of paper. Replace the receipt paper with carbon paper.
- D. The blue ink cartridge was loaded with black ink. Put in the correct ink and clean the printhead.

**Correct Answer: B**

**Section:**

**Explanation:**

The black smudges over the entire image on a printed receipt are most likely caused by a jammed ribbon that is rubbing on the paper. The solution is to clear the bad ribbon and feed it through the printer properly. Ribbon jams can be caused by various issues, such as incorrect installation or a damaged ribbon. Reference: CompTIA A+ Certification Exam Objectives - 220-1001: 4.5 Given a scenario, troubleshoot common printer problems.

#### QUESTION 24

A technician is configuring a workstation to be used as a VM host. After installing the necessary software, the technician is unable to create any VMs. Which of the following actions should be performed?

- A. Disable the BIOS password.
- B. Enable TPM.
- C. Enable multithreading.

D. Enable Fast Startup.

**Correct Answer: B**

**Section:**

**Explanation:**

If you want to install Windows 11 on a virtual machine using Hyper-V, you will have to use a "Generation 2" VM and enable the "trusted platform module" (TPM) and Secure Boot options. Otherwise, the OS won't install. Starting with Windows 11, Microsoft is changing the system requirement and making TPM 2.0 and Secure Boot a prerequisite to perform an in-place upgrade or clean install the new version on any device. This is in addition to the new 4GB of RAM and at least 64GB of storage. :quoted from here:

<https://pureinfotech.com/enable-tpm-secure-boot-hyperv-install-windows-11/>

Furthermore, Multithreading is not a requirement for hyper-v hosting.

To create virtual machines on a workstation, the technician needs to enable Trusted Platform Module (TPM) in the system BIOS. TPM is a hardware-based security feature that helps protect the system from unauthorized access and tampering. It is required for many virtualization technologies, including Hyper-V, VirtualBox, and VMware. Reference: CompTIA A+ Certification Exam Objectives - 220-1102: 2.7 Explain the basics of virtualization.

#### QUESTION 25

Several users who share a multifunction printer in an office have reported unintended, thin, vertical lines that cover the entire height of every page printed from the printer. Which of the following steps should a technician complete in order to MOST likely resolve this issue?

- A. Replace the printer paper with a new ream.
- B. Clear the print spooler on each computer.
- C. Reinstall the printer driver on each computer
- D. Perform the drum-cleaning procedure.

**Correct Answer: D**

**Section:**

**Explanation:**

Thin, vertical lines on every printed page are usually caused by a dirty drum or toner cartridge. Performing the drum-cleaning procedure will likely resolve the issue. Reference: CompTIA A+ Certification Exam Guide, Ninth Edition, Chapter 18

#### QUESTION 26

A technician is setting up a new desktop computer and will be installing the hard drive directly on the motherboard without using cables to connect it. Which of the following will the technician be installing?

- A. Thunderbolt
- B. eSATA
- C. M.2
- D. SCSI

**Correct Answer: C**

**Section:**

**Explanation:**

M.2 is a form factor for solid-state drives (SSDs) that enables direct attachment to the motherboard without the need for cables. Thunderbolt is a high-speed interface that supports data transfer, video output, and charging. eSATA is an external interface for connecting SATA devices. SCSI is an older interface standard for connecting hard drives, printers, and other peripherals. Installing a hard drive directly on the motherboard without using cables is usually done with an M.2 slot. Reference: CompTIA A+ Certification Exam Guide, Ninth Edition, Chapter 5

#### QUESTION 27

An organization has some computers running macOS and some computers running Windows. The computers running macOS also need to run a piece of software that is only available on Windows. Which of the following BEST describes the solution for running Windows software on a computer running macOS?

- A. Operating system spoofing

- B. Remote software provisioning
- C. Indirect software implementation
- D. Cross-platform virtualization

**Correct Answer: D**

**Section:**

**Explanation:**

Cross-platform virtualization would be the best solution for running Windows software on a computer running macOS. This involves running a virtual machine (VM) on the macOS computer, which emulates a Windows environment and allows the Windows software to be installed and run within the VM. Cross-platform virtualization allows a computer running macOS to run Windows software. It involves creating a virtual machine on the macOS computer and installing a Windows operating system on it. Reference: CompTIA A+ Certification Exam Guide, Ninth Edition, Chapter 1

#### QUESTION 28

A technician replaced a motherboard on a server, and now the 64-bit hypervisor is not loading correctly. Which of the following needs to be enabled for the hypervisor to run?

- A. Hardware prefetcher
- B. Hyperthreading
- C. vPro
- D. VT-d

**Correct Answer: D**

**Section:**

**Explanation:**

[https://techlibrary.hpe.com/docs/iss/proliant-gen10-uefi/s\\_enabling\\_VT-d.html](https://techlibrary.hpe.com/docs/iss/proliant-gen10-uefi/s_enabling_VT-d.html) Enabling VT-d (Virtualization Technology for Directed I/O) in the server's BIOS settings is required for the hypervisor to run properly. Reference: CompTIA A+ Certification Exam Guide, Ninth Edition, Chapter 11



#### QUESTION 29

A Microsoft Windows user is preparing to work in another country and needs to comply with corporate policy for data protection when copying files to portable media. Which of the following solutions would MOST likely satisfy this requirement?

- A. A USB 3.1 flash drive with BitLocker to Go installed
- B. An SD memory card with NTFS
- C. An xD memory card with ext3
- D. A portable hard drive with FAT32

**Correct Answer: A**

**Section:**

**Explanation:**

Using a USB 3.1 flash drive with BitLocker to Go installed is the best option for complying with corporate policy for data protection when copying files to portable media. Reference: CompTIA A+ Certification Exam Guide, Ninth Edition, Chapter 12

#### QUESTION 30

A technician installed a Cat 5 UTP cable approximately 275ft (84m) from a network switch in an office to a workstation located on a factory floor. The technician sees both a flashing green LED and a flashing orange LED on the workstation's NIC. Which of the following should the technician do FIRST?

- A. Check for loose connections, pinched bends, and physical damage.
- B. Install a powered hub as close as possible to the halfway point in the Cat 5 UTP cable run.
- C. Replace the entire run of Cat 5 UTP cable with Cat 5 STP cable.

D. Upgrade the entire cable run to multimode fiber.

**Correct Answer: A**

**Section:**

**Explanation:**

The flashing green and orange LEDs on the NIC indicate connection issues. The technician should first check for loose connections, pinched bends, and physical damage, which are the most common causes of connection problems.

Reference: CompTIA A+ Certification Exam Guide, Ninth Edition, Chapter 14

#### QUESTION 31

A user acquired a new workstation and is attempting to open multiple large Excel files simultaneously. The user is not experiencing the expected performance when executing such large requests. Which of the following should a technician do FIRST?

- A. Increase the swap partition.
- B. Upgrade the CPU in the workstation.
- C. Upgrade the power supply in the workstation.
- D. Upgrade the RAM in the workstation.

**Correct Answer: D**

**Section:**

**Explanation:**

Opening multiple large Excel files simultaneously requires a large amount of RAM. Upgrading the RAM in the workstation should improve performance. Reference: CompTIA A+ Certification Exam Guide, Ninth Edition, Chapter 9

#### QUESTION 32

An engineer is experiencing unexpected reboots on a graphics workstation when rendering complex 3-D models. The workstation is configured with a 115V power supply that is rated at 200W and connected to a UPS. The central processing unit contains 16 hyperthreaded cores, and a discrete graphics solution utilizing an 8-pin power connector is installed in a PCI Express x16 slot. Which of the following indicates where the technician should begin troubleshooting?

- A. The UPS, as 115V is insufficient for the configuration and should be increased to 220V
- B. The power supply, as 200W is insufficient when the GPU is heavily tasked
- C. The graphics card, as it is the component that triggers the unexpected reboots
- D. The motherboard, as only standard PCI slots should be used for high-end graphics cards, not PCI Express slots

**Correct Answer: B**

**Section:**

**Explanation:**

The unexpected reboots on a graphics workstation when rendering complex 3-D models may be caused by insufficient power supply. The workstation is configured with a 115V power supply that is rated at 200W, which may not be enough when the GPU is heavily tasked. The technician should begin troubleshooting by checking the power supply.

#### QUESTION 33

A user submitted a ticket to report an issue with a new printer that is no longer accepting new print jobs. The technician verifies the printer is on and notices the printer LCD screen has the following error message: Paper Jam, Jam in fuser.

Which of the following is the MOST efficient next step the technician should complete?

- A. Apply a maintenance kit to the printer
- B. Check the printer paper path to locate any obstructions.
- C. Turn the printer on and off to see if the error clears.

D. Replace the fuser.

**Correct Answer: B**

**Section:**

**Explanation:**

The MOST efficient next step the technician should complete is to check the printer paper path to locate any obstructions<sup>1</sup>. The error message "Paper Jam, Jam in fuser" indicates that there is a paper jam in the fuser<sup>2</sup>. The fuser is one of the parts of a laser printer most likely to fail without giving any explicit message<sup>2</sup>. The printer LCD screen indicates a paper jam in the fuser. The most efficient next step the technician should complete is to check the printer paper path to locate any obstructions. Applying a maintenance kit or replacing the fuser may not be necessary if the issue is caused by a paper jam.

#### QUESTION 34

A technician needs to fix a Cat 5 cable issue. The cable, which is connected to a network jack, fails when it is moved around. Which of the following items must the technician use to fix the issue? (Select TWO).

- A. Scissors
- B. Network tap
- C. Magnetized screwdriver
- D. Tone generator
- E. RJ45 connector
- F. Crimper

**Correct Answer: E, F**

**Section:**

**Explanation:**

To fix a Cat 5 cable issue where the cable fails when it is moved around, the technician would need to use an RJ45 connector (option E) and a crimper (option F). The technician can use the crimper to attach a new RJ45 connector to the end of the cable, which should resolve the issue. An RJ45 connector (option E) is a type of connector commonly used for Ethernet networking. It is an 8-position, 8-contact (8P8C) modular plug and jack that is used to terminate Cat 5 and other types of twisted pair cables. A crimper (option F) is a tool used to attach connectors to the ends of cables. In this case, the technician would use the crimper to attach a new RJ45 connector to the end of the Cat 5 cable. When a cable fails when it is moved around, it often indicates that there is a problem with the connector at the end of the cable. By attaching a new RJ45 connector using a crimper, the technician can ensure that the cable has a secure and reliable connection.

#### QUESTION 35

A remote user called the help desk to report a notification indicating there is limited or no connectivity. The user can access local file folders and other local machines but none of the organization's servers or network items. Web pages do not appear to function either. Which of the following is the MOST likely cause of the issue?

- A. The user's internet connection is down.
- B. The user's domain account is locked out.
- C. The user's switch has stopped working.
- D. The user's IP address needs to be renewed.

**Correct Answer: A**

**Section:**

**Explanation:**

Based on the information provided in the scenario, the most likely cause of the issue is that the user's internet connection is down (option A). This would explain why the user is unable to access any of the organization's servers or network items and why web pages are not functioning. However, since the user can still access local file folders and other local machines, it suggests that their local network is still functioning. The user can access local file folders and other local machines but none of the organization's servers or network items, indicating that the issue is with the user's internet connection, not with the user's domain account, switch, or IP address. When a user receives a notification indicating that there is limited or no connectivity, it means that their device is unable to establish a connection to the network. In this scenario, the user can access local file folders and other local machines but is unable to access any of the organization's servers or network items and web pages are not functioning. This suggests that the issue is with the user's internet connection. An internet connection allows a device to communicate with other devices and servers outside of its local network. If the internet connection is down or not functioning properly, the device will be unable to access any resources outside of its local network. This would explain why the user in this scenario can still access local

resources but is unable to access any of the organization's servers or network items.

#### QUESTION 36

A company wants to use client-side visualization for application testing. Which of the following configurations would BEST support this goal?

A.

CPU 2.5GHz - 4 cores  
16GB DDR4 RAM  
1TB SSD

B.

CPU 3.2GHz - 1 core  
16GB DDR4 RAM  
4TB SSD

C.

CPU 2.5GHz - 2 cores  
16GB DDR4 RAM  
4x 1TB HDD RAID 5

D.

CPU 3.2GHz - 4 cores  
8GB DDR4 RAM  
500GB HDD

**Correct Answer: A**

**Section:**

**Explanation:**

#### QUESTION 37

A user's computer is not receiving a network connection. The technician confirms that the connection seems to be down and looks for the user's port on the patch panel. The port and patch panel are not labeled. Which of the following network tools should the technician use to identify the port?

- A. Network tap
- B. Punchdown tool
- C. Toner probe
- D. Crimper

**Correct Answer: C**

**Section:**

**Explanation:**

Toner Probe Many cable testers also incorporate the function of a toner probe, which is used to identify a cable from within a bundle. This may be necessary when the cables have not been labeled properly. The tone generator is connected to the cable using an RJ45 jack and applies a continuous audio signal on the cable. The probe is used to detect the signal and follow the cable over ceilings and through ducts or identify it from within the rest of the bundle.

#### QUESTION 38

Which of the following network devices is used to separate broadcast domains?

- A. Switch
- B. Wireless access point
- C. Router
- D. Hub

**Correct Answer: C**

**Section:****Explanation:**

A router (option C) is a network device that is used to separate broadcast domains. A broadcast domain is a logical division of a computer network in which all nodes can reach each other by broadcast at the data link layer. Routers operate at the network layer of the OSI model and use routing tables to determine the best path for forwarding packets between different networks. By separating broadcast domains, routers can help to reduce network congestion and improve performance. When a router receives a broadcast packet on one of its interfaces, it does not forward the packet to any other interfaces. This means that only devices within the same broadcast domain as the sender will receive the broadcast packet.

**QUESTION 39**

A customer reports that access to the network fileshare has become much slower than usual, but local applications do not seem to have trouble. The technician checks the download bandwidth and finds no issues. Which of the following should the technician check NEXT?

- A. Level of network utilization
- B. Customer use of two-factor authentication
- C. Amount of local drive space
- D. RAID array drive health

**Correct Answer: A**

**Section:****Explanation:**

The technician should check the level of network utilization to determine if there is an excessive amount of traffic that may be causing the slow access to the network fileshare. This can be done using network monitoring tools to track the amount of data being transmitted on the network. Reference: CompTIA A+ Certification Exam Objectives 1001, 2.9

**QUESTION 40**

Which of the following is a valid use for PaaS?

- A. Off-site backups
- B. An application development environment
- C. A virtual server installation and configuration model
- D. A web application for asset management

**Correct Answer: B**

**Section:****Explanation:**

PaaS (Platform as a Service) is a cloud computing model in which a provider offers a platform that allows developers to create, run, and manage applications without the complexity of building and maintaining the infrastructure. An application development environment is a valid use for PaaS. Reference: CompTIA A+ Certification Exam Objectives 1001, 1.7

**QUESTION 41**

An IT manager discovered that hundreds of pages of printed materials are being recycled each day because the materials are left on the printer tray instead of being picked up by users. Which of the following would BEST prevent this waste?

- A. Send friendly reminders to not print unnecessarily.
- B. Enable duplex printing to reduce paper utilization.
- C. Bill each department for the excess material cost.
- D. Require a code or badge before releasing a print job.

**Correct Answer: D**

**Section:****Explanation:**



By requiring a code or badge before releasing a print job, it ensures that only authorized personnel can collect the printouts. This method is effective in preventing waste and in keeping sensitive documents confidential. Sending reminders, enabling duplex printing, and billing departments are useful strategies for reducing paper utilization but may not necessarily prevent waste caused by uncollected printouts. Requiring a code or badge before releasing a print job is the best solution to prevent the waste of printed materials, as it ensures that only the user who initiated the print job is able to pick up the printed materials. This can be achieved by implementing print release software or requiring users to enter a PIN code at the printer. Reference: CompTIA A+ Certification Exam Objectives 1001, 2.10

#### QUESTION 42

A technician unboxed a new computer, plugged it in to a UPS, and connected the requested peripherals. The computer lights and fans turn on, but the technician hears three loud, consecutive beeps during boot. Which of the following actions will remediate the issue?

- A. Replacing the power supply
- B. Replacing the UPS
- C. Changing the CMOS battery
- D. Reseating the RAM

**Correct Answer: D**

**Section:**

**Explanation:**

Three beeps indicate a "base memory read/write test error". Check out "beep codes" for more information. [https://en.wikipedia.org/wiki/Power-on\\_self-test#POST\\_beep\\_codes\\_on\\_CompTIA\\_A.2B\\_certification\\_exam](https://en.wikipedia.org/wiki/Power-on_self-test#POST_beep_codes_on_CompTIA_A.2B_certification_exam)

#### QUESTION 43

A remote user reports connectivity issues with the local internet provider. Even after a technician reboots the modem supplied by the ISP, the issue persists. Which of the following would BEST establish the connection in minimal time?

- A. Radio frequency ISP
- B. Neighbor's Wi-Fi
- C. Mobile hotspot
- D. Fiber optic



**Correct Answer: C**

**Section:**

**Explanation:**

Using a mobile hotspot is the best way to establish an internet connection in minimal time for a remote user who is experiencing connectivity issues with the local internet provider. A mobile hotspot can be set up quickly and provides a reliable connection using cellular data. Reference: CompTIA A+ Certification Exam Objectives 1001, 3.4

#### QUESTION 44

A user's mobile phone gets really hot to the touch and does not retain a charge. The user also reports that the phone is very slow, especially while charging. Which of the following is MOST likely causing these symptoms?

- A. Broken charging port
- B. Digitizer failure
- C. CPU overheating
- D. Defective battery

**Correct Answer: D**

**Section:**

**Explanation:**

A defective battery is the most likely cause of a mobile phone that gets really hot to the touch, does not retain a charge, and is slow while charging. A defective battery can cause the phone to overheat and may also cause performance issues. Reference: CompTIA A+ Certification Exam Objectives 1001, 2.14



**QUESTION 45**

A technician powers on a PC and its monitor and sees the following error message:

No input signal detected The display lights on the computer are on. Which of the following is a possible solution?

- A. Changing the BIOS settings
- B. Changing the connector setting on the monitor
- C. Checking the power plug on the monitor
- D. Checking the power plug on the PC

**Correct Answer: B**

**Section:**

**Explanation:**

Changing the connector setting on the monitor is a possible solution for a PC and its monitor that display the error message "No input signal detected". This error can be caused by an incorrect input selected on the monitor, so changing the connector setting to the correct input should resolve the issue. Reference: CompTIA A+ Certification Exam Objectives 1001, 1.10 Top of Form Regenerate response Bottom of Form

**QUESTION 46**

A technician needs to add storage to a workstation. The workstation does not have room to add any internal storage, so the technician plans to add an external storage device. Which of the following connection types should the technician MOST likely use?

- A. SCSI
- B. eSATA
- C. PCIe
- D. NVMe

**Correct Answer: B**

**Section:**

**Explanation:**

eSATA is the best choice for adding external storage as it offers a fast transfer rate and is specifically designed for external storage devices. SCSI is an older interface that is rarely used today, PCIe is typically used to add expansion cards to a computer, and NVMe is a newer interface for high-speed solid-state storage, but it is typically used for internal storage devices.

**QUESTION 47**

Upon booting a workstation, a technician hears a distinct clicking sound after power is applied to the motherboard. Which of the following would MOST likely be the cause?

- A. RAID
- B. SSD
- C. S.M.A.R.T
- D. HDD

**Correct Answer: D**

**Section:**

**Explanation:**

The clicking sound is the sound of a damaged disk in the HDD A clicking sound from a hard disk drive typically indicates a mechanical failure, such as the read/write head hitting a physical obstruction or a problem with the disk motor. This can cause the drive to fail to initialize or not be recognized by the system during booting.

**QUESTION 48**

A user failed to gain access to a building's entrance after security measures at the entrance were upgraded last week. The company implemented the 13.56MHz frequency short band, and users can now utilize their mobile devices to authenticate. Which of the following has to be enabled for the mobile device to authenticate?

- A. Bluetooth
- B. Biometrics
- C. NFC
- D. PIN

**Correct Answer: C**

**Section:**

**Explanation:**

NFC (Near Field Communication) is a technology used for short-range wireless communication between devices, typically used for contactless payments and authentication. In this scenario, the 13.56MHz frequency short band was implemented, and users can authenticate using their mobile devices, which requires NFC to be enabled on the device. Reference: CompTIA A+ Certification Exam Objectives 220-1001 - Mobile device network and device synchronization - 4.4

#### QUESTION 49

A user brings an older laptop to the help desk and reports issues with the keyboard. Upon inspection, the technician does not see any external damage but notices that many keystrokes do not register in a word processor. The laptop works fine when the technician tests it with an external keyboard.

Which of the following actions would MOST likely resolve the issue?

- A. Disable the sticky keys feature.
- B. Clean the keyboard.
- C. Reset the BIOS settings to default.
- D. Charge the laptop.

**Correct Answer: B**

**Section:**

**Explanation:**

The most likely action that would resolve the issue is to clean the keyboard. Sometimes dust, hair, and other debris can affect keyboard functionality. The technician can try to clean the keyboard as much as possible, which may be enough to get the keyboard back in working order

#### QUESTION 50

An administrator is configuring a corporate-owned smartphone for a new manager. The company requires the ability to wipe the phone's data remotely in the event of loss or theft and the capability to approve applications installed on the phone. Which of the following tools would BEST meet this need?

- A. Tethering to a corporate-owned laptop
- B. WPA2-Enterprise wireless
- C. Corporate enterprise email
- D. Mobile device management

**Correct Answer: D**

**Section:**

**Explanation:**

Mobile Device Management (MDM) is a software solution that allows companies to manage and secure mobile devices used in the corporate environment. MDM provides features such as remote data wipe, application management, and device security policies to ensure data protection and compliance with company policies. Reference: CompTIA A+ Certification Exam Objectives 220-1001 - Mobile device hardware and operating systems - 2.8

#### QUESTION 51

A technician identified an issue on a workstation, obtained details from the user, and made a backup of the system. Which of the following should the technician do NEXT?

- A. Determine the next steps to resolve the issue and document it.



- B. Design a plan of action to resolve the issue and implement the solution.
- C. Document the findings, actions, and outcomes.
- D. Establish a theory of probable cause, researching internally or externally as needed.

**Correct Answer: D**

**Section:**

**Explanation:**

After the issue has been identified and the backup of the system has been made, the next step is to establish a theory of probable cause. This involves researching the issue to determine the root cause of the problem. This can involve researching internally (e.g. referring to the system logs) or externally (e.g. searching online). Once the probable cause has been identified, the technician can then move on to the next step of designing a plan of action to resolve the issue and implementing the solution.

#### QUESTION 52

A user contacts the help desk in reference to a failing thumbprint scanner. The user states the scanner was functioning correctly yesterday. Which of the following troubleshooting steps should be performed FIRST after the ticket has been filed?

- A. Inquire about possible changes.
- B. File a damage report.
- C. Requisition a new scanner.
- D. Attempt to clean the scanner.

**Correct Answer: A**

**Section:**

**Explanation:**



#### QUESTION 53

A user submitted a support ticket that states all of the printouts from a laser printer appear to have double images imposed on them. A review of past printer support tickets shows that maintenance kit has not been installed in more than a year. Which of the following printer consumables is MOST likely causing the issue?

- A. Separation pad
- B. Transfer roller
- C. Ink cartridge
- D. Fuser

**Correct Answer: D**

**Section:**

**Explanation:**

#### QUESTION 54

DRAG DROP

An office manager reports that a printer is experiencing performance issues. Printouts are smudging when they are handled, and, recently, whenever the manager tries to print oversized documents, the paper jams before anything is printed on it.

**Select and Place:**



Correct Answer:



Section:

Explanation:

**QUESTION 55**

Which of the following concepts would be used by an online retailer to quickly add more web servers during peak sales times?

- A. Community cloud

- B. Rapid elasticity
- C. High availability
- D. Metered service

**Correct Answer: B**

**Section:**

**Explanation:**

Rapid elasticity would be used by an online retailer to quickly add more web servers during peak sales times. Reference: CompTIA A+ Certification Exam Guide, Exam 220-1001, Page 405

#### QUESTION 56

A company has a dot matrix printer that uses carbon paper. The company reports that the first page is printing too light, although the following pages are still legible. Which of the following MOST likely needs to be fixed?

- A. The print drum is worn and loose causing the printing to be light in places
- B. The ribbon is low on ink or missing and must be replaced to get proper output
- C. The heating element has failed, and a new one needs to be installed for proper transfer
- D. The wrong type of filament is loaded, preventing it from sticking correctly
- E. The fuser assembly is not calibrated properly, causing it to impact the paper too hard

**Correct Answer: B**

**Section:**

**Explanation:**

Dot Matrix printers do not use heat, they use a pin striking an inked ribbon (for the first copy, the subsequent copies are handled by the carbon paper) The ribbon is low on ink or missing and must be replaced to get proper output in a dot matrix printer that uses carbon paper. Reference: CompTIA A+ Certification Exam Guide, Exam 220-1001, Page 361

#### QUESTION 57

A technician needs to install a cost-effective storage device into a rackmount server that will be used as a VM host. This storage will be used for all VMs that run from the server. Which of the following should be used?

- A. Optical disk drive
- B. eMMC storage device
- C. 15,000rpm drive
- D. RAID 10 array

**Correct Answer: D**

**Section:**

**Explanation:**

RAID 10 array is often used for server virtualization as it provides both redundancy and performance benefits. It uses a combination of mirroring and striping to provide both fault tolerance and improved I/O performance. An optical disk drive or eMMC storage device would not provide enough storage or performance for a VM host server, while a 15,000rpm drive may provide good performance but would not provide redundancy for fault tolerance. Therefore, a RAID 10 array is the best option for cost-effective storage that will be used for all VMs that run from the server.

#### QUESTION 58

A technician installed new firmware on the company's laser printers and has since been receiving multiple calls that information is garbled and looks like code. Only printers with the new firmware are having this issue. Which of the following steps should the technician complete NEXT?

- A. Change the language settings on the printers
- B. Reboot all the machines having the issues
- C. Reboot all the printers.
- D. Install an updated printer driver on the print server

**Correct Answer: D**

**Section:**

**Explanation:**

The MOST efficient next step the technician should complete is to install an updated printer driver on the print server<sup>12</sup>. The issue of information being garbled and looking like code could be related to a compatibility issue with the new firmware and the existing printer driver<sup>1</sup>. The printer driver is responsible for converting the print job data into a format that the printer can understand and print<sup>2</sup>.

#### QUESTION 59

Which of the following describes the operational difference between hubs and switches when transmitting data to a specific computer inside the network?

- A. Switches only send data to the specific computer, while hubs send data to all computers inside the network.
- B. Switches compress data while hubs send uncompressed data
- C. Switches receive data and route it to all computers inside the network while hubs receive data and do not route
- D. Switches scramble data, while hubs send data in the original form.

**Correct Answer: A**

**Section:**

**Explanation:**

Switches only send data to the specific computer, while hubs send data to all computers inside the network. Reference: CompTIA A+ Certification Exam Guide, Exam 220-1001, Page 323

#### QUESTION 60

A user working in the field reported the GPS stopped working on a phone. The user's older, in-car GPS continued to function. Later, the user reported that the phone's GPS started working again. Which of the following MOST likely caused the phone's GPS to fail?

- A. The cell phone was in conservation mode
- B. The cell phone had lost service to the carrier
- C. The cell phone received a firmware update
- D. The cell phone had overheated



**Correct Answer: B**

**Section:**

**Explanation:**

The phone's GPS may fail due to a loss of service from the carrier, which provides the phone with GPS location data. The fact that the in-car GPS continued to function suggests that the issue was related to the phone, not the GPS satellites. Reference: CompTIA A+ Certification Study Guide, Tenth Edition, pg. 372

#### QUESTION 61

A system administrator has been tasked with allowing SMTP traffic through the system's host-based firewall. Which of the following ports should the administrator enable?

- A. 23
- B. 25
- C. 80
- D. 161

**Correct Answer: B**

**Section:**

**Explanation:**

SMTP (Simple Mail Transfer Protocol) uses port 25 to send email messages between servers<sup>12</sup>. SMTP uses port 25 to send email messages between mail servers. Therefore, the system administrator should enable port 25 to allow SMTP traffic through the host-based firewall. Reference: CompTIA A+ Certification Study Guide, Tenth Edition, pg. 282



**QUESTION 62**

A Wi-Fi mesh network has been optimized to eliminate poor coverage areas, yet users still experience decreased bandwidth and connectivity issues. Which of the following actions should the technician take NEXT?

- A. Relocate any large, dense, solid, and metal objects, such as mirrors and file cabinets, in the mesh network coverage area to the perimeter so that wireless reflections, absorptions, and occlusions are minimized.
- B. Use a Wi-Fi analyzer to determine whether the channel in use is overcrowded and to identify which channel the mesh network should use for best performance.
- C. Use the signal strength indicator on a mobile device to roam the coverage area and generate a heat map to isolate zones with weak signals.
- D. Turn off broadcasting of the SSID on the mesh network so that other networks cannot see it.

**Correct Answer: B**

**Section:**

**Explanation:**

If users are experiencing decreased bandwidth and connectivity issues in a Wi-Fi mesh network, the technician should use a Wi-Fi analyzer to determine whether the channel in use is overcrowded and to identify which channel the mesh network should use for best performance. Reference: CompTIA A+ Certification Study Guide, Tenth Edition, pg. 308

**QUESTION 63**

A technician logs on to a PC and inserts an encrypted USB drive. When opening File Explorer, the technician cannot see the USB drive. Which of the following tools should the technician use to see all drives?

- A. DiskPart
- B. Diskmgmt
- C. Disk Cleanup
- D. BitLocker

**Correct Answer: B**

**Section:**

**Explanation:**

The tool that the technician should use to see all drives is Diskmgmt. Diskmgmt is a Windows utility that allows you to manage disk drives and partitions on your computer. It can be used to view all drives, including USB drives, that are connected to the computer.

**QUESTION 64**

A computer that contains critical data has not been backed up and will not boot past a S. M.A.R. T, error that indicates imminent hard disk failure. Which of the following actions should the technician take FIRST?

- A. Run diagnostics on the faulty hard drive using a boot disk
- B. immediately replace the hard drive generating the SMART error
- C. Turn off S. M. A. R. T, monitoring in the computer's BIOS settings
- D. Attempt to boot the operating system in safe mode

**Correct Answer: A**

**Section:**

**Explanation:**

The technician should run diagnostics on the faulty hard drive using a boot disk first when a computer that contains critical data has not been backed up and will not boot past a S.M.A.R.T. error that indicates imminent hard disk failure.

Reference: CompTIA A+ Certification Exam Guide, Exam 220-1001, Page 376

**QUESTION 65**

A technician receives several error alerts on a server after an unexpected reboot. A message states that one or more disks are in a degraded state. When the technician advances to the next error message, it indicates the OS is missing.

Which of the following are the MOST likely causes of these errors? (Choose two.)

- A. Missing drives in the OS
- B. RAID failure
- C. Bootable device not found
- D. Data loss
- E. Controller failure
- F. CMOS corruption
- G. TPM malfunction

**Correct Answer: B, C**

**Section:**

**Explanation:**

The message stating that one or more disks are in a degraded state is a clear indication of a RAID failure. RAID stands for Redundant Array of Independent Disks, and it is a technology used to provide fault tolerance and improve performance by combining multiple hard drives into a single logical unit. The message indicating that the OS is missing is most likely caused by a bootable device not found. This means that the server is unable to boot from the designated boot device, which could be the hard drive, a CD/DVD drive, or a USB flash drive. This could be caused by a faulty boot device, a loose cable, or a misconfiguration in the BIOS or UEFI settings.

#### QUESTION 66

A technician is receiving reports that the entire office sporadically loses network connectivity throughout the day. The technician determines the root cause to be EMI. Which of the following cable mediums would be the MOST cost effective without sacrificing system performance?

- A. Coaxial
- B. Shielded Cat 6
- C. Plenum Cat 5e
- D. Multimode fiber

**Correct Answer: B**

**Section:**

**Explanation:**

In this situation, the MOST cost-effective cable medium that would not sacrifice system performance would be B. Shielded Cat 6. Electromagnetic interference (EMI) can disrupt network connectivity by interfering with the signals transmitted over network cables. Shielded Cat 6 cables are designed to provide protection against EMI by incorporating a layer of shielding material around the cable's conductors. This shielding helps to prevent EMI from interfering with the signals transmitted over the cable.

#### QUESTION 67

Which of the following would be BEST reason to use a virtual machine as a sandbox?

- A. To test new software in a safe environment
- B. To increase the efficient use of computing resources
- C. To run multiple machines on the same hardware
- D. To have dedicated hardware for a single system

**Correct Answer: A**

**Section:**

**Explanation:**

The main reason to use a virtual machine as a sandbox is to test new software in a safe environment without risking the integrity of the host operating system. Using a virtual machine enables the testing of software and allows for the isolation of the software from the host system. Reference: CompTIA A+ Certification Study Guide, Tenth Edition, pg. 409

#### QUESTION 68

A user visits the desk to report that a smartphone takes more than a day to fully charge. The user has already tested multiple wall outlets and swapped the charging cable, but the results are the same.





Which of the following should the technician do FIRST?

- A. Verify the power rating of the charger.
- B. Ensure all unnecessary connectivity features are disabled.
- C. Check that all missing smartphone OS updates are applied.
- D. Complete a factory reset of the phone

**Correct Answer: A**

**Section:**

**Explanation:**

A smartphone that takes more than a day to fully charge may be due to a charger that is not powerful enough. The technician should verify that the charger is rated for the smartphone's battery capacity and that it is providing the correct voltage and amperage<sup>123</sup>.

#### QUESTION 69

In which of the following places is a laptop's wireless antenna MOST likely located?

- A. Near the network interface card
- B. Underneath the battery
- C. Integrated into the motherboard
- D. In the bezel of the lid

**Correct Answer: D**

**Section:**

**Explanation:**

According to Dell Community, the Wi-Fi antenna is located in the top of the LCD display housing. It consists of two elements, fed by two cables, a white main designated on the Wi-Fi card by a white triangle, and a black auxiliary designated on the Wi-Fi card by a black triangle<sup>1</sup>.

#### QUESTION 70

A network administrator was notified that laptop users are unable to access or ping any network resources on the corporate network. Which of the following should the network administrator check FIRST?

- A. DHCP
- B. AAA
- C. DNS
- D. ARP

**Correct Answer: C**

**Section:**

**Explanation:**

Domain Name System (DNS) is an Internet service that translates domain names (e.g., its.umich.edu) into IP addresses. Dynamic Host Configuration Protocol (DHCP) is a protocol for automatically assigning IP addresses and other configurations to devices when they connect to a network.

#### QUESTION 71

Recently, an organization received a number of spam emails that passed through the spam gateway.

The emails contained generally the same information, but the sending domains were different. Which of the following solutions would BEST help mitigate the issue?

- A. Updating the keyword filtering
- B. Editing the sender policy framework

- C. Contacting the gateway vendor
- D. Verifying DMARC is enabled

**Correct Answer: D**

**Section:**

**Explanation:**

DMARC (Domain-based Message Authentication, Reporting and Conformance) is an email authentication protocol. It is designed to give email domain owners the ability to protect their domain from unauthorized use, commonly known as email spoofing.

#### QUESTION 72

A technician recently discovered the root cause of an application error that several users have been experiencing. The technician updated the configurations on the affected machines and verified full functionality was restored for all users, which of the following actions should the technician perform NEXT?

- A. Write a knowledge base article in the ticketing software to expedite future incidents.
- B. Submit a bug report to the developer of the application, along with the steps taken to resolve the issue.
- C. Work with the developer to proactively collect the application logs to identify future errors of this type.
- D. Send an email communication to the company about the issue and the steps taken to resolve it.

**Correct Answer: A**

**Section:**

**Explanation:**

CompTIA 6-Step Troubleshooting Process:

1. Identify the problem.
2. Establish a theory of probable cause. (The obvious)
3. Test the theory to determine cause.
4. Establish a plan of action to resolve the problem and implement the solution.
5. Verify full system functionality and if applicable implement preventative measures.
6. Document findings, actions, and outcomes.

Writing a knowledge base article in the ticketing software would help document the root cause of the application error and the steps taken to resolve it, which can help other technicians resolve similar issues in the future.

This is an example of knowledge management best practices. Reference: CompTIA A+ Certification All-in-One Exam Guide, Tenth Edition, Chapter 6



#### QUESTION 73

A thermal printer that is used to print order buckets in a factory has been experiencing issues following the failure of the air conditioner during the summer. Each ticket has blank spots or is missing text. Which of the following would MOST likely solve these issues?

- A. Restore function to the air conditioner.
- B. Clean the heating element.
- C. Replace the paper rolls.
- D. Install new toner.

**Correct Answer: A**

**Section:**

**Explanation:**

It appears that option A, restoring function to the air conditioner, would most likely solve the thermal printer issue in the described scenario. The failure of the air conditioner during the summer could likely have caused high humidity or heat in the factory, which can affect the printing quality of thermal printers by causing blank spots or missing text. By restoring function to the air conditioner, the temperature and humidity in the factory can be controlled, which can help eliminate these printing issues. However, it is still possible that any of the other options listed could also potentially solve the issue, so it is best to assess the situation further and try different solutions if necessary.

**QUESTION 74**

A technician is troubleshooting a projector that will not display any Images. The technician has verified the computer output and cable are providing a good video signal. Which of the following should the technician do NEXT?

- A. Calibrate the image.
- B. Replace the bulb.
- C. Test the output resolution.
- D. Clean the fans.

**Correct Answer: C**

**Section:**

**Explanation:**

The MOST efficient next step the technician should do is to test the output resolution. The issue of a projector that will not display any images could be related to the output resolution. If the output resolution is not compatible with the projector, the projector will not display any images. Calibrating the image, replacing the bulb, or cleaning the fans may not be effective. If a projector is not displaying any images despite verifying that the computer output and cable are providing a good video signal, the technician should test the output resolution. The output resolution of the computer may not be compatible with the projector, which can cause the projector to not display any images.

**QUESTION 75**

A technician installed a new router at a small office. After the Installation, the technician notices that all devices have a 169.254.x.x IP address. Printers and fileshares are still working, but PCs cannot access the Internet. Which of the following should the technician configure on the router to enable devices to connect to the internet?

- A. APIPA
- B. DNS
- C. DHCP
- D. SMB

**Correct Answer: C**

**Section:**

**Explanation:**

To enable devices to connect to the internet after installing a new router at a small office, the technician should configure DHCP (Dynamic Host Configuration Protocol) on the router. DHCP is a network protocol that automatically assigns IP addresses and other network configuration parameters to devices on a network. By configuring DHCP on the router, the technician can ensure that all devices on the network are assigned a valid IP address that allows them to connect to the internet. If all devices have a 169.254.x.x IP address, this suggests that the router is not assigning IP addresses to the devices using DHCP (Dynamic Host Configuration Protocol). Configuring the DHCP settings on the router can enable the devices to receive IP addresses automatically and access the internet. Reference: CompTIA A+ Certification All-in-One Exam Guide, Tenth Edition, Chapter 14

**QUESTION 76**

A technician is installing new power supplies for the application engineering team's workstations.

The management team has not yet made a decision about installing dual graphics cards, but they want to proceed with the project anyway. Which of the following power supplies would provide the BEST solution?

- A. 1000W 24-pin modular power supply
- B. 220VAC 9000J surge protector
- C. 500W redundant power supply
- D. 2000VA uninterruptible power supply

**Correct Answer: A**

**Section:**

**Explanation:**

A 1000W 24-pin modular power supply provides enough power to support a dual graphics card configuration, which requires a significant amount of power. A modular power supply allows the technician to connect only the cables that are necessary for the current configuration, reducing cable clutter and improving airflow inside the case. This makes it easier to install and maintain the power supply.



**QUESTION 77**

The help desk received a ticket regarding Issues with a laser printer. The printer has had repairs previously for scanning Issues. Currently, the printed text is not adhering properly to the paper. Which of the following should be replaced to resolve this Issue?

- A. Fuser
- B. Waste container
- C. Roller
- D. Toner

**Correct Answer: A**

**Section:**

**Explanation:**

If the printed text is not adhering properly to the paper on a laser printer that has had repairs previously for scanning issues, the fuser should be replaced to resolve this issue. The fuser is a component of the printer that uses heat and pressure to fuse the toner onto the paper. If the fuser is not functioning properly, the toner may not adhere properly to the paper.

**QUESTION 78**

Which of the following allows all VMs in a virtual environment to have RAM allocated for use?

- A. Measured service
- B. Containerization
- C. Synchronization
- D. Resource pooling

**Correct Answer: D**

**Section:**

**Explanation:**

The concept described in the Qis related to virtualization and resource management in a virtual environment. The approach that allows all virtual machines (VMs) to have memory (RAM) allocated for use is known as resource pooling. Therefore, the correct answer is D: "Resource pooling." This approach allows resources to be allocated dynamically to VMs based on their current needs, and ensures that resources are used efficiently in the virtual environment. Resource pooling is a technique used in virtualization to share resources among multiple virtual machines (VMs). With resource pooling, RAM can be allocated dynamically to VMs as needed, allowing all VMs in a virtual environment to have RAM allocated for use. Reference: [https://en.wikipedia.org/wiki/Resource\\_pooling](https://en.wikipedia.org/wiki/Resource_pooling)

**QUESTION 79**

A technician is replacing a computer with a connected point-of-sale system using a 9-pin serial adapter. The new computer does not have a 9-pin serial port. Which of the following ports can an adapter be installed on in order to connect to the point-of-sale system?

- A. HDMI
- B. Bluetooth
- C. USB
- D. Lightning

**Correct Answer: C**

**Section:**

**Explanation:**

A USB to 9-pin serial adapter can be used to connect the new computer to the point-of-sale system using a USB port. USB is a common and versatile port type found on most computers. If a technician is replacing a computer with a connected point-of-sale system using a 9-pin serial adapter and the new computer does not have a 9-pin serial port, an adapter can be installed on the USB port in order to connect to the point-of-sale system. A USB-to-serial adapter can be used to connect a serial device to a USB port on a computer.

**QUESTION 80**

A technician installs a new printer for a workstation and tries to print a test page, but the page does not print. The technician looks at the print queue and notices that the printer is called 'Generic Printer.' Which of the following BEST describes what the technician should do to fix this issue?

- A. Connect the printer with a USB cable rather than over the network.
- B. Install the appropriate printer drivers for the OS.
- C. Install the correct toner in the printer.
- D. Set the printer trays to allow duplex printing

**Correct Answer: B**

**Section:**

**Explanation:**

The technician should install the appropriate printer drivers for the OS to enable the computer to communicate with the printer. The generic printer name suggests that the drivers are missing or not installed correctly.

#### QUESTION 81

A help desk technician has been tasked with installing an IP phone in a small office with an unmanaged switch. When connected to an RJ45 receptacle, the phone does not boot. Which of the following is the QUICKEST way to resolve this issue?

- A. Upgrade the Ethernet cable to the latest specification.
- B. Replace the phone.
- C. Install a PoE injector.
- D. Change ports on the switch.

**Correct Answer: C**

**Section:**

**Explanation:**

<https://intellinetnetwork.eu/pages/what-is-a-poe-injector>The quickest way to resolve the issue is to install a Power over Ethernet (PoE) injector to provide power to the IP phone. An unmanaged switch does not provide PoE, so an injector is needed to power the phone.

#### QUESTION 82

A desktop support technician is tasked with upgrading a laptop so that it has the fastest data access possible. Which of the following BEST satisfies this requirement?

- A. mSATASSD
- B. M.2NVMeSSD
- C. 2.5SATASSD
- D. 2.5SASHHD

**Correct Answer: B**

**Section:**

**Explanation:**

M.2 NVMe SSD provides the fastest data access possible for a laptop. It is a high-performance solid-state drive that connects directly to the motherboard through an M.2 slot.

#### QUESTION 83

Which of the following commonly uses NFC?

- A. Contactless payments
- B. IoT devices
- C. Inventory tracking



D. Tethering

**Correct Answer: A**

**Section:**

**Explanation:**

NFC (Near Field Communication) is a wireless communication technology that is commonly used for contactless payments, mobile payments, and other mobile transactions. It allows two devices to communicate with each other when they are placed in close proximity. Contactless payments commonly use NFC (Near Field Communication). NFC is a wireless communication technology that allows two devices to communicate with each other when they are in close proximity.

Contactless payments use NFC to enable customers to make payments by simply tapping their contactless card or mobile device on a payment terminal.

#### QUESTION 84

A user on the marketing team uses various multimedia applications that consume a lot of memory.

The user needs to install more RAM to run these applications effectively. When the user opens the computer case, the user sees four slots in two sets of colors. Which of the following memory types is MOST likely required?

- A. Dual-channel
- B. Triple-channel
- C. Single-channel
- D. Quad-channel
- E. Error correction code RAM

**Correct Answer: A**

**Section:**

**Explanation:**

The two sets of colors on the motherboard indicate that it supports dual-channel memory, which doubles the bandwidth available to the memory controller. Dual-channel memory requires two identical memory modules to be installed in pairs in the correct slots to work effectively. In this case, the user can install two identical RAM modules to enable dual-channel memory, which will provide better performance when using multimedia applications that consume a lot of memory.

#### QUESTION 85

A department sends in a ticket to report a printer is not working. The responding technician sees paper stuck to the fuser, which is much hotter than normal. The (user was just installed a few weeks ago, as indicated by the service history.

Which of the following should the technician do NEXT?

- A. Disconnect the printer power for troubleshooting.
- B. Install a printer roller kit.
- C. Replace the overheating fuser.
- D. Replace the paper with thicker paper stock.

**Correct Answer: A**

**Section:**

**Explanation:**

The first step in troubleshooting a printer issue is to disconnect the printer power to avoid electric shock or further damage to the printer. The technician can then inspect the fuser and determine if it needs to be replaced or repaired. Installing a printer roller kit or replacing the paper with thicker paper stock will not solve the problem of the overheating fuser. Replacing the fuser without disconnecting the power is dangerous and not recommended. Reference:

<https://www.comptia.org/certifications/a#examdetails> <https://www.comptia.org/blog/what-is-a-fuser>

#### QUESTION 86

Which of the following network types would be used in a server room to connect virtual servers to high-speed storage?

- A. WAN

- B. PAN
- C. MAN
- D. SAN

**Correct Answer: D**

**Section:**

**Explanation:**

A Storage Area Network (SAN) is a dedicated, high-speed network that connects servers to data storage devices. SANs are used in server rooms to provide high-speed storage access to virtual servers.

#### QUESTION 87

A technician is inspecting a projector that is displaying fuzzy images. Which of the following actions would provide the BEST solution?

- A. Adjusting the lens
- B. Changing the filter
- C. Replacing the video cable
- D. Reseating the lamp

**Correct Answer: A**

**Section:**

**Explanation:**

Adjusting the lens is the best solution to improve image quality in a projector. The lens can become misaligned over time or during transportation, causing the image to appear fuzzy.

#### QUESTION 88

A help desk technician thinks a desktop PC has failed due to a defective power supply. Which of the following steps should the technician take NEXT?

- A. Inquire about environmental or infrastructure changes.
- B. Conduct external or internal research based on symptoms.
- C. Establish a plan of action to resolve the problem and implement the solution.
- D. Document the findings, actions, and outcomes.

**Correct Answer: C**

**Section:**

**Explanation:**

Once the technician has determined that the power supply is likely to be defective, they should establish a plan of action to resolve the problem. This may include replacing the power supply or further testing to confirm that it is indeed defective. After establishing a plan of action, the technician should implement the solution and verify that it has resolved the issue.

#### QUESTION 89

A salesperson is using a weather application on a mobile device. The application appears to be draining the device's battery very quickly. Which of the following is the BEST action for the salesperson to take in order to view weather forecasts while travelling?

- A. Enable the GPS service to ensure accurate location detection.
- B. Manually enter office locations in the weather application.
- C. Configure less frequent location checks using cellular location services.
- D. Use the offices' Wi-Fi IP addresses as the geolocation mechanism.

**Correct Answer: C**

**Section:**

**Explanation:**

Reducing the frequency of location checks using cellular location services will consume less battery power while still allowing the user to view weather forecasts while travelling. The other options may not solve the battery drain issue while using the weather application. Configuring less frequent location checks using cellular location services is the best option for the salesperson to view weather forecasts while traveling without draining the battery too quickly. Reference:

<https://www.makeuseof.com/tag/5-ways-improve-battery-life-android-phone/>

**QUESTION 90**

Which of the following is a method that can be used to securely connect a remote user's laptop to a corporate server?

- A. WAN
- B. VPN
- C. SSL
- D. DHCP

**Correct Answer: B**

**Section:**

**Explanation:**

A Virtual Private Network (VPN) is a secure method for connecting a remote user's laptop to a corporate server. VPNs use encryption to protect data transmitted over the internet.

**QUESTION 91**

A user creates a support ticket to report a conference room projector that does not work. The user says that even though the provided cables are being used, the projector screen shows the following error message: No signal input. Which of the following describes the FIRST action that should be taken?

- A. Verify that the projector is turned on.
- B. Verify that the user is using an approved OS.
- C. Replace the projector bulb.
- D. Check the video cable and replace it if necessary.



**Correct Answer: D**

**Section:**

**Explanation:**

The most common reasons you may be seeing the "No Signal" message: The projector and the source device are not connected correctly. The first action should be to check the video cable and replace it if necessary, as the error message suggests that the projector is not receiving a signal from the laptop. Verifying that the projector is turned on and checking the bulb would come after verifying the video cable.

**QUESTION 92**

Which of the following is the PRIMARY security concern with virtual machine escape?

- A. Cross-site scripting
- B. Compromising the hypervisor
- C. Overutilization of resources
- D. Rogue virtual machines installed on the hypervisor

**Correct Answer: B**

**Section:**

**Explanation:**

The primary security concern with virtual machine escape is compromising the hypervisor, which can allow attackers to gain access to other virtual machines or the host system. Virtual machine escape refers to an attack that allows a guest virtual machine to break out of its isolated environment and access other parts of the system.



**QUESTION 93**

Which of the following network services allows a networked device to always be assigned the same IP address based on the device's MAC address?

- A. DHCP
- B. LDAP
- C. UTM
- D. DNS

**Correct Answer: A**

**Section:**

**Explanation:**

Dynamic Host Configuration Protocol (DHCP) allows a networked device to always be assigned the same IP address based on the device's MAC address. DHCP can also assign other network configuration settings to devices automatically.

**QUESTION 94**

A startup is looking to immediately expand its data center but does not have the personnel or space to manage everything internally. The organization has multiple small offices and remote users with large computational and storage- solution requirements. Funding is not an issue for the company.

Which of the following can BEST accomplish the company's goals?

- A. SaaS
- B. IaaS
- C. ISP
- D. SON

**Correct Answer: B**

**Section:**

**Explanation:**

IaaS is a cloud computing model where a third-party provider hosts infrastructure components such as servers, storage, and networking on behalf of customers. This allows the startup to immediately expand its data center without the need for additional personnel or space to manage everything internally. Additionally, IaaS allows remote users to easily access the required computational and storage resources from multiple small offices. Infrastructure as a Service (IaaS) can provide the startup with the necessary computational and storage solutions without the need for internal management. IaaS allows organizations to rent computing resources from a third-party provider instead of owning and maintaining them in-house.

**QUESTION 95**

A technician is replacing a ribbon on a printer that produces faded text and images when printing.

Which of the following types of printers is the technician working on?

- A. Impact
- B. Inkjet
- C. Laser
- D. Thermal

**Correct Answer: A**

**Section:**

**Explanation:**

An impact printer is a type of printer that uses a ribbon to produce text and images on paper. If an impact printer is producing faded text and images when printing, it could be due to a worn-out ribbon that needs to be replaced. The technician would need to replace the ribbon on the impact printer to resolve the issue. A ribbon is a consumable component used in impact printers that uses a cloth or plastic strip coated with ink to produce text and images on paper.

Examples of impact printers include dot matrix printers and line printers. Reference: Study Guide Section 4.6 - Printer technologies



**QUESTION 96**

A user that works in sales is reporting that the output on each page printed from a laser has duplicate images. Which of the following should be performed FIRST to eliminate the ghost images?

- A. Change the paper weight setting.
- B. Replace the printer's fuser.
- C. Upgrade the printer firmware.
- D. Clean the toner drums and rollers

**Correct Answer: D**

**Section:**

**Explanation:**

If a laser printer is producing output with duplicate images (also known as ghost images), it could be due to an issue with the toner drums and rollers. The first step to eliminate the ghost images would be to clean the toner drums and rollers to remove any excess toner that may be causing the issue. Ghost images are a common issue in laser printers where an image or text from a previous page appears faintly on subsequent pages. The cause of this issue is usually due to toner residue on the drum or rollers, which can be removed by cleaning the toner drums and rollers. Reference: Study Guide Section 4.6 - Printer technologies

**QUESTION 97**

Which of the following is used to implement network security policies for an environment?

- A. Managed switch
- B. Repeater
- C. Firewall
- D. Gateway

**Correct Answer: C**

**Section:**

**Explanation:**

It is designed to protect an organization's network infrastructure and data from unauthorized access, while allowing legitimate traffic to pass through. Firewalls can be configured to enforce security policies that block certain types of traffic, limit access to specific network resources, and prevent attacks such as malware and phishing. A firewall is a network security system that monitors and controls incoming and outgoing network traffic based on predetermined security rules. It establishes a barrier between a trusted internal network and an untrusted external network, such as the Internet. Firewalls are used to implement network security policies for an environment by controlling access to the network and protecting it from unauthorized access. A firewall is used to implement network security policies. It monitors incoming and outgoing traffic based on predetermined security rules and can block traffic that does not meet the defined criteria. Reference: CompTIA A+ Certification All-in-One Exam Guide, Tenth Edition by Mike Meyers (Chapter 6, page 243)

**QUESTION 98**

A technician is troubleshooting a point-of-sale printer that is printing blank receipts. Which of the following should the technician do to resolve the issue?

- A. Verify the correct type of paper is loaded.
- B. Install the latest print driver.
- C. Check to see if the default printer has been changed.
- D. Ensure the printer is connected to power.

**Correct Answer: A**

**Section:**

**Explanation:**

Verifying the correct type of paper is loaded is the best solution for resolving the issue of blank receipts being printed by a point-of-sale printer. Some receipt printers require a specific type of paper, and using the wrong type can result in blank receipts. Reference: <https://www.techwalla.com/articles/what-are-the-causes-of-blank-receipts-from-a-printer>

Top of Form Verify the correct type of paper is loaded. If a point-of-sale printer is printing blank receipts, one possible cause could be that the wrong type of paper is loaded in the printer. Thermal printers require thermal paper to print properly. If regular paper is loaded instead of thermal paper, the printer will not be able to produce an image on the paper and will print blank receipts.



### QUESTION 99

A technician wants to deploy a .msi package to a corporate network. The technician needs to verify the application deployment will not affect other legacy applications on the end users' computers. Which of the following would the technician consider the MOST appropriate for this situation?

- A. Virtual network
- B. Application virtualization
- C. Cross-platform virtualization
- D. Virtual sandbox
- E. Virtual desktop

**Correct Answer: B**

**Section:**

**Explanation:**

The most appropriate solution for the technician to consider in this situation is Application virtualization. Application virtualization is a technology that allows applications to run in a virtual environment, which isolates them from the underlying operating system and other applications. This ensures that the application deployment will not affect other legacy applications on the end users' computers.

### QUESTION 100

A technician receives a ticket that states a mobile payment device is having issues with its contactless payment feature. The device is not detecting payment options. Which of the following is the MOST likely cause of the issue?

- A. NFC
- B. Bluetooth
- C. Wi-Fi
- D. Lightning adapter

**Correct Answer: A**

**Section:**

**Explanation:**

NFC (Near Field Communication) is the technology used for contactless payment features on mobile payment devices. If a mobile payment device is having issues with its contactless payment feature and is not detecting payment options, it is most likely due to an issue with the NFC functionality of the device. The contactless payment feature on a mobile payment device uses NFC (Near Field Communication) to detect payment options. If the device is not detecting payment options, the issue may be related to a problem with the NFC feature. Reference: <https://www.techopedia.com/definition/31790/near-field-communication-nfc>

### QUESTION 101

A user is unable to access the internet on a PC. A technician examines the PC and runs the following commands:

```
ipconfig /all
ping 8.8.8.8
ping compnia.org
```

Which of the following steps in the troubleshooting process does this series of commands represent?

- A. Establish a theory.
- B. Verify full system functionality.
- C. Establish a plan of action.
- D. Identify the problem.

**Correct Answer: B**

**Section:**

### QUESTION 102



A client wants to connect an external keyboard to an Android tablet. Which of the following connection types are appropriate for this task? (Select TWO).

- A. DVI
- B. Infrared
- C. Lightning
- D. USB-C
- E. PS/2
- F. Bluetooth

**Correct Answer: D, F**

**Section:**

**Explanation:**

The appropriate connection types for connecting an external keyboard to an Android tablet are USB- C and Bluetooth123

#### QUESTION 103

A technician needs to install a printer on the network. Which of the following must the technician configure? (Select THREE).

- A. PCL
- B. Dots per inch
- C. Gateway
- D. Subnet mask
- E. MAC address
- F. MB
- G. IP address
- H. Drivers

**Correct Answer: C, D, G**

**Section:**

**Explanation:**

When installing a printer on a network, the technician needs to configure the network settings, which include the IP address, subnet mask, and gateway. These settings are used to ensure that the printer can communicate with other devices on the network. When installing a printer on a network, the technician must configure the network settings of the printer to ensure that it can communicate with other devices on the network. This includes configuring the gateway, subnet mask and IP address of the printer. The gateway is the device that connects the local network to other networks or the Internet. The subnet mask is used to determine which part of an IP address represents the network and which part represents individual hosts on that network. The IP address is a unique identifier for each device on a network.

#### QUESTION 104

A home user has purchased a subscription for a service that blocks malicious sites by preventing them from resolving correctly. Which of the following settings MOST likely needs to be changed on the user's router to enable this functionality?

- A. DNS server
- B. Port forwarding
- C. Perimeter network
- D. Universal PnP
- E. DHCP server

**Correct Answer: A**

**Section:**



**Explanation:**

The Domain Name System (DNS) is responsible for translating domain names into IP addresses. By blocking malicious sites from resolving correctly, the DNS server is able to prevent the user from accessing those sites. Therefore, the DNS server setting on the user's router needs to be changed to enable this functionality<sup>123</sup>.

**QUESTION 105**

Which of the following is the MAXIMUM power PoE+ provides?

- A. 15.4W
- B. 30W
- C. 60W
- D. 95W

**Correct Answer: B**

**Section:**

**Explanation:**

The earliest PoE switches from a few years ago generated 15 Watts per port (IEEE 802.3af). Today, most use the PoE+ standard (IEEE 802.3at), which generates up to 30 Watts per port. That's plenty for most devices that people want to connect

**QUESTION 106**

A technician is preparing to set up a gaming computer with the following components:

A technician is preparing to set up a gaming computer with the following components:

- Discrete, high-end graphics card
- Video capture card
- High-end processor
- Multiple hard drives
- USB 3.0 hub
- Sound card



Which of the following options is the MOST important for the technician to consider before building the gaming computer?

- A. Redundant power supply
- B. Modular power supply
- C. 20-pin vs. 24-pin power adapter
- D. Power supply wattage rating

**Correct Answer: D**

**Section:**

**Explanation:**

This is because high-end graphics cards, processors, and multiple hard drives require a significant amount of power to operate. A power supply with insufficient wattage could cause stability issues or even damage the components. The CompTIA A+ Core1 certification guide emphasizes the importance of selecting an appropriate power supply for a computer build. In addition to wattage, other factors to consider when selecting a power supply include efficiency, modularity, and the number and type of connectors required to power the components. However, of the options listed, the wattage rating is the most critical consideration.

**QUESTION 107**

A technician is troubleshooting an old desktop system that randomly shows a Windows BSOD or powers off unexpectedly. All system temperatures are within normal limits. Which of the following should the technician do NEXT?

- A. Visually inspect the motherboard capacitors.
- B. Verify all case fans are operational.
- C. Check that the BIOS version supports the installed CPU.

D. Compare the software requirements with the installed RAM.

**Correct Answer: A**

**Section:**

**Explanation:**

BSODs can be caused by poorly written device drivers or malfunctioning hardware, such as faulty memory, power supply issues, overheating of components, or hardware running beyond its specification limits. In the Windows 9x era, incompatible DLLs or bugs in the operating system kernel could also cause BSODs.

**QUESTION 108**

A technician is investigating the output shown on a monitor. The output is clear, but it has a pink hue.

The technician has replaced the video card and updated the graphics drivers. Which of the following would be the MOST likely cause?

- A. Physical cabling issues
- B. Burned-out bulb
- C. Display burn-in
- D. Incorrect data source

**Correct Answer: A**

**Section:**

**Explanation:**

The pink hue is most likely caused by physical cabling issues. The output on a monitor is clear but has a pink hue, it could be due to an issue with the physical cabling connecting the monitor to the computer. The video signal may be degraded or distorted due to a damaged or loose cable. The technician should check and replace the cable if necessary to resolve the issue.

**QUESTION 109**

A company needs to support a 10Gbps throughput. Which of the following is the MINIMUM cable category that could be used?

- A. Cat 5
- B. Cat 5e
- C. Cat 6
- D. Cat 6a

**Correct Answer: D**

**Section:**

**Explanation:**

The minimum cable category that could be used to support a 10Gbps throughput is Cat 6a. Cat 6a cable is required with 10 Gigabit Ethernet for reliable performance with cable lengths up to 100 metres. However, lower-specification cables can often be successfully used, particularly with the shorter cable lengths required in a typical home.

**QUESTION 110**

A new employee has been issued a company laptop. The employee requests an accessory with a single power source that has wired network connectivity and supports a keyboard, mouse, speakers, and dual monitors. Which of the following accessories should the systems administrator deploy to BEST meet the new user's needs?

- A. PoE switch
- B. USB-C hub with power delivery
- C. Docking station with DisplayPort
- D. KVM switch with audio

**Correct Answer: C**

**Section:****Explanation:**

A docking station is a hardware accessory that allows laptops to connect to multiple peripherals and devices with a single connection. A docking station with DisplayPort would provide the necessary connectivity for the dual monitors, and it can also support the required peripherals such as the keyboard, mouse, and speakers. In addition, it will provide a wired network connectivity for faster and more reliable network access.

**QUESTION 111**

A technician is troubleshooting a computer that is not completing POST and gets stuck at the manufacturer logo screen. All internal, removable parts have been disconnected and only the minimum parts necessary to POST were reconnected. However, the symptoms remain the same.

Which of the following should the technician try NEXT?

- A. Test the RAM in different slots, one at a time.
- B. Remove and test the power supply.
- C. Replace the motherboard.
- D. Change the CMOS battery.

**Correct Answer: A**

**Section:****Explanation:****QUESTION 112**

A technician is replacing the RAM on an entry-level server with hot-swappable components. Which of the following should the technician do NEXT?

- A. Replace the RAM while the server is at a cool temperature
- B. Replace the RAM while the server is running
- C. Power down the server completely and then replace the RAM
- D. Verify that the OS supports hot swapping the RAM



**Correct Answer: D**

**Section:****Explanation:**

Verify that the OS supports hot swapping the RAM. Before replacing the RAM on an entry-level server with hot-swappable components, the technician should verify that the operating system supports hot swapping of RAM.

**QUESTION 113**

A user who works with sensitive data has a computer configured with hard drive encryption. The TPM is active and hosting the encrypted key. After an upgrade to the motherboard, RAM and video card the hard drive is not booting and data cannot be accessed from the hard drive. Which of the following should the technician do to enable the system to boot again and get access to the stored data?

- A. Use data recovery software to find and recover the hard drive information
- B. Access the BIOS and select to rebuild the degraded RAID array
- C. Boot into the BIOS and enable the TPM on the new motherboard.
- D. Return the replaced motherboard back to the computer

**Correct Answer: C**

**Section:****Explanation:**

The technician should boot into the BIOS and enable the TPM on the new motherboard to enable the system to boot again and get access to the stored data. 1. Boot into the BIOS and enable the TPM on the new motherboard. After upgrading the motherboard, the TPM may need to be enabled in the BIOS in order to access the encrypted key and boot the system. Enabling the TPM on the new motherboard should allow the system to boot and provide access to the encrypted data. Reference: CompTIA A+ Certification Exam Guide, 220-1101, Chapter 13

**QUESTION 114**

Which of the following wireless technologies has the MOST range and wireless throughput?

- A. 802.11ac
- B. 802.11ax
- C. 802.11b/g/n
- D. 802.11g

**Correct Answer: B**

**Section:**

**Explanation:**

802.11ax, also known as Wi-Fi 6, has the longest range and the highest wireless throughput of all the wireless technologies listed. Reference: CompTIA A+ Certification Exam Guide, 220-1001, Chapter 3

**QUESTION 115**

A technician is adding one more line at the demarcation point. Which of the following tools would be MOST useful to accomplish this task?

- A. Toner
- B. Punchdown
- C. Network tap
- D. Crimper

**Correct Answer: B**

**Section:**

**Explanation:**

Punchdown tools are used to make connections between wires in a 66/110 block at the demarcation point. The tool is used to insert the wire into the appropriate holes in the block, and it can be used to add additional lines to the demarcation point. The other options are not the correct tools for adding lines to the demarcation point. A toner is used to identify cable pairs, a network tap is used to monitor network traffic, and a crimper is used to terminate cables.

**QUESTION 116**

Which of the following network devices would an administrator use to distribute traffic evenly throughout multiple nodes?

- A. Load balancer
- B. Bridge
- C. Proxy server
- D. Switch
- E. Firewall

**Correct Answer: A**

**Section:**

**Explanation:**

A load balancer is a network device that distributes network or application traffic across multiple servers to ensure that no single server bears too much of the load. Load balancing helps to improve application availability, increase scalability, and optimize resource utilization.

A bridge is used to connect two different networks, often to divide a larger network into smaller segments. A proxy server is used to forward client requests to other servers, and can also be used to cache frequently requested data. A switch is used to connect multiple devices within a network and to control the flow of network traffic. A firewall is used to secure a network by controlling incoming and outgoing traffic based on defined security rules.

Reference: CompTIA A+ Core 1 Exam Guide, page 244.

**QUESTION 117**



Which of the following is the SAFEST way to replace RAM on a server that has a redundant power supply?

- A. Unplug one power cable.
- B. Verify the RAM temperature.
- C. Utilize a grounding strap.
- D. Replace the RAM while the server is running.

**Correct Answer: C**

**Section:**

**Explanation:**

Utilizing a grounding strap is the safest way to replace RAM on a server that has a redundant power supply. This ensures that no static electricity is transferred to any of the server components, which could cause permanent damage. The other options are not the correct methods for replacing RAM.

Unplugging one power cable is not recommended, as it could cause the server to go offline and disrupt any services that are running. Verifying the RAM temperature is not necessary and does not provide any additional safety measures, and replacing the RAM while the server is running is not recommended, as it could cause system instability.

#### QUESTION 118

To control costs a company provides a limited number of users with company phones. One of these users opens a support ticket because the phone no longer allows internet browsing over a cellular connection. The user acknowledges that the phone worked before the user's child streamed several movies using the device. Which of the following describes why the phone cannot browse the Internet?

- A. The child accidentally connected to a neighbor's WLAN.
- B. The company's group policy disabled the device.
- C. The device has a data cap and has reached that limit.
- D. The device's plan has been unpaid.

**Correct Answer: C**

**Section:**

**Explanation:**

It is common for companies to place a data cap on the devices they provide to their employees, to control costs. If a user has exceeded the data cap, the phone may no longer allow internet browsing over a cellular connection. This is usually because the cellular data usage has exceeded the allotted amount for the particular plan the device is on, and the service provider has temporarily suspended the data connection.

It is unlikely that the child accidentally connected to a neighbor's WLAN because this would not affect the cellular data connection. Similarly, it is unlikely that the company's group policy has disabled the device, as this would likely affect all devices under the same policy. If the device's plan has been unpaid, the service provider would likely temporarily suspend all services, not just the cellular data connection.

Reference: CompTIA A+ Core 1 Exam Guide, page 329.

#### QUESTION 119

A user is installing a new display on a desktop computer that only has a single DVI port for video input and a single HDMI port for video output. Which of the following does the technician need to complete the setup?

- A. Digital-to-analog converter
- B. A/V switcher
- C. DisplayPort to HDMI adapter
- D. DVI to HDMI cable

**Correct Answer: D**

**Section:**

**Explanation:**

The technician will need to connect the DVI port on the computer to the new display's HDMI port. To do this, a DVI to HDMI cable will be needed. This type of cable will allow the computer's DVI video signal to be transmitted to the new display's HDMI port.

A digital-to-analog converter (DAC) is used to convert a digital signal to an analog signal. An A/V switcher is used to switch between multiple audio and video sources and display them on a single monitor or display. A DisplayPort to HDMI adapter is used to convert a DisplayPort signal to an HDMI signal, but it is not necessary in this scenario as the computer has a DVI port and not a DisplayPort.



Reference: CompTIA A+ Core 1 Exam Guide, page 199.

#### QUESTION 120

A technician just finished assembling a new PC for a client. Upon POST, the device presents an unspecified beep code and turns off automatically after five seconds. The technician double-checks the bill of materials for the new build and confirms all items have been installed. Which of the following should the technician do NEXT?

- A. Ensure thermal paste is being used on the CPU.
- B. Check to make sure that any video cards have auxiliary power cabling connected.
- C. Verify the header panel connector is properly connected.
- D. Spot-check that the I/O shield for the motherboard is properly installed.

**Correct Answer: C**

**Section:**

**Explanation:**

The technician should verify the header panel connector is properly connected. A beep code is a diagnostic tool used by motherboards to indicate issues with hardware components. This beep code may be indicating an issue with the connection between the motherboard and the case's header panel connector. This connector is responsible for providing power to the system and any connected peripherals. Therefore, the technician should verify the connection is secure and properly connected before attempting any other troubleshooting steps.

#### QUESTION 121

Which of the following cloud models maintains access, even when a local internet outage occurs?

- A. Private
- B. SaaS
- C. Community
- D. Public



**Correct Answer: A**

**Section:**

**Explanation:**

In a private cloud model, the cloud infrastructure is maintained within a company's own data center and is used exclusively by that company. Private clouds offer the advantage of maintaining access even when a local internet outage occurs, since the cloud infrastructure is not dependent on a public network connection.

Software as a Service (SaaS) is a cloud model in which software applications are hosted by a thirdparty provider and made available to customers over the internet. SaaS is not designed to maintain access in the event of a local internet outage.

A community cloud is a shared infrastructure that is used by multiple organizations, typically from the same industry or with similar requirements. Community clouds are not designed to maintain access in the event of a local internet outage.

A public cloud is a cloud infrastructure that is maintained by a third-party provider and is made available to the public over the internet. Public clouds are not designed to maintain access in the event of a local internet outage.

Reference: CompTIA A+ Core 1 Exam Guide, page 258.

#### QUESTION 122

A user is researching hard drives to upgrade a PC and has decided to purchase a NVMe drive. Which of the following Should the user confirm are available on the PC before making the purchase? (Select TWO).

- A. SATA
- B. M.2
- C. PCIe
- D. SAS
- E. SCSI

F. DRAM

**Correct Answer: B, C**

**Section:**

**Explanation:**

NVMe (Non-Volatile Memory Express) drives are high-speed solid-state drives that utilize the PCIe (Peripheral Component Interconnect Express) interface to connect to the motherboard. Before purchasing an NVMe drive, the user should confirm that the PC has an available M.2 slot for the drive and that the PC has a PCIe interface for the M.2 slot.

SATA (Serial ATA) is an older interface for hard drives and is not compatible with NVMe drives. SAS (Serial Attached SCSI) is a newer interface for hard drives and is typically used for enterprise-level storage systems. SCSI (Small Computer System Interface) is a parallel interface for hard drives that is primarily used in high-end workstations and servers. DRAM (Dynamic Random Access Memory) is a type of memory commonly used in computers, but it is not relevant to the storage of data on a hard drive.

Reference: CompTIA A+ Core 1 Exam Guide, page 267.

#### QUESTION 123

A technician is adding one more line at the demarcation point. Which of the following tools would be MOST useful to accomplish this task?

- A. Toner
- B. Punchdown
- C. Network tap
- D. Crimper

**Correct Answer: B**

**Section:**

**Explanation:**

Punchdown tools are used to connect wires to keystone jacks, patch panels and other communication hardware. When adding a new line at the demarcation point, a technician would use a punchdown tool to punch the wire into the keystone jack or patch panel, completing the connection.

#### QUESTION 124

Which of the following is the SAFEST way to replace RAM on a server that has a redundant power supply?

- A. Unplug one power cable.
- B. Verify the RAM temperature.
- C. Utilize a grounding strap.
- D. Replace the RAM while the server is running.

**Correct Answer: C**

**Section:**

**Explanation:**

Utilizing a grounding strap is the safest way to replace RAM on a server that has a redundant power supply. This is because the grounding strap prevents electrostatic discharge (ESD) when handling the RAM, which can cause damage to the RAM and the server. Therefore, it is important to always use a grounding strap when handling RAM or other sensitive components.

#### QUESTION 125

A technician is working on a critical warehouse machine that will not turn on. The technician has determined the power supply for the machine failed. The warehouse manager is looking for a solution that will prevent downtime in the future. Which of the following devices should the technician install to meet this requirement?

- A. Grounded power supply
- B. Modular power supply
- C. 220V power supply
- D. Redundant power supply

**Correct Answer: D**

**Section:**

**Explanation:**

A redundant power supply is a device that provides two or more power supplies connected in parallel so that when one fails, the other one will take over to ensure continuous power. This is ideal for critical warehouse machines that require a reliable power source and are at risk of downtime in the event of a power failure. Installing a redundant power supply will help to reduce the chances of an unexpected power outage and keep the machine running.

**QUESTION 126**

A technician set up a new access point and has noticed significant latency on the selected channel. Which of the following tools can assist with locating the BEST channel to use?

- A. Wi-Fi analyzer
- B. Netstat
- C. Net use
- D. Traceroute
- E. Network tap

**Correct Answer: A**

**Section:**

**Explanation:**

A Wi-Fi analyzer is a tool that can be used to scan the local area for available wireless networks and can provide information such as signal strength, interference, and available channels. It can also be used to locate the best channel to use for a given access point, which can help to reduce latency and improve performance.

**QUESTION 127**

A technician responds to a help desk ticket that indicates a user's workstation is not booting. The technician initially suspects a failed hard drive. The technician performs diagnostics and confirms the hard drive is fully operational.

Which of the following steps should the technician complete NEXT?

- A. Reinstall the operating system.
- B. Configure a new RAID array.
- C. Report the status of the drive and close the ticket.
- D. Consider another possible cause of the issue.
- E. Restore the latest backup of the system.

**Correct Answer: D**

**Section:**

**Explanation:**

Since the hard drive appears to be functioning normally, the technician should investigate other potential causes of the issue. This could include checking the BIOS settings, verifying the connections to the hard drive, and testing the RAM.

Once these steps have been completed, the technician can then take the necessary steps to resolve the issue.

**QUESTION 128**

The owner of a restaurant reports that wireless network connections are lost intermittently throughout the day. Which of the following steps should a technician take to troubleshoot the issue? (Select TWO).

- A. Identify the location of devices that utilize 2.4GHz.
- B. Check to see if the phones are IJTP or STP lines.
- C. Test to see if the copper electrical Wires are causing interference.

- D. Map all of the wireless signals in the restaurant.
- E. Verify T568B is being used in the wiring closet patch panel.
- F. Schedule timed router reboots throughout the day.

**Correct Answer: A, D**

**Section:**

**Explanation:**

The correct answers are A. Identify the location of devices that utilize 2.4GHz and D. Map all of the wireless signals in the restaurant. In order to troubleshoot the issue, the technician should first identify the location of devices that utilize the 2.4GHz frequency, as this can cause interference with the wireless signal. Additionally, the technician should map all of the wireless signals in the restaurant in order to identify any potential sources of interference. Checking to see if the phones are IJTP or STP lines, testing to see if the copper electrical wires are causing interference, verifying T568B is being used in the wiring closet patch panel, and scheduling timed router reboots throughout the day are not necessary steps for troubleshooting this issue.

#### QUESTION 129

Which of the following options provides correct information about 2.4GHz and 5GHz wireless frequencies? (Select TWO)

- A. 2.4GHz has less interference. 5GHz transmits in lower speed.
- B. 2.4GHz penetrates solid objects more effectively. 5GHz provides faster data connections.
- C. 2.4GHz has a higher data rate. 5GHz has 23 channels.
- D. 2.4GHz has 11 channels. 5GHz has no data interference.
- E. 2.4GHz has a higher coverage area. 5GHz has higher bandwidth.
- F. 2.4GHz has a higher bandwidth. 5GHz has lower transmit power.

**Correct Answer: B, E**

**Section:**

**Explanation:**

The correct answers are B. 2.4GHz penetrates solid objects more effectively. 5GHz provides faster data connections and E. 2.4GHz has a higher coverage area. 5GHz has higher bandwidth. The 2.4GHz frequency has a lower data rate compared to 5GHz, but it can penetrate solid objects more effectively and has a higher coverage area. The 5GHz frequency, on the other hand, provides faster data connections and has higher bandwidth, but it has fewer channels and lower transmit power.

#### QUESTION 130

A software developer used client-side virtualization on a server to configure a web application.

Although the application is working locally on the software developer's PC, other users on the LAN are not able to access the application. Which of the following would allow other users to access the application?

- A. Bridge networking
- B. Application virtualization
- C. Virtual desktop
- D. Site-to-site VPN

**Correct Answer: A**

**Section:**

**Explanation:**

Client-side virtualization is used to run an application or process on a separate virtual machine, isolated from the main operating system. To allow other users on the LAN to access the application, the software developer should configure a bridge networking connection between the virtual machine and the LAN. This will allow the virtual machine to communicate with other computers on the network. Application virtualization, virtual desktop, and site-to-site VPN are not necessary steps for allowing other users to access the application.

#### QUESTION 131

A customer called the help desk to request information about how to increase the volume on a laptop using only a keyboard. Which of the following keys would MOST likely allow this to be done?

- A. Alt
- B. Fn
- C. Tab
- D. Ctrl

**Correct Answer: B**

**Section:**

**Explanation:**

To increase the volume on a laptop using only a keyboard, a user can press and hold down the Fn key while pressing one of the function keys (usually F1-F12) that has an icon representing volume up.

**QUESTION 132**

A technician needs to install RAM into a rackmount server that will be used as a VM host. Which of the following would be BEST to install?

- A. SODIMM
- B. VRAM
- C. DDR4
- D. ECC

**Correct Answer: D**

**Section:**

**Explanation:**

When installing RAM into a server that will be used as a VM host, it is recommended to install ECC (Error-Correcting Code) RAM to help prevent errors that can cause virtual machines to crash. Reference:

<https://www.servermonkey.com/blog/ecc-vs-non-ecc-ram-what-are-the-differences.html>

When installing RAM into a rackmount server that will be used as a VM host, it would be best to install ECC (Error Correcting Code) RAM which can detect and correct common types of data corruption.

**QUESTION 133**

A user's touch-screen tablet is having an issue with the screen orientation. Which of the following is MOST likely causing this issue?

- A. The screen rotation is locked
- B. The screen protector on the tablet is damaged
- C. The touch-screen digitizer is malfunctioning
- D. The inverter is misconfigured

**Correct Answer: A**

**Section:**

**Explanation:**

The screen rotation is locked. If a user's touch-screen tablet is having an issue with screen orientation, it could be due to screen rotation being locked in device settings. If the screen rotation is locked, the touch-screen tablet will not rotate the screen when the device is turned. This can usually be unlocked in the settings or by pressing a specific key combination. Reference: <https://www.howtogeek.com/254132/how-to-enable-screen-rotation-on-windows-10/>

**QUESTION 134**

A technician is troubleshooting an issue involving lines appearing down copied pages, but printed pages sent directly to the copier render as intended. Which of the following is the MOST likely cause of this issue?

- A. Empty imager drum
- B. Overheated system fuser
- C. Scratched scanner glass

D. Third-party toner

**Correct Answer: C**

**Section:**

**Explanation:**

If lines appear down copied pages but printed pages sent directly to copier render as intended, it could be due to scratched scanner glass which can cause lines or streaks on copied pages. If there are lines appearing on copied pages, but not on printed pages sent directly to the copier, the issue is most likely caused by a scratch on the scanner glass. Reference: <https://www.pacificoffice.com/how-to-fix-lines-on-copier/>

**QUESTION 135**

A desktop support technician is building a new desktop that features the fastest internal storage. Which of the following BEST suits this request?

- A. SATA SSD
- B. SATA HDD
- C. M2 PCIe NVMe SSD
- D. PCIe SATA HDD

**Correct Answer: C**

**Section:**

**Explanation:**

M2 PCIe NVMe SSD. M.2 PCIe NVMe SSDs are the fastest internal storage devices available for desktops. They are faster than SATA SSDs and PCIe SATA HDDs.

**QUESTION 136**

Which of the following components houses the MX record?

- A. DNS
- B. VLAN
- C. DHCP
- D. SMTP



**Correct Answer: A**

**Section:**

**Explanation:**

The MX record is housed in the DNS (Domain Name System) which is responsible for translating domain names into IP addresses and vice versa. The MX record specifies the mail server responsible for accepting email messages on behalf of a domain name and is a resource record in the DNS.

**QUESTION 137**

An IT technician is inspecting the internal components of a desktop computer to assess a suspected power issue with the motherboard. Which of the following connectors should the IT technician inspect further?

- A. RJ45
- B. Straight tip
- C. DB9
- D. Molex

**Correct Answer: D**

**Section:**

**Explanation:**

The connector that the IT technician should inspect further is Molex. The Molex connector is used to provide power to the motherboard and other components in the computer. If there is a suspected power issue with the motherboard, the IT technician should inspect the Molex connector to ensure that it is properly connected and providing power to the motherboard.



**QUESTION 138**

Which of the following BEST describes a lab environment in which virtual machines can be created, rebooted, and shut down without affecting the production network?

- A. SCADA
- B. Sandbox
- C. Honeypot
- D. Hybrid cloud

**Correct Answer: B**

**Section:**

**Explanation:**

A sandbox is a lab environment in which virtual machines can be created, rebooted, and shut down without affecting the production network. This allows for testing and experimentation without the risk of damaging the production environment<sup>123</sup>.

**QUESTION 139**

A help desk technician plugged in a user's new computer to a network port. After a few minutes the computer showed an APIPA address. Which of the following is the MOST likely reason this happened?

- A. The WLAN is disabling the NIC card.
- B. The network cable is not attached.
- C. The PC is unable to contact a DHCP server
- D. The DHCP server is using addresses in the range of 169.254.254.1.

**Correct Answer: C**

**Section:**

**Explanation:**

The most likely reason for a computer showing an APIPA address after being plugged into a network port is that the PC is unable to contact a DHCP server<sup>1</sup>. Automatic Private IP Addressing (APIPA) is a DHCP fail-safe that protects a computer system from failure. It invokes a standby mechanism for local Internet Protocol version 4 (IPv4) networks supported by Microsoft Windows. With APIPA, DHCP clients can obtain IP addresses even when DHCP servers are not functional<sup>1</sup>. The other options are less likely to be the cause of the issue<sup>1</sup>.

**QUESTION 140**

A field technician for an airport receives a support ticket that states customers are having issues viewing a screen that displays information about departing flights. While checking the case history, the technician sees that all flight information screens were recently moved when the terminal gates were remodeled. Which of the following actions should the technician perform after verifying the screen has power?

- A. Ensure the input connections to the screen are secure.
- B. Swap cables with a screen that works.
- C. Check to see if the device outputting the data is turned on.
- D. Determine if the screen is compatible with the output device.

**Correct Answer: A**

**Section:**

**Explanation:**

The technician should ensure the input connections to the screen are secure<sup>1</sup>. The screen may not be receiving the signal from the device outputting the data if the input connections are not secure<sup>1</sup>. Swapping cables with a screen that works is not likely to be the correct option<sup>1</sup>.

**QUESTION 141**

To which of the following should a technician connect individual pairs of a Cat 6 cable in order to provide a connection to a switch?

- A. Access point



- B. Patch panel
- C. Hub
- D. Firewall
- E. Wall jack

**Correct Answer: B**

**Section:**

**Explanation:**

#### **QUESTION 142**

A technician who works in a high-security environment needs to set up a laptop with triple monitors for a new security employee. All USB ports are disabled due to security policies. Which of the following should the technician do to BEST meet the requirements?

- A. Install a splitter cable
- B. Install a discrete graphics card.
- C. use an HDMI switch.
- D. Implement a docking station.

**Correct Answer: D**

**Section:**

**Explanation:**

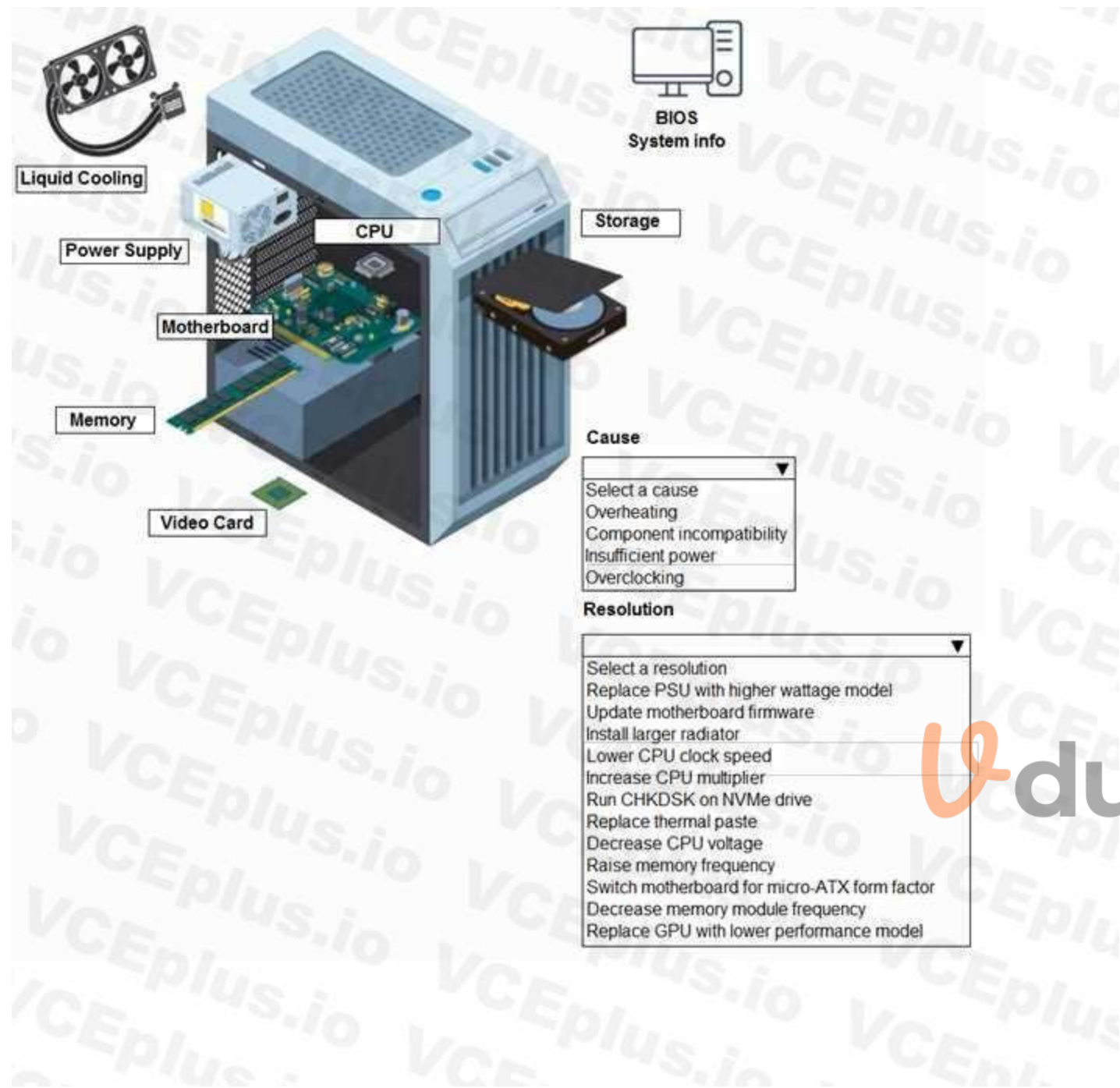
This is because a docking station can connect multiple monitors to a laptop without using USB ports, which are disabled in this scenario. A splitter cable would only allow two monitors to be connected, not three. A discrete graphics card would require opening the laptop and installing hardware, which may not be feasible or allowed in a high-security environment. An HDMI switch would only allow one monitor to be active at a time, not all three simultaneously.

#### **QUESTION 143**

**HOTSPOT**

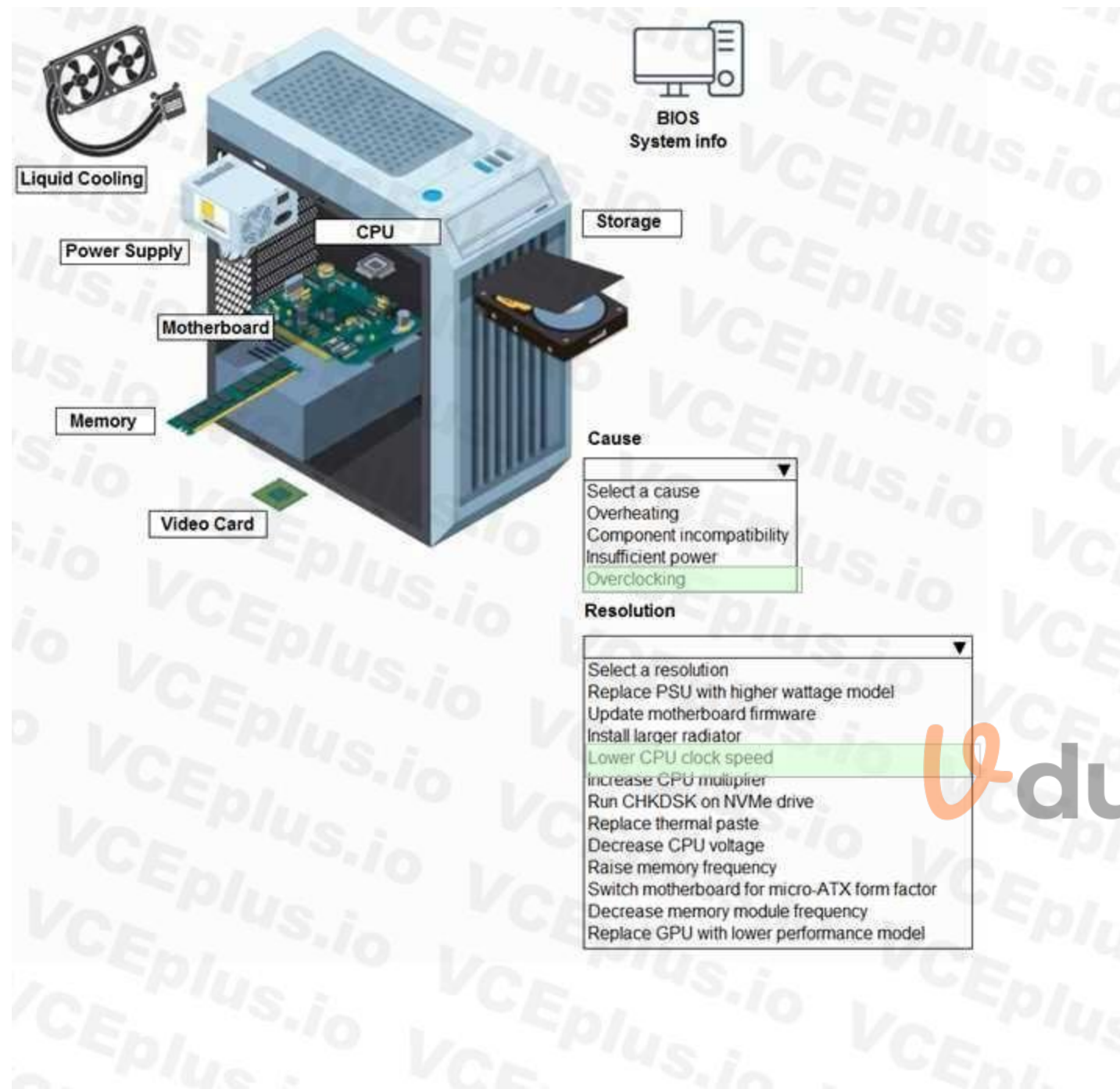
A customer built a computer for gaming, sourcing individual components and then assembling the system. The OS starts up, but within a few minutes the machine locks up. The customer brought the computer to a technician to diagnose the issue.

**Hot Area:**



Vdumps

Answer Area:



**Section:**

**Explanation:**

**QUESTION 144**

HOTSPOT

A customer has contacted you about building two new desktops. The first desktop will be a gaming workstation. The customer requirements include:

Playing the newest games at a high frame rate

Fast game load times

Enough storage to have several games installed at once

High-end audio

No concern about cost

Running the current Windows OS

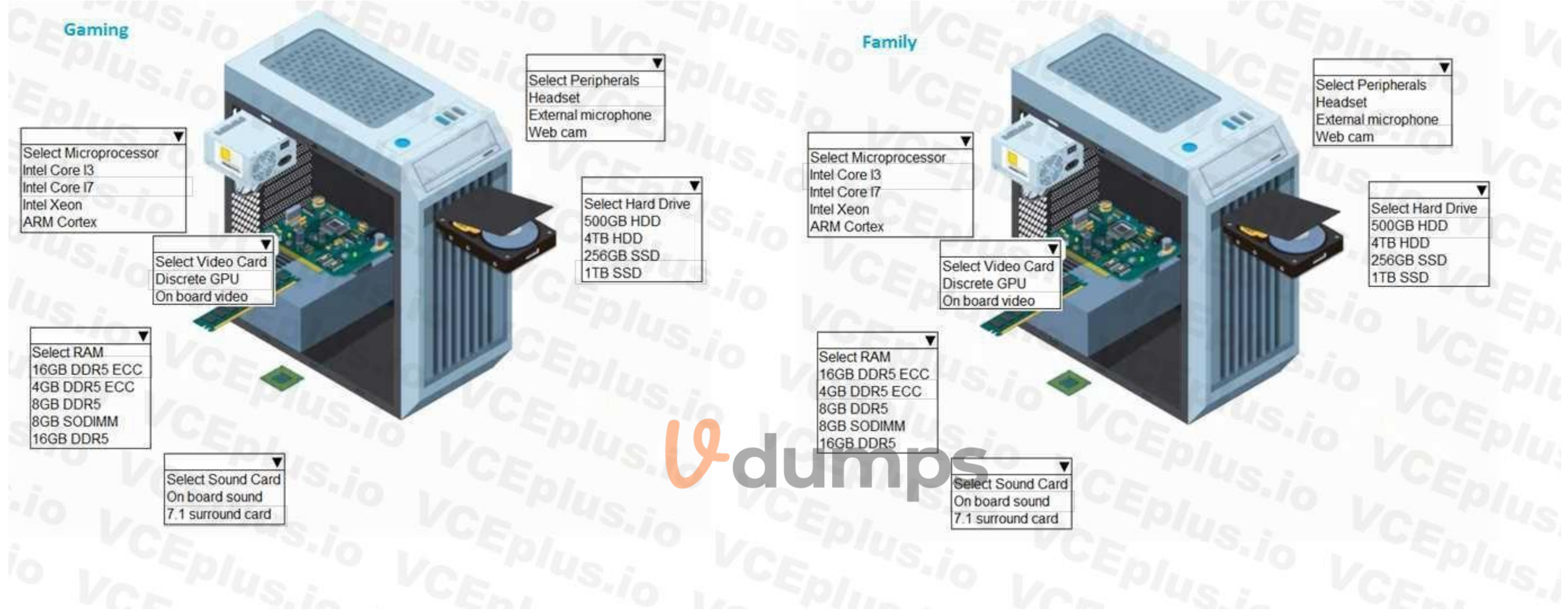
The second workstation will be a family workstation. The requirements include:

Capability for word processing, videoconferencing, and basic web surfing

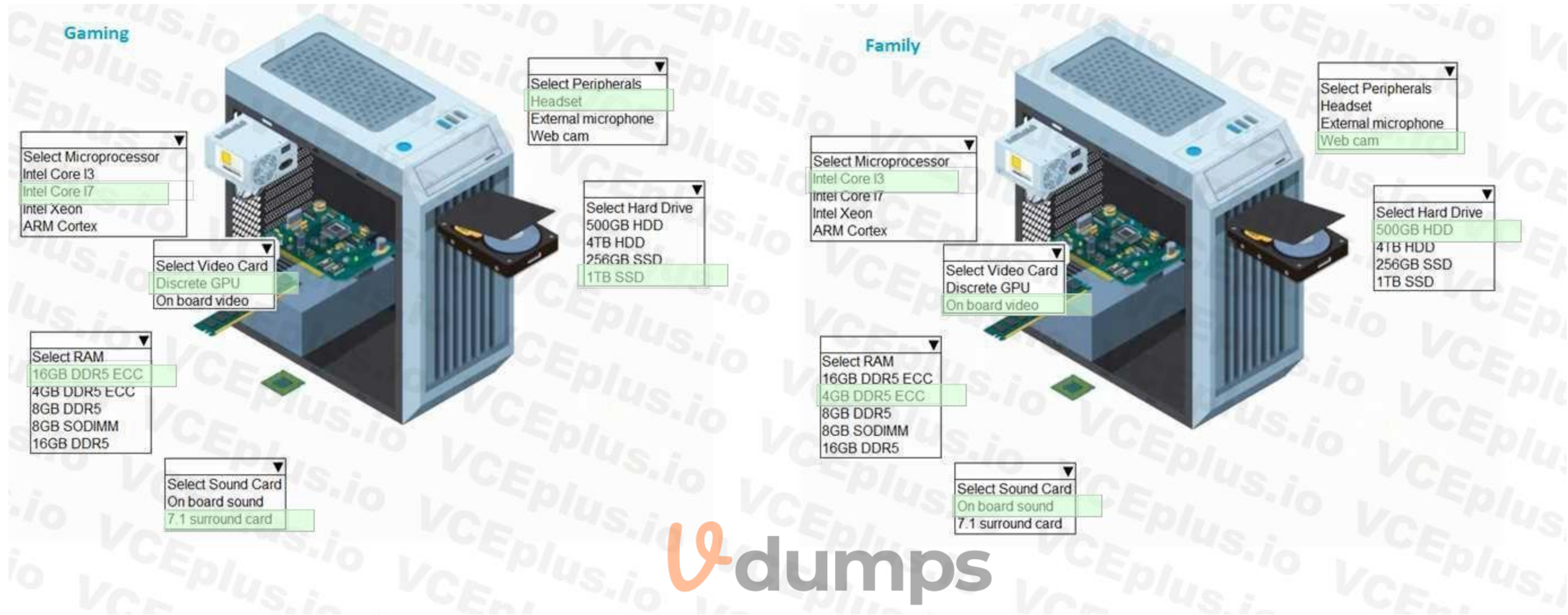


Minimal cost, as long as it meets the requirements  
Running the current Windows OS

**Hot Area:**



**Answer Area:**



**Section:**

**Explanation:**

**QUESTION 145**

A user reports that a printer is leaving streaks on printed pages. The paper type and the toner have been replaced. Which of the following should the technician check NEXT to resolve the issue?

- A. System board
- B. Paper tray
- C. Memory
- D. Fuser

**Correct Answer: D**

**Section:**

**Explanation:**

This is because the fuser is the part of the printer that heats and melts the toner onto the paper. If the fuser is defective or dirty, it can cause streaks or smudges on printed pages. The system board and the memory are not related to the quality of the print output. The paper tray may cause paper jams or misfeeds, but not streaks on the paper.

**QUESTION 146**

Which of the following video cables can carry an audio signal?

- A. HDMI

- B. S-Video
- C. VGA
- D. DVI

**Correct Answer: A**

**Section:**

**Explanation:**

This is because HDMI (High-Definition Multimedia Interface) is a digital video cable that can also carry audio signals<sup>1</sup>. HDMI cables are commonly used to connect devices like Blu-ray players, game consoles, and streaming boxes to HDTVs and monitors. The other options are not capable of carrying audio signals. VGA (Video Graphics Array) is an analog video cable that only carries RGBHV signals<sup>2</sup>. S-Video (Super Video) is another analog video cable that carries separate luminance and chrominance signals<sup>1</sup>. DVI (Digital Visual Interface) is a digital video cable that can carry either analog or digital signals, but not audio<sup>1</sup>.

#### QUESTION 147

A user is unable to connect a mobile phone while in a car. However, a second mobile Device is able To connect in The same car, WHICH of the Following settings should the user check on the first phone?

- A. Wi-Fi
- B. Hotspot
- C. Bluetooth
- D. Location

**Correct Answer: C**

**Section:**

**Explanation:**

To connect a mobile phone to a car, you need to pair them using Bluetooth, which is a wireless technology that allows secure local networks between devices<sup>1</sup>. If one phone can connect to the car but another cannot, it means that the first phone has Bluetooth enabled and paired with the car, while the second phone does not. Therefore, the user should check the Bluetooth settings on the second phone and make sure it is turned on and discoverable<sup>2</sup>.

#### QUESTION 148

A user's desktop computer slows down after a few minutes of use, and the fans alternate between silent and very loud. Which of the following is MOST likely failing, therefore causing these symptoms?

- A. CPU fan
- B. Memory
- C. Power supply
- D. Hard drive

**Correct Answer: A**

**Section:**

**Explanation:**

A CPU fan is a component that cools down the CPU, which is the main processor of the computer. If the CPU fan is failing, it can cause the computer to slow down and the fans to alternate between silent and very loud<sup>2</sup>. This is because the CPU fan cannot maintain a consistent speed and airflow to keep the CPU at a safe temperature. When the CPU gets too hot, it throttles its performance to avoid overheating, which results in a slower computer. The other fans in the computer also try to compensate for the lack of cooling from the CPU fan by spinning faster and louder<sup>2</sup>.

#### QUESTION 149

A user receives the following error when trying to reboot a computer:



```
System RAID Controller FW v1.2
A disk member in an array has failed or is not responding
Port      Device ID  Description          Status
sata0     disk0     Generic 500 SATA III  OK
sata1     disk1     Generic 500 SATA III  Not Found
```

Which of the following is the MOST likely cause of this error message?

- A. Corrupted bootloader
- B. Faulty RAID controller
- C. Failed hard drive
- D. Incorrect storage device driver

**Correct Answer: C**

**Section:**

**Explanation:**

The error message "Reboot and Select Proper Boot Device" indicates that the computer cannot find the boot device that contains the operating system<sup>12</sup>. This can happen if the hard drive that stores the operating system is damaged or failed, and the BIOS cannot detect it or read from it<sup>23</sup>. A failed hard drive can also cause other symptoms such as clicking noises, corrupted files, or slow performance<sup>4</sup>.

#### QUESTION 150

A drive failed on a server that was leveraging a RAID disk configuration. The server administrator would like to rebuild the array so it can withstand a potential multidrive failure in the future. Which of the following RAID configurations will the administrator MOST likely select?

- A. 0
- B. 1
- C. 5
- D. 10



**Correct Answer: D**

**Section:**

**Explanation:**

RAID stands for Redundant Array of Independent Disks, which is a technology that combines multiple disks into a logical unit to improve performance, reliability, or both. There are different types of RAID levels that use different methods of data distribution and redundancy.

RAID 0 is a level that stripes data across multiple disks without any redundancy. It offers the highest performance but no fault tolerance. If any disk fails, the entire array is lost.

RAID 1 is a level that mirrors data across two disks. It offers the lowest performance but the highest fault tolerance. It can survive the failure of one disk.

RAID 5 is a level that stripes data across multiple disks with parity information. It offers a balance between performance and fault tolerance. It can survive the failure of one disk, but not two or more disks.

RAID 10 is a level that combines RAID 1 and RAID 0. It creates a striped array of mirrored pairs. It offers high performance and high fault tolerance. It can survive the failure of one disk in each pair, or multiple disks in different pairs.

Therefore, if the server administrator wants to rebuild the array to withstand a potential multidrive failure in the future, RAID 10 is the most likely choice.

#### QUESTION 151

Which of the following is an unsecure remote access protocol?

- A. SSH
- B. HTTPS
- C. SFTP

D. Telnet

**Correct Answer: D**

**Section:**

**Explanation:**

Telnet is an unsecure remote access protocol that allows a user to connect to a remote device and execute commands on it<sup>12</sup>. Telnet does not encrypt the data that is transmitted between the user and the device, which means that anyone who intercepts the network traffic can read the information, including usernames and passwords<sup>12</sup>. Telnet also does not authenticate the user or the device, which means that anyone can impersonate either party and gain unauthorized access<sup>1</sup>.

**QUESTION 152**

A technician is configuring a desktop computer, and the hard drive must be encrypted. Which of the following will the technician need to verify is enabled to complete this configuration?

- A. ATX
- B. NIC
- C. TPM
- D. ARM

**Correct Answer: C**

**Section:**

**Explanation:**

TPM stands for Trusted Platform Module, which is a hardware component that securely stores encryption keys and other sensitive data<sup>12</sup>. TPM can be used to enable hard drive encryption, which is a technology that encrypts the data stored on a hard drive using sophisticated mathematical functions<sup>34</sup>. Hard drive encryption protects the data from unauthorized access in case the hard drive is lost, stolen, or tampered with.

**QUESTION 153**

Which of the following describes the BEST use case for a client-side hypervisor?

- A. By For a software developer who is required to test an application in many environments
- B. When the data center environment is out of resources for a new server
- C. As a cost-saving measure to allow multiple users on one computer
- D. To provide a backup to cloud-based solutions during internet failures

**Correct Answer: A**

**Section:**

**Explanation:**

A client-side hypervisor is a virtual machine monitor (VMM) that resides in and virtualizes a user's computer, allowing it to run multiple operating systems (or virtual machines) on shared hardware<sup>12</sup>. A client-side hypervisor can be useful for a software developer who needs to test an application in many environments, such as different versions of Windows, Linux, or Mac OS. By using a client-side hypervisor, the developer can switch between different virtual machines without rebooting the computer or using multiple physical devices<sup>3</sup>.

**QUESTION 154**

Which of the following handles touch-screen operation on a mobile device?

- A. Stylus
- B. Liquid crystal display
- C. Processor
- D. Digitizer

**Correct Answer: D**



**Section:**

**Explanation:**

A digitizer is a component that handles touch-screen operation on a mobile device. It is a layer of material that detects and converts the touch of a finger or a stylus into an electrical signal that can be processed by the device<sup>12</sup>. A digitizer works with a display screen to create a touch-screen interface that allows a user to interact with the device by touching pictures or words on the screen.

**QUESTION 155**

Every time a user sends a print job, the user must walk over to the printer and press OK before the job will print. The same issue is occurring for multiple users. Which of the following is the MOST likely cause of the issue?

- A. The wrong network printer queue is being used.
- B. The network printer is on the wrong VLAN.
- C. A The default paper type has been changed.
- D. The print server has outdated print drivers.

**Correct Answer: C**

**Section:**

**Explanation:**

The message prompting to press "OK" indicates that the printer is waiting for a user input. This suggests that there is some issue with the printer settings, and the most probable cause is that the default paper type has been changed, and the printer needs the user to confirm the paper type before proceeding with the print job. This is a common issue that can occur when the default paper type is not set correctly or has been changed without the user's knowledge.

**QUESTION 156**

An administrator chose a shared-tenant model for a cloud deployment. Which of the following is the MOST likely reason the administrator chose this model?

- A. Cost savings
- B. Highly available
- C. Dedicated hardware
- D. Increased security

**Correct Answer: A**

**Section:**

**Explanation:**

The shared-tenant model for a cloud deployment, also known as a multi-tenant model, allows multiple customers to use the same resources and infrastructure of the cloud service provider, with each customer's data and applications isolated from one another. This model is often chosen for cost savings, as resources are shared and users only pay for what they use. Therefore, the MOST likely reason that an administrator chose this model is A. Cost savings.

**QUESTION 157**

A technician is troubleshooting connectivity issues and needs to promiscuously route a copy of traffic to a separate machine for analysis. Which of the following physical tools would BEST accomplish this task?

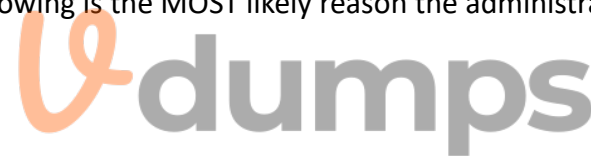
- A. Toner probe
- B. Wi-Fi analyzer
- C. Network tap
- D. Loopbackplug

**Correct Answer: C**

**Section:**

**Explanation:**

A network tap is a physical device that allows promiscuous monitoring of network traffic by creating a copy of the data packets for analysis. A toner probe is used to trace and identify cables. A Wi-Fi analyzer is used to



measure wireless signal strength and interference. A loopback plug is used to test network ports or cables by sending and receiving signals from the same device.

#### QUESTION 158

A technician verifies the slow boot time and slow OS performance of a tower server with a RAID 5 on a PCIe RAID card that does not support hot swapping. Which of the following steps should the technician take NEXT to verify RAID health?

- A. Verify S.M.A.R.T. operation on the RAID card.
- B. Replace the failed drive while users are connected
- C. Physically clean the HDDs and connectors.
- D. Shut down the server and check the RAID controller's status.

**Correct Answer: D**

**Section:**

**Explanation:**

Since the RAID card does not support hot swapping, the technician needs to shut down the server and check the RAID controller's status to verify RAID health. S.M.A.R.T. is a feature of hard drives, not RAID cards. Replacing the failed drive while users are connected could cause data loss or corruption. Physically cleaning the HDDs and connectors is unlikely to solve the slow boot time and performance issues.

#### QUESTION 159

A user reports a tablet restarts on its own every five to ten minutes. In addition, the tablet has intermittent issues with charging. The technician gives the user a new power adapter and charging cable, and the technician also tries resetting the OS. but the issue persists. Which of the following is the MOST likely cause of the issue?

- A. Water damage
- B. Incorrect OS version
- C. Faulty battery
- D. Damaged charging port

**Correct Answer: C**

**Section:**

**Explanation:**

A faulty battery could cause a tablet to restart on its own and have intermittent issues with charging. Water damage could also cause these symptoms, but it is not the most likely cause unless there is evidence of liquid exposure. Incorrect OS version could cause compatibility or performance issues, but not charging problems. Damaged charging port could prevent the tablet from charging, but not cause it to restart randomly.

#### QUESTION 160

A technician is attempting to connect the wired LANs at two nearby buildings by installing a wireless point-to-point connection. Which of the following should the technician consider?

- A. NFC protocol data rate
- B. RFID frequency range
- C. Bluetooth version compatibility
- D. Allowable limits for transmit power

**Correct Answer: D**

**Section:**

**Explanation:**

When installing a wireless point-to-point connection between two buildings, the technician should consider the allowable limits for transmit power, which vary depending on the country or region. Exceeding these limits could interfere with other wireless devices or violate regulations. NFC protocol data rate, RFID frequency range, and Bluetooth version compatibility are not relevant for a wireless point-to-point



connection.

#### QUESTION 161

A user wants RAID to be configured on a desktop to allow the fastest speed and maximum storage capacity. Which of the following RAID types should a technician configure to accommodate this request?

- A. 0
- B. 1
- C. 5
- D. 10

**Correct Answer: A**

**Section:**

**Explanation:**

RAID 0 is a configuration that stripes data across multiple disks without parity or redundancy. It provides the fastest speed and maximum storage capacity among the RAID types listed, but it also has no fault tolerance. RAID 1 mirrors data across two disks, providing redundancy but halving the storage capacity. RAID 5 stripes data across three or more disks with parity, providing fault tolerance but reducing the storage capacity by one disk. RAID 10 combines mirroring and striping across four or more disks, providing both speed and redundancy but reducing the storage capacity by half.

#### QUESTION 162

A user reports that a computer will not turn on. The technician verifies the power cord and the outlet the computer are plugged into are both working properly. Which of the following is the hardware component that has MOST likely failed?

- A. PSU
- B. CPU
- C. RAM
- D. GPU

**Correct Answer: A**

**Section:**

**Explanation:**

The power supply unit (PSU) is the component that converts AC power from the outlet to DC power for the computer. If the PSU fails, the computer will not turn on. The CPU, RAM, and GPU are not directly related to the power supply and would not prevent the computer from turning on.

#### QUESTION 163

A classroom projector, which is turned on, displays a flashing LED code but does not have any video output. Which of the following should a technician do to resolve the issue?

- A. Replace the bulb.
- B. Adjust the input resolution\_
- C. Clean the air filter.
- D. Change the input source.

**Correct Answer: C**

**Section:**

**Explanation:**

The answer is C. Clean the air filter.

A flashing LED code on a projector usually indicates a problem with the projector's hardware, such as the lamp, the fan, the temperature sensor, or the air filter. According to the web search results, some possible causes and solutions for this problem are:

Projector is too hot: Make sure that the vents and air filter are not clogged with dust or obstructed by nearby objects. Clean or replace the air filter. Make sure the environmental temperature is not too hot<sup>12</sup>.

Projector has overheated and turned off: Leave it turned off to cool down for five minutes. Make sure that the vents and air filter are not clogged with dust or obstructed by nearby objects. Clean or replace the air filter. If



operating the projector at high altitude, turn on High Altitude Mode<sup>12</sup>.

Low air flow through the projector or air filter: Make sure that the vents and air filter are not clogged with dust or obstructed by nearby objects. Clean or replace the air filter<sup>12</sup>.

Reference:

Projector Light Status

Projector Light Status

#### QUESTION 164

A customer recently installed a new graphics card, but the card's HDMI port is not getting a signal when connected to the monitor. When the monitor is connected to the original HDMI port, located next to the USB ports, everything works as expected. Which of the following should the technician do next?

- A. Change the input source selection on the monitor.
- B. Check to see whether the UEFI setting for PCIe graphics is enabled.
- C. Install a higher wattage power supply.
- D. Test the new graphics card with an HDMI to DVI adapter.

**Correct Answer: B**

**Section:**

#### QUESTION 165

Given the following output from a cable tester:

=====

= Open

=12345678=

=12 45 78=

=====

Which of the following tools should the technician use to resolve this issue? (Select two).

- A. Loopback plug
- B. Network tap
- C. Toner probe
- D. Crimper
- E. Punchdown tool
- F. Wi-Fi analyzer

**Correct Answer: D, E**

**Section:**

**Explanation:**

The output from the cable tester indicates that there is an open fault in the cable, which means that one or more of the wires in the cable are not connected properly or are broken. The open fault affects the wires 3, 4, and 6, which are used for transmitting and receiving data in Ethernet networks. The open fault can cause network connectivity issues, such as no link, slow speed, or packet loss<sup>12</sup>.

To resolve this issue, the technician should use a crimper and a punchdown tool, which are tools that are used to attach connectors to cables or wires to patch panels. A crimper is a tool that squeezes or crimps a connector, such as an RJ-45, to the end of a cable, ensuring that the wires are securely inserted into the pins of the connector. A punchdown tool is a tool that pushes or punches a wire into a slot on a patch panel, creating a connection between the wire and the panel. Both tools can be used to fix or replace the faulty wires or connectors that cause the open fault<sup>12</sup>.

The other options are not as effective or relevant as a crimper and a punchdown tool. A loopback plug is a tool that is used to test the functionality of a network port or device, by sending and receiving signals from the same port or device. A loopback plug can help diagnose network problems, such as faulty ports or devices, but it cannot fix the open fault in the cable<sup>12</sup>. A network tap is a tool that is used to monitor or capture network traffic, by creating a copy of the data that passes through a network link. A network tap can help analyze network performance, security, or troubleshooting, but it cannot fix the open fault in the cable<sup>12</sup>. A toner probe is a tool that is used to trace or identify a cable or wire, by sending and detecting an audible tone along the cable or wire. A toner probe can help locate or label network cables or wires, but it cannot fix the open fault in the cable<sup>12</sup>. A Wi-Fi analyzer is a tool that is used to scan or measure wireless networks, by displaying information such as signal strength, channel, encryption, etc. A Wi-Fi analyzer can help optimize or troubleshoot wireless networks, but it cannot fix the open fault in the cable<sup>12</sup>.



#### QUESTION 166

A technician is troubleshooting a workgroup printer that has stopped printing after several days of heavy use. The technician runs the diagnostic tool in the printer's administrator menu. Which of the following issues is the technician most likely to encounter?

- A. Corrupt job in print spooler
- B. Insufficient space in the printer
- C. Network connectivity issues
- D. Improperly installed drivers

**Correct Answer: A**

**Section:**

**Explanation:**

The most likely issue that the technician will encounter is

A) Corrupt job in print spooler.

A corrupt job in the print spooler is a common problem that can cause a printer to stop printing or print slowly. The print spooler is a service that manages the print queue, which is a list of documents that are waiting to be printed. Sometimes, a document in the print queue can become corrupted or incompatible with the printer, and prevent other documents from being printed. This can happen due to various reasons, such as power outage, network interruption, driver mismatch, virus infection, etc<sup>12</sup>.

To troubleshoot and resolve this issue, the technician can use the diagnostic tool in the printer's administrator menu, which is a feature that allows the technician to access and configure various settings and options of the printer. The diagnostic tool can help the technician identify and delete the corrupt job in the print spooler, and restart the print service. The technician can also use the diagnostic tool to check the printer's status, error messages, firmware updates, network settings, and other information that can help with the troubleshooting process<sup>34</sup>.

The other options are less likely to be encountered by the technician, as they are not related to the printer's heavy use or the diagnostic tool. Insufficient space in the printer is an issue that can occur when the printer's memory or storage is full, and it can cause the printer to print slowly or incompletely. However, this issue can be easily resolved by clearing the printer's memory or storage, or adding more memory or storage to the printer<sup>12</sup>. Network connectivity issues are problems that can affect the communication between the printer and the network, and they can cause the printer to be offline or unreachable. However, these issues can be resolved by checking and fixing the physical or wireless connection, the network configuration, the firewall settings, and the printer's IP address<sup>12</sup>. Improperly installed drivers are issues that can affect the compatibility and functionality of the printer, and they can cause the printer to print incorrectly or not at all. However, these issues can be resolved by updating, reinstalling, or rolling back the printer's drivers, or by using the correct drivers for the printer's model and operating system<sup>12</sup>.

#### QUESTION 167

A user called the help desk to request assistance with selecting appropriate storage to back up a large collection of DVDs and photos in the most economical way. Which of the following should the help desk recommend?

- A. 5,400rpm HDD
- B. M.2 NVMe SSD
- C. SAS RAID array
- D. Optical media

**Correct Answer: D**

**Section:**

**Explanation:**

Optical media, such as CDs, DVDs, or Blu-ray discs, are a suitable choice for backing up a large collection of DVDs and photos in the most economical way. Optical media are inexpensive, widely available, and have a long shelf life. They can store large amounts of data, up to 50GB on a dual-layer Blu-ray disc, and can be easily labeled and organized. Optical media are also less prone to mechanical failure, data corruption, or accidental deletion than hard disk drives (HDDs) or solid state drives (SSDs).

The other options are not as economical or suitable for this purpose. A 5,400rpm HDD is a slow and noisy type of HDD that has moving parts that can wear out or break. A HDD also consumes more power and generates more heat than an SSD. A M.2 NVMe SSD is a fast and compact type of SSD that uses a PCIe interface to transfer data. However, an SSD is more expensive than an HDD or optical media, and has a limited number of write cycles before it degrades. A SAS RAID array is a complex and costly system that uses multiple HDDs or SSDs connected by a Serial Attached SCSI (SAS) interface to provide redundancy, performance, or both. A RAID array requires a



RAID controller, a compatible motherboard, and a dedicated power supply.  
CompTIA A+ Certification Exam Core 1 Objectives1  
The Official CompTIA A+ Core 1 Student Guide (Exam 220-1101) eBook2  
Best ways to backup photos of 2023 | TechRadar3  
Best external hard drives in 2023: clever drives for added storage and ...4  
DVD Storage Ideas | Remodelaholic5

#### QUESTION 168

A technician receives a phone call from a traveling sales representative indicating that the maps application on a phone is not working. The representative runs a speed test on the phone and gets ~10Mbps in both directions. Which of the following settings should the technician check first to troubleshoot the issue?

- A. Airplane mode
- B. PRL
- C. GPS
- D. LTE

**Correct Answer: C**

**Section:**

**Explanation:**

GPS (Global Positioning System) is a feature that allows a phone to determine its location by receiving signals from satellites. A maps application relies on GPS to provide accurate directions and navigation. If GPS is turned off or not working properly, the maps application may not function as expected.

The other options are not relevant to the issue. Airplane mode is a setting that disables all wireless communication on a phone, including cellular, Wi-Fi, Bluetooth, and GPS. However, since the representative runs a speed test and gets ~10Mbps in both directions, it means that airplane mode is not enabled. PRL (Preferred Roaming List) is a database that contains information about the cellular towers and networks that a phone can connect to. Updating the PRL can improve the phone's signal strength and coverage, but it does not affect the maps application. LTE (Long Term Evolution) is a standard for high-speed wireless communication on mobile devices. It is related to the cellular data speed and quality, but not to the maps application.

To troubleshoot the issue, the technician should check the GPS settings on the phone and make sure that it is turned on and has a clear view of the sky. The technician should also verify that the maps application has permission to access the GPS location. If the problem persists, the technician may suggest resetting the network settings, updating the phone's software, or contacting the maps application's support team.

CompTIA A+ Certification Exam Core 1 Objectives1

The Official CompTIA A+ Core 1 Student Guide (Exam 220-1101) eBook2

How to Fix Google Maps When It's Not Working on Android - MUO3

Apple Maps Not Working?5 Fixes to Get You Back on the Road (2023)4

#### QUESTION 169

A technician is designing a new laptop for a local construction company. Company employees will move the laptop around frequently and are likely to drop the laptop while working. Which of the following drives should the technician install to mitigate for potential damage?

- A. S.M.A.R.T
- B. SCSI
- C. RAID
- D. Solid-state

**Correct Answer: D**

**Section:**

**Explanation:**

Solid-state drives (SSDs) are the best choice for laptops that are likely to drop while working, as they have no moving parts and are more resistant to shock and vibration than hard-disk drives (HDDs). SSDs also offer faster performance, lower power consumption, and less noise and heat than HDDs. SSDs use flash memory chips to store data, unlike HDDs that use spinning platters and read/write heads. SSDs can be connected to laptops using various interfaces, such as SATA, PCIe, or NVMe.

The other options are not suitable for this scenario. S.M.A.R.T (Self-Monitoring, Analysis, and Reporting Technology) is a feature that monitors the health and performance of HDDs and SSDs, but it does not prevent damage from dropping. SCSI (Small Computer System Interface) is an interface that connects various devices, such as HDDs, SSDs, scanners, and printers, to a computer, but it is not commonly used in laptops. RAID (Redundant Array

of Independent Disks) is a system that combines multiple HDDs or SSDs into a single logical unit, providing redundancy, performance, or both, but it is not feasible or practical to implement RAID in a laptop.

CompTIA A+ Certification Exam Core 1 Objectives1

The Official CompTIA A+ Core 1 Student Guide (Exam 220-1101) eBook2

The Best SSDs for Upgrading Your Laptop in 2023 | PCMag3

#### QUESTION 170

A technician is troubleshooting a computer that has a loud system fan and randomly freezes and reboots. Which of the following is the most likely cause of these issues?

- A. Failing hard drive
- B. Defective power supply
- C. Incompatible hardware
- D. Overheating processor

**Correct Answer: D**

**Section:**

**Explanation:**

An overheating processor is the most likely cause of a computer that has a loud system fan and randomly freezes and reboots. A processor generates heat when it performs calculations, and if the heat is not dissipated properly, it can damage the processor or cause it to malfunction. A loud system fan indicates that the fan is working harder to cool down the processor, but it may not be enough to prevent overheating. A computer that freezes and reboots randomly is a common symptom of an overheating processor, as the system tries to protect itself from further damage by shutting down or restarting.

The other options are not as likely to cause these issues. A failing hard drive may cause data loss, corruption, or slow performance, but it does not affect the system fan or the processor temperature. A defective power supply may cause the computer to shut down unexpectedly, but it does not cause the system fan to be loud or the processor to overheat. Incompatible hardware may cause the computer to fail to boot, display errors, or crash, but it does not cause the system fan to be loud or the processor to overheat.

To troubleshoot and resolve an overheating processor issue, the technician should check and clean the air vents, provide proper ventilation, apply thermal paste, replace the fan or the heat sink, or upgrade the processor if necessary. The technician should also update the BIOS and the device drivers, adjust the power settings, and monitor the system temperature using diagnostic tools.

CompTIA A+ Certification Exam Core 1 Objectives1

The Official CompTIA A+ Core 1 Student Guide (Exam 220-1101) eBook2

How to Troubleshoot Fan Issues | Dell US3

Why your laptop fan is loud and how to fix it | Asurion4

HP Notebook PCs - Fan is noisy and spins constantly (Windows)5

#### QUESTION 171

A technician plans to upgrade a laptop's RAM from 4GB to 16GB. Which of the following should the technician do?

- A. Purchase the same architecture of RAM.
- B. Configure the laptop's BIOS settings for the RAM upgrade.
- C. Purchase RAM with the same CAS latency.
- D. Purchase the same brand of RAM.

**Correct Answer: A**

**Section:**

**Explanation:**

The most important factor to consider when upgrading a laptop's RAM is the architecture of the RAM, which determines the type, speed, and capacity of the memory modules. The architecture of the RAM must match the architecture of the laptop's motherboard and processor, otherwise the RAM will not be compatible or function properly. The architecture of the RAM includes the DDR generation (such as DDR3 or DDR4), the form factor (such as SO-DIMM), the pin count (such as 204 or 260), the voltage (such as 1.35V or 1.5V), and the frequency (such as 1600MHz or 2400MHz).

The other options are not as crucial or relevant for the RAM upgrade. The brand of the RAM does not matter as long as the RAM meets the specifications of the laptop and is of good quality. The CAS latency of the RAM is a measure of the delay between the memory controller requesting data and the RAM delivering it, and it affects the performance of the RAM. However, the CAS latency is not a fixed value and can vary depending on the frequency and voltage of the RAM. Therefore, purchasing RAM with the same CAS latency is not necessary or sufficient for compatibility. The laptop's BIOS settings are usually configured to automatically detect and adjust to the RAM upgrade, and do not need to be manually changed by the technician.

CompTIA A+ Certification Exam Core 1 Objectives1

#### QUESTION 172

A user reports having an issue charging a laptop from home. When the user connects the USB-C adapter that is attached to the office workstation to the laptop charging port, the laptop charges correctly. When the user connects the home USB-C adapter to the laptop charging port, the laptop does not charge. Which of the following should the technician do to ensure the user can work at home and in the office?

- A. Provide a UPS for the user's home office.
- B. Give the user an OEM power supply for home use.
- C. Replace the user's laptop with a desktop, and enable remote log-in.
- D. Instruct the user to use a USB-C hub when working at home.

**Correct Answer: B**

**Section:**

**Explanation:**

The issue described suggests that the home USB-C adapter may not be compatible with the laptop or may not meet the necessary power requirements to charge the device. Providing the user with an Original Equipment Manufacturer (OEM) power supply ensures compatibility and reliability, as OEM chargers are specifically designed to work with the laptop model in question. This solution ensures that the user can work efficiently both at home and in the office without facing charging issues, as OEM power supplies adhere to the specific voltage and amperage requirements of the device.

Reference: Hardware 1101.docx, 'Power Supplies' section.

#### QUESTION 173

A user is experiencing a log-on issue when attempting to use a network-authenticated application in a corporate environment. The technician successfully resolves the issue by resetting the password. The user confirms that everything is working as expected. Which of the following steps should the technician take next?

- A. Refer to the vendor's instructions.
- B. Establish a plan of action.
- C. Document the findings.
- D. Implement preventative measures.

**Correct Answer: C**

**Section:**

**Explanation:**

After resolving an issue, it's crucial for a technician to document the findings, actions taken, and the outcome. This documentation serves several purposes: it provides a record of the problem and the solution for future reference, which can be helpful if the issue recurs or if similar problems arise with other users. It also ensures that any follow-up actions, if necessary, are well-informed by the history of the issue. Documenting the resolution process contributes to knowledge sharing among the support team and can improve the efficiency of future troubleshooting efforts.

Reference: Hardware & Network Troubleshooting 1101.docx, 'Documentation' section.

#### QUESTION 174

A technician is troubleshooting an unresponsive touchscreen on a smartphone. The technician performs a hard reset, but the touchscreen remains unresponsive. Which of the following is the most likely cause of the issue?

- A. Missing drivers
- B. Virus infection
- C. Low battery
- D. Damaged digitizer

**Correct Answer: D**

**Section:**

**Explanation:**

The digitizer is a crucial component of a touchscreen device, responsible for translating touch actions into digital signals that the device can interpret. If a hard reset does not resolve the touchscreen's unresponsiveness, it's likely that the digitizer is damaged. Physical damage, such as cracks or heavy impacts, can impair the digitizer's ability to function correctly, leading to an unresponsive touchscreen. This type of hardware issue requires professional repair or replacement of the touchscreen assembly to restore functionality.

Reference: Mobile Devices 1101.docx, 'Touchscreen Technology' section.

**QUESTION 175**

A technician has been called into a conference room to help with a video call setup. The user is unable to get the laptop screen to mirror to the in-room television. The technician confirms that the appropriate HDMI cable is plugged into the user's computer and the TV has a blinking logo on the screen. Which of the following is most likely causing the issue?

- A. The user's laptop does not support screen mirroring
- B. The television does not support screen mirroring
- C. The wrong input is selected on the television.
- D. The user does not have Bluetooth enabled on the laptop.
- E. The television has a defective A/C adapter cable.

**Correct Answer: C**

**Section:**

**Explanation:**

When a laptop screen fails to mirror to a television despite being correctly connected via an HDMI cable, a common issue is that the television is set to the wrong input source. Modern televisions have multiple input options (e.g., HDMI 1, HDMI 2, AV, etc.), and selecting the correct input that corresponds to the port the HDMI cable is connected to is essential for displaying the laptop's screen. The blinking logo on the TV screen typically indicates that the TV is functioning but not receiving a signal from the selected input source. Changing the TV's input to the correct HDMI port should resolve the issue and allow the laptop screen to mirror onto the TV.

Reference: Hardware 1101.docx, 'Connecting External Displays' section.

**QUESTION 176**

Which of the following protocols provides the fastest bandwidth?

- A. 802.11a
- B. 802.11ac
- C. 802.11ax
- D. 802.11n

**Correct Answer: C**

**Section:**

**Explanation:**

The 802.11ax protocol, also known as Wi-Fi 6, provides the fastest bandwidth among the options listed. It can achieve up to 10 Gbps of data transfer rate, using technologies such as OFDMA, MU-MIMO, and 1024-QAM. The 802.11ac protocol, or Wi-Fi 5, is the second fastest, with a maximum of 3.46 Gbps, followed by the 802.11n protocol, or Wi-Fi 4, with a maximum of 600 Mbps. The 802.11a protocol is the slowest, with a maximum of 54 Mbps.

<https://www.lifewire.com/wireless-standards-802-11a-802-11b-g-n-and-802-11ac-816553>

**QUESTION 177**

A technician is monitoring all outbound traffic in a SOHO. Which of the following is the MOST cost-effective solution to monitor the traffic?

- A. Spectrum analyzer
- B. Network tap
- C. Lookback plug

D. Toner probe

**Correct Answer: B**

**Section:**

**Explanation:**

A network tap is used to intercept the signals passing over a cable and send them to a packet or protocol analyzer. Taps are either powered or unpowered:

**QUESTION 178**

While implementing a non-carrier-grade wireless backhaul, a technician notices the current channel selection is externally polluted with various RF signals. Upon performing a spectral analysis, the technician discovers a channel containing almost no RF pollution. Unfortunately, the technician is unable to select that channel. Which of the following is the MOST likely reason for this issue?

- A. The channel is reserved for licensed band use.
- B. The channel selection is defective, contact the manufacturer.
- C. The channel must be unblocked by the vendor.
- D. The device requires a firmware update to unlock the channel.

**Correct Answer: A**

**Section:**

**Explanation:**

The 2. band is subdivided into up to 14 channels, spaced at 5 MHz intervals from 2412 MHz up to 2484 MHz. Wi-Fi requires bandwidth of approximately 20 MHz, not 5 MHz. Consequently, a site designer needs to choose the channels that do not overlap. On a WLAN where only the first 11 channels are available, channels 1, 6, and 11 can be selected as non-overlapping. Note: In the Americas, regulations permit the use of channels 1-11 only, while in Europe, channels 1-13 are permitted. In Japan, all 14 channels are permitted

**QUESTION 179**

A user submits a help desk ticket regarding a smartphone that will no longer accept its charging cable. The assigned technician notices the phone does not have a protective case, and the user constantly transport the phone in a pocket. The technician attempts to use a secondary charger, but the cable falls out of the phone. Which of the following is the MOST likely cause of the issue?

- A. The phone requires a firmware update to address charging issues.
- B. The charge port contains foreign objects, such as lint.
- C. The phone's battery has swelled, preventing the utilization of the charge port.
- D. The phone has experienced water damage, thus the battery is not charging.

**Correct Answer: B**

**Section:**

**Explanation:**

The symptoms suggest that the charging cable falls out of the phone, indicating that the charge port may contain foreign objects such as lint, which can interfere with the connection between the charging cable and the phone.

**QUESTION 180**

A user is trying to play a DVD on a projector. The user can hear the audio; however, the projector is showing an error message that states:

HDMI Blocked due to Copy Protection Which of the following is the MOST likely cause of the error?

- A. The HDMI cannot carry the signal from the DVD to the projector.
- B. The user needs to switch from HDMI to a cable standard such as DisplayPort.
- C. The projector does not support the necessary HDCP protocol.
- D. The user needs to enable copy-protected sources in the projector's settings.

**Correct Answer: C**

**Section:****Explanation:**

The Official CompTIA® A+® Core 1 and Core 2 Student Guide (Exams 220-1101 and 220-1102) | 193 Protected content. If you encounter an error that indicates unauthorized content or an HDCP error: • DVI, HDMI, DisplayPort, and Thunderbolt all provide support for the Digital Rights Management (DRM) mechanism High-bandwidth Digital Content Protection (HDCP). HDCP allows a content source (such as a Blu-ray disc) to disable itself if the display adapter and monitor and/or speaker system do not support HDCP and fail to authenticate themselves with the playback source. There have been various iterations of HDCP (at time of writing the current version is 2.2) and backward-compatibility can be problematic as authentication may fail between devices that support different versions of the standard.

**QUESTION 181**

Vertical streaks are appearing on the output of a laser printer. Which of the following items is the MOST likely cause?

- A. Roller
- B. Drum
- C. Transfer belt
- D. Ribbon

**Correct Answer: B**

**Section:****Explanation:**

Vertical or horizontal lines—Marks that appear in the same place (referred to as repetitive defects) are often due to dirty feed rollers (note that there are rollers in the toner cartridge and fuser unit too) or a damaged or dirty photosensitive drum.

too) or a damaged or dirty photosensitive drum. Vertical streaks on a laser printer output are usually caused by a damaged or worn-out drum, which is responsible for transferring toner to the paper. If the drum is damaged, toner may accumulate on certain parts of the drum, leading to streaks on the printed output. Reference: CompTIA A+ Certification All-in-One Exam Guide, Tenth Edition, Chapter 15

**QUESTION 182**

A university student was able to boot from a live Linux CD on a computer in a shared space on campus. Which of the following will BEST prevent this type of action from occurring in the future?

- A. Require TPM security features.
- B. Set a boot password.
- C. Disable all media options.
- D. Enable secure boot.

**Correct Answer: D**

**Section:****Explanation:**

Enabling secure boot will verify the digital signature of the bootloader and operating system, ensuring that the system only boots from trusted and authorised sources. This can prevent booting from an unauthorised live CD or other external media. The best way to prevent booting from a live Linux CD on a computer in a shared space on campus is to enable secure boot. Secure boot is a feature that ensures that the system only runs software that is signed by an authorized party. This means that the system will not boot from any unauthorized media, including live Linux CDs. Secure Boot is a feature that ensures that the system only runs software that is signed by an authorized party. This means that the system will not boot from any unauthorized media, including live Linux CDs. Secure Boot is an important security feature designed to prevent malicious software from loading when your PC starts up (boots). 1. Booting from a live Linux CD is a process that allows you to run a Linux operating system from a CD or DVD without installing it on your hard drive. This can be useful for testing or troubleshooting purposes. To boot from a live Linux CD, you need to insert the CD or DVD into your computer's CD/DVD drive and restart your computer. Most systems are set up to automatically boot from the CD/DVD drive, but if your system is not set up this way, you may need to change a system setting to boot from a Linux CD/DVD.

**QUESTION 183**

After a technician replaced a printer's ink cartridges, all the print jobs contain shadowing. Which of the following should the technician do first?

- A. Reseat the new ink cartridges.
- B. Run the printer's alignment process.



- C. Replace the fuser assembly.
- D. Install the maintenance kit.

**Correct Answer: B**

**Section:**

**Explanation:**

Running the printer's alignment process is the first step that a technician should do to fix the shadowing problem on the printouts. Shadowing is a print quality issue that occurs when the printer prints a faint duplicate image of the original text or graphics, usually slightly offset from the original position. This can be caused by a misalignment of the printhead, which is the part of the printer that sprays ink onto the paper. The printer's alignment process is a procedure that adjusts the position and angle of the printhead to ensure that the ink is applied accurately and evenly on the paper. The printer's alignment process can be performed from the printer's menu, the printer's software, or the printer's maintenance tool, depending on the model and type of the printer.

The other options are not the best solutions for this problem. Reseating the new ink cartridges may not solve the shadowing issue, unless the cartridges are not properly installed or recognized by the printer. However, this is unlikely to be the case, as the printer would usually display an error message or refuse to print if the cartridges are not compatible or inserted correctly. Replacing the fuser assembly or installing the maintenance kit are more drastic and expensive measures that are usually done when the printer has more serious problems, such as paper jams, smearing, streaking, or fading. The fuser assembly is the part of the printer that heats and melts the toner onto the paper, and the maintenance kit is a set of components that need to be replaced periodically to keep the printer in good condition. These parts are not directly related to the shadowing issue, and replacing them may not fix the problem.

CompTIA A+ Certification Exam Core 1 Objectives1

The Official CompTIA A+ Core 1 Student Guide (Exam 220-1101) eBook2

How to Fix Shadow Printing on My Canon Printer?3

Fixing A Printer That Creates Shadow Images On Printouts4

#### **QUESTION 184**

A customer is reporting that some of the keys at the bottom edge on a laptop are hard to press and the track pad buttons require significant force to click. The technician inspects the laptop and does not notice any cracks or other damage to the chassis or screen. Which of the following is the most likely cause of the issue?

- A. The customer dropped the laptop.
- B. The digitizer has failed.
- C. The battery is swollen.
- D. An open bottle of rubbing alcohol fell onto the keyboard.



**Correct Answer: C**

**Section:**

**Explanation:**

A swollen battery is the most likely cause of the issue that the customer is reporting. A swollen battery is a battery that has expanded in size due to a chemical reaction, gas buildup, or overheating. A swollen battery can cause pressure on the laptop's chassis, keyboard, track pad, and other components, making them hard to press or click. A swollen battery can also pose a fire hazard and damage the laptop's performance and lifespan.

The other options are not as likely or relevant to the issue. Dropping the laptop may cause cracks or other visible damage to the chassis or screen, but the technician did not notice any. The digitizer is the part of the laptop that converts touch input into digital signals, and it has nothing to do with the keyboard or the track pad buttons. An open bottle of rubbing alcohol falling onto the keyboard may cause liquid damage, corrosion, or short circuits, but it would not affect the track pad buttons or the bottom edge of the keyboard.

To troubleshoot and resolve the issue, the technician should remove the battery from the laptop and inspect it for signs of swelling, such as bulging, deformation, or leakage. The technician should also check the laptop's chassis, keyboard, and track pad for any signs of damage or warping caused by the battery. The technician should then replace the swollen battery with a new one that is compatible with the laptop's model and specifications.

The technician should also dispose of the swollen battery properly and safely, following the local regulations and guidelines.

CompTIA A+ Certification Exam Core 1 Objectives1

The Official CompTIA A+ Core 1 Student Guide (Exam 220-1101) eBook2

How to Fix a Swollen Laptop Battery - Lifewire3

How to Tell If Your Laptop Battery Is Swollen - Techwalla4

#### **QUESTION 185**

Which of the following translates a hostname to IP addresses?

- A. AAA



- B. DHCP
- C. DNS
- D. UTM

**Correct Answer: C**

**Section:**

**Explanation:**

DNS stands for Domain Name System, which is a network service that translates hostnames to IP addresses. Hostnames are human-readable names that identify devices or services on the Internet, such as [www.google.com](http://www.google.com) or [mail.yahoo.com](http://mail.yahoo.com). IP addresses are numerical identifiers that specify the location of devices or services on the Internet, such as 172.217.14.206 or 98.137.11.163. DNS allows users to access websites or services by using hostnames instead of IP addresses, which are easier to remember and type. DNS also allows hostnames to change their IP addresses without affecting the users, which can improve performance and security.

What is DNS? | How DNS Works | Cloudflare: This article explains the concept of DNS, its components, its functions, and its benefits.

Hostname vs. IP - address - Stack Overflow: This answer compares the differences between hostnames and IP addresses, and how DNS resolves them.

How DNS Works: Domain Name System(DNS): This article illustrates how DNS works with diagrams and examples.

#### QUESTION 186

A technician is installing a network interface card in a desktop computer. Which of the following connectors should the technician use to connect the card to the computer's motherboard?

- A. PCIe
- B. AGP
- C. USB
- D. IDE

**Correct Answer: A**

**Section:**

**Explanation:**

PCIe (Peripheral Component Interconnect Express) is a type of expansion slot that connects network interface cards (NICs) and other devices to the motherboard. PCIe slots have different sizes and speeds, such as x1, x4, x8, x16, and x32. PCIe slots are faster and more versatile than older types of expansion slots, such as AGP (Accelerated Graphics Port) and IDE (Integrated Drive Electronics).

#### QUESTION 187

A regularly used laser printer is printing vertical lines on each page\_ Which of the following should the technician do first?

- A. Lower the printing contrast.
- B. Change the paper type
- C. Install a new fuser.
- D. Replace the toner cartridge

**Correct Answer: D**

**Section:**

**Explanation:**

The answer is D. Replace the toner cartridge.

Vertical lines on a laser printer output are usually caused by a faulty or empty toner cartridge, a dirty or damaged drum unit, or a clogged or obstructed laser glass. According to the web search results, some possible steps to troubleshoot and resolve this issue are:

Check the toner level and replace the toner cartridge if it is low or empty<sup>1</sup>.

Remove the toner cartridge and inspect the drum unit for any signs of damage, such as scratches, cracks, or toner buildup. Clean the drum unit with a soft cloth or replace it if it is damaged<sup>23</sup>.

Locate the laser glass, which is a narrow strip of glass under the scanner lid or inside the printer.

Clean the laser glass with a lint-free cloth moistened with water and remove any dust, dirt, or debris that might block the laser beam<sup>24</sup>.

#### QUESTION 188

A technician is replacing a failed drive in a RAID 5 array. Which of the following is the first step the technician should take before hot swapping the drive out of the array?

- A. Document the replacement date.
- B. Shut down the array.
- C. Safely dispose of the failed drive.
- D. Perform a full backup.

**Correct Answer: D**

**Section:**

**Explanation:**

The answer is D. Perform a full backup.

Before replacing a failed drive in a RAID 5 array, the technician should perform a full backup of the data on the array to ensure that no data is lost during the hot swapping process. Hot swapping is the process of replacing a drive without shutting down the system or the array, which allows for faster recovery and minimal downtime. However, hot swapping also involves some risks, such as accidentally removing the wrong drive, damaging the new drive, or encountering another drive failure during the rebuild process. Therefore, performing a full backup is a precautionary measure that can prevent data loss in case of any unexpected errors or complications.

The other options are not the first steps that the technician should take before hot swapping the drive. Documenting the replacement date is a good practice, but it is not as important as backing up the data. Shutting down the array is not necessary for hot swapping, and it may cause more disruption to the system or the users. Safely disposing of the failed drive is a step that should be done after replacing it, not before.

Reference:

Hot-swapping the hard drives when the RAID crashes | QNAP, section "Install a new drive to rebuild RAID 5 by hot swapping": "Important: Do not install a new drive when the system is not in degraded mode, otherwise you may encounter unexpected system failures."

Hot Swapping hard drives on Raid 5 with data on them - Spiceworks Community, reply by Magnus369: "Part of that slowness would be the raid level you are using. Highly doubt you can change it without losing data either, but your writes are going to be atrociously slow due to having to figure out parity across 11 drives for each write you do. While you may have a ton of space, it's unstable and subject to self destruction."

hard drive - How do I Change a damaged Disk in a Raid 5 array - Server Fault, answer by Chris S: "If you have another disk failure during rebuild you will lose all your data."

#### QUESTION 189

A user's wireless laptop stopped working. A technician replaced the wireless card, but the wireless range is now limited. Which of the following should the technician perform next?

- A. Verify the antenna's connection.
- B. Switch from a 2.4GHz band to a 5GHz band.
- C. Change the channels of the Wi-Fi card settings.
- D. Upgrade the wireless driver.

**Correct Answer: A**

**Section:**

**Explanation:**

A limited wireless range after replacing the wireless card could indicate that the antenna is not properly connected to the card, or that the antenna is damaged or obstructed. According to the web search results, some possible steps to troubleshoot and verify the antenna's connection are:

Open the laptop case and locate the wireless card and the antenna wires. Make sure that the wires are securely attached to the card's connectors, and that they are not loose or broken.

Check the position and orientation of the antenna. Make sure that it is not blocked by any metal objects, walls, or other sources of interference. Adjust the angle or location of the antenna if possible to improve the signal strength.

Replace the antenna with a new one or a compatible one from another device. Test the wireless range and performance with the new antenna.

#### QUESTION 190

A cloud engineer, who is designing a cloud architecture, needs to ensure the solution is able to immediately fail over to another region in case of an outage and also scale up in the event of high utilization. Which of the following should the engineer implement? (Select two).

- A. High availability
- B. Elasticity
- C. Cold storage

- D. Machine learning
- E. Metered utilization
- F. Virtualization

**Correct Answer: A, B**

**Section:**

**Explanation:**

The answer is A. High availability and B. Elasticity.

High availability is the ability of a system to remain operational and accessible with minimal or no downtime, even in the event of failures, disasters, or disruptions. High availability can be achieved by designing a system that has redundancy, fault tolerance, and disaster recovery capabilities. For example, a cloud engineer can design a system that replicates data and resources across multiple regions, zones, or availability domains, and uses load balancing and failover mechanisms to distribute the workload and handle failures gracefully<sup>12</sup>.

Elasticity is the ability of a system to scale up or down automatically in response to changes in demand or utilization. Elasticity can be achieved by designing a system that can dynamically allocate and deallocate resources based on predefined metrics, policies, or triggers. For example, a cloud engineer can design a system that uses auto-scaling groups, horizontal or vertical scaling strategies, and on-demand or spot instances to optimize the performance and cost of the system<sup>32</sup>.

By implementing high availability and elasticity, a cloud engineer can ensure that the solution is able to immediately fail over to another region in case of an outage and also scale up in the event of high utilization. These are two important aspects of building reliable and scalable cloud architectures.

Therefore, options A and B are the correct answers.

#### QUESTION 191

A user is having trouble accessing files on the network. A technician suspects the issue is a result of a failed NIC. Which of the following steps should the technician take to troubleshoot this issue?

- A. Document key findings, actions, and outcomes
- B. Establish a theory of probable cause.
- C. Test the theory to determine the cause.
- D. Identify the problem and act
- E. Verify system functionality



**Correct Answer: C**

**Section:**

**Explanation:**

The answer is C. Test the theory to determine the cause.

According to the CompTIA A+ troubleshooting methodology, the steps to troubleshoot any problem are:

Identify the problem and act Establish a theory of probable cause Test the theory to determine the cause Establish a plan of action to resolve the problem and implement the solution Verify system functionality and implement preventive measures Document key findings, actions, and outcomes

In this scenario, the technician has already identified the problem (trouble accessing files on the network) and established a theory of probable cause (a failed NIC). The next step is to test the theory to determine the cause, which involves verifying whether the NIC is working properly or not.

Some possible ways to test the theory are:

Check the physical connection and status of the NIC port and cable<sup>12</sup> Check the link state and speed of the NIC using `ethtool` or `ip` commands<sup>2</sup> Check the configuration and state of the NIC using `nmcli`, `teamdctl`, or `teamnl` commands<sup>2</sup> Check the driver and firmware of the NIC using `lspci`, `modinfo`, or `dmesg` commands<sup>2</sup> Check the logs for any errors or warnings related to the NIC using `journalctl` or `grep` commands<sup>2</sup> Uninstall and reinstall the NIC driver using Device Manager or `modprobe` commands<sup>13</sup> Replace the NIC or cable with a known good one and test again<sup>13</sup>

If any of these tests confirm that the NIC is faulty, then the technician can proceed with the next step of establishing a plan of action to resolve the problem and implement the solution. If none of these tests reveal any issues with the NIC, then the technician can eliminate it as a probable cause and look for other possible causes. Therefore, option C is the correct answer.

#### QUESTION 192

Which of the following solutions can help users who have the current Windows operating systems run legacy applications that are not supported under the latest applications?

- A. AppLocker
- B. Type 1 hypervisors

- C. Sandbox
- D. Application virtualization

**Correct Answer: D**

**Section:**

**QUESTION 193**

A user reports intermittent connectivity. The technician checks the network logs and sees the following output:

```
Interface 0/1 Status Up
Interface 0/1 Status Down
Interface 0/1 Status Up 13:03:20
Interface 0/1 Status Down 13:04:10
Switch elected as Root bridge
Interface 0/1 Status Up 13:05:40
```

Which of the following is the most likely reason for this issue?

- A. External interference
- B. High latency
- C. Jitter
- D. Port flapping

**Correct Answer: D**

**Section:**

**Explanation:**

Port flapping, also known as link flapping, is a situation in which a physical interface on the switch continually goes up and down, causing intermittent connectivity for the devices connected to that port<sup>12</sup>. Port flapping can be caused by various factors, such as faulty or incompatible cables, hardware issues, configuration errors, or other network problems<sup>123</sup>.

The network logs show that interface 0/1 on the switch changes its status from up to down and vice versa several times within a short period of time. This indicates that the port is flapping and affecting the network connectivity. The log also shows that the switch was elected as the root bridge, which means that it is the central point of a spanning tree protocol (STP) network. STP is a protocol that prevents loops in a network by blocking some ports and creating a tree-like topology. Port flapping can cause STP to recalculate the topology and change the status of the ports, which can further disrupt the network performance<sup>2</sup>.

To troubleshoot port flapping, the technician should check the physical and hardware aspects of the device, such as cables, SFPs, gigabit interface converters, and power supplies. The technician should also check the configuration settings of the port, such as auto-negotiation, duplex mode, speed, power-saving features, and smartport. The technician should also check for other network issues that may cause port flapping, such as link synchronization and spanning tree issues<sup>123</sup>.

**QUESTION 194**

A technician is installing a power supply in a workstation that contains a high-end graphics card, a 3GHz processor, and two cooling fans. Which of the following specifications should the technician verify before installing the new power supply?

- A. The wattage
- B. The chassis ventilation
- C. The motherboard's firmware
- D. The cables' color coding

**Correct Answer: A**

**Section:**

**Explanation:**

The most important specification that the technician should verify before installing the new power supply is A. The wattage.

The wattage of a power supply is the measure of how much power it can deliver to the components of a computer. The wattage of a power supply should match or exceed the total power consumption of the computer, otherwise the computer may not function properly or may experience instability, overheating, or damage<sup>12</sup>.

To calculate the total power consumption of a computer, the technician can use a tool such as a power supply calculator, which can estimate the required wattage based on the components and features of the computer. For example, using one of the web search results<sup>3</sup>, I entered the following information:

- CPU: 3 GHz processor
- GPU: High-end graphics card
- RAM: 16 GB DDR4
- SSD: 1 x 500 GB
- HDD: 1 x 1 TB
- Optical Drive: 1 x DVD-RW
- Fans: 2 x 120 mm

• Other Devices: Keyboard, Mouse, Monitor The tool estimated that the recommended PSU wattage for this computer is 550 W. Therefore, the technician should verify that the new power supply has at least this wattage before installing it.

The chassis ventilation, the motherboard's firmware, and the cables' color coding are not as important as the wattage for installing a new power supply. The chassis ventilation is related to the airflow and cooling of the computer, which can affect the performance and lifespan of the components. The motherboard's firmware is the software that controls the basic functions of the motherboard, such as booting, input/output, and memory management. The cables' color coding is a standard way of identifying the function and polarity of the wires in a power supply. However, none of these specifications are directly related to the power delivery or compatibility of the new power supply.

#### QUESTION 195

A user's laptop will not turn on for a meeting in a conference room. However, the laptop turns on correctly when connected to the external monitor, mouse, and keyboard at the user's desk. Which of the following should a technician do to ensure that the laptop functions everywhere in the office?

- A. Reinstall the laptop's operating system.
- B. Enable a remote desktop account.
- C. Issue a peripheral set for use in the conference room.
- D. Replace the laptop's battery.

**Correct Answer: D**

**Section:**

**Explanation:**

A laptop's battery is the component that provides power to the laptop when it is not connected to an external power source, such as a wall outlet or a docking station. A laptop's battery can wear out over time, losing its capacity and ability to hold a charge. This can cause the laptop to not turn on or shut down unexpectedly when it is not plugged in .

According to some web search results , some signs and symptoms of a failing laptop battery are:

- The laptop does not turn on or turns off suddenly when it is not connected to an external power source
- The laptop shows a low battery warning or a red X over the battery icon even when it is fully charged
- The laptop takes longer to charge or does not charge at all
- The laptop feels hot or the battery bulges or leaks

To fix this issue, the technician should replace the laptop's battery with a new one that is compatible with the laptop model and specifications. The technician should also dispose of the old battery properly, following the environmental and safety guidelines .

Reinstalling the laptop's operating system, enabling a remote desktop account, or issuing a peripheral set for use in the conference room are not effective solutions for this issue, since they do not address the root cause of the problem, which is the faulty battery. Reinstalling the operating system may erase the user's data and settings, and it may not improve the laptop's performance or power management. Enabling a remote desktop account may allow the user to access their files and applications from another device, but it does not solve the problem of the laptop not turning on.

Issuing a peripheral set for use in the conference room may provide the user with an external monitor, mouse, and keyboard, but it does not guarantee that the laptop will work without an external power source.

#### QUESTION 196

A technician assembled a new PC. After a few minutes, the computer slows down and then shuts itself off. Which of the following is the most likely cause of the failure?

- A. Thermal paste was not used.
- B. The GPU needs additional power.
- C. The memory is insufficient.
- D. The motherboard is incompatible.



**Correct Answer: A**

**Section:**

**Explanation:**

The most likely cause of the failure is A. Thermal paste was not used.

Thermal paste, also known as thermal grease or thermal compound, is a substance that is applied between the CPU and the heat sink to improve the heat transfer and cooling of the CPU. Thermal paste fills the gaps and irregularities between the CPU and the heat sink, creating a better contact and reducing the thermal resistance .

According to some web search results , some signs and symptoms of not using thermal paste or using it incorrectly are:

- The CPU overheats and slows down or shuts down to prevent damage
- The CPU fan spins faster and louder to try to cool down the CPU
- The PC performance drops or becomes unstable
- The PC crashes or displays errors or blue screens

To fix this issue, the technician should apply thermal paste properly between the CPU and the heat sink, following these steps :

- Turn off the PC and unplug it from the power source
- Open the PC case and locate the CPU fan and heat sink
- Remove the CPU fan and heat sink from the motherboard
- Clean the surfaces of the CPU and heat sink with a lint-free cloth and alcohol
- Apply a small amount of thermal paste (about the size of a grain of rice) in the center of the CPU
- Reattach the heat sink and CPU fan to the motherboard, making sure they are aligned and secured
- Close the PC case and plug it back to the power source

The GPU needs additional power, the memory is insufficient, or the motherboard is incompatible are not likely causes of the failure, since they would not cause the PC to overheat and shut down after a few minutes. The GPU needs additional power if it has a high power consumption that exceeds the capacity of the power supply or the PCIe slot. The memory is insufficient if it cannot handle the applications or tasks that are running on the PC. The motherboard is incompatible if it does not support the CPU, RAM, or other components that are installed on it. These issues may cause poor performance, errors, or crashes, but not overheating and shutting down.

#### QUESTION 197

Which of the following should a technician use to terminate an RJ45 port?

- A. Cable tester
- B. Punchdown tool
- C. Toner probe
- D. Cable stripper

**Correct Answer: B**

**Section:**

**Explanation:**

To terminate an RJ45 port, a technician should use a punchdown tool. This tool is specifically designed to insert and cut (terminate) the wires into a patch panel, keystone jack, or a network surface mount box. The punchdown tool ensures that the wire is properly seated in the terminal block and that the connection is secure. It also trims the excess wire during the termination process, which is not a function that cable testers, toner probes, or cable strippers are designed to perform.

CompTIA A+ Certification Core 1 220-1101 study materials and learning resources1.

Networking tools and best practices for hardware and device management as covered in the CompTIA A+ certification guidelines

#### QUESTION 198

A user is unable to browse any web pages. However, the user can ping the IP address 8.8.4.4. Which of the following is most likely causing the issue?

- A. The user does not have permission to view the website.
- B. The website is offline and not responding.
- C. The DNS settings are not configured on the user's device.
- D. The DHCP server is not reachable from the user's device.

**Correct Answer: C**





**Section:****Explanation:**

Since the user can ping 8.8.4.4 (an external IP address) but is unable to browse web pages, it indicates that the DNS (Domain Name System) settings may be incorrect or not configured. The DNS system is crucial for translating human-friendly domain names into IP addresses. If DNS settings are incorrect, the browser cannot resolve domain names, thus web pages will not load despite the network itself being reachable via IP. The other options are less likely as they would affect connectivity to external IP addresses or the availability of specific websites.

Reference: CompTIA A+ Core 1 (220-1101) exam objectives in the networking section, specifically relating to DNS and IP configurations.

**QUESTION 199**

Some users are unable to access resources on the file server. A technician reviews the server network information and finds the following settings:

```
Name: InternalToolsCentral
IP: 192.130.230.5
Mask: 255.255.255.0
Gateway: 192.130.230.1
DNS: 8.8.8.8, 4.2.2.1
Open Ports: 25, 80, 110, 443, 3306
```

Which of the following is the most likely explanation?

- A. Applicable ports have been closed during routine hardening.
- B. Server gateway settings are incorrect.
- C. The server lost power during a recent storm and did not resume operation.
- D. The route was removed from the border router.

**Correct Answer: B****Section:****Explanation:**

Given the network information for the server "InternalToolCentral" with an IP address of "192.130.230.5" and a subnet mask of "255.255.255.0", the gateway address should be within the same network range. However, the gateway address is listed as "192.130.230.1", which is correct and within the same subnet. Therefore, the issue is not with the gateway settings.

The DNS servers are listed as "8.8.8.8" and "4.2.2.1", which are public DNS servers and should be able to resolve domain names correctly if they are reachable.

The open ports listed include 25 (SMTP), 80 (HTTP), 110 (POP3), 443 (HTTPS), and 3306 (MySQL), which are standard ports for their respective services.

Considering the provided options and the network settings, the most likely explanation for users being unable to access resources on the file server is: A. Applicable ports have been closed during routine hardening. This could prevent users from connecting to the necessary services on the file server.

Networking best practices and troubleshooting steps as covered in the CompTIA A+ certification materials.

Understanding of network configurations and services related to file server accessibility.

**QUESTION 200**

A VM was set up to deny access to the host computer and any network resources. Which of the following describes this scenario?

- A. Sandbox
- B. Cross-platform virtualization
- C. Legacy application
- D. Hypervisor

**Correct Answer: A****Section:****Explanation:**

A sandbox is an isolated environment created for testing or running code without affecting the host system or other network resources. In this scenario, the virtual machine (VM) is set up to deny access to the host computer and any network resources, effectively creating a contained and secure space where actions within the VM do not impact the rest of the system or network. This is a key feature of sandbox environments used for testing and security purposes.

**QUESTION 201**



A user regularly travels to multiple sites to take pictures with a mobile device and transfers those pictures to a computer via a removable SD card. Recently, the SD card was damaged and had to be replaced. Now, the user is unable to save pictures to the new SD card. Which of the following should the user verify first so pictures can be saved to the SD card?

- A. The card is correctly formatted.
- B. The card is a storage device.
- C. The card is not locked.
- D. The card is initialized.

**Correct Answer: C**

**Section:**

**Explanation:**

When a user is unable to save pictures to a new SD card after replacing a damaged one, the first thing to check is whether the card is locked. Many SD cards have a physical switch on the side that can be toggled to a 'locked' position, which prevents data from being written to the card. Ensuring the switch is in the 'unlocked' position allows the device to save data to the SD card.

